THE FARMER'S ADVOCATE
AND HOME MAGAZINE

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THE FARMER'S ADVOCATE
—AND—
HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

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THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

The Coming Exhibitions.

The citizens of London are making great improvements in the grounds this year. A new, substantial and neat fence is being erected, the stock sheds are all being moved, and the ground is being leveled so that a much better view may be had. A good track for horses is being made, and everything promises a fine exhibition. The buildings will not compare in grandeur with those at Toronto or at Montreal, but the display of agricultural implements and horses will be better, and a larger number of farmers will be present.

There is one great disadvantage under which this Exhibition suffers this year. The members of the executive committee living at such great distances from each other, there have been but very few meetings at which improvements or suggestions could be given, or beneficial arrangements discussed. We hear that the necessary paring system, consequent on the great losses and great expenses of previous years, is being carried out in some instances to an injurious extent. The Board should consider that as London always has been a place in which the Association has gained money and honor, they should not act too parsimoniously towards that city. At any rate a good exhibition is safely assured.

The Industrial Exhibition in Toronto has an excellent executive board at hand; the members of said board have worked and are working assiduously, and under their management an excellent display will undoubtedly be made. They are to have a dairy exhibit which bids fair to surpass that at the Provincial Exhibition.

At Montreal very great improvements have been made, 14 acres having been added to the fine commanding ground on the side of the mountain; also great improvements are being made in the management Their fine buildings and convenient horse stables and cattle sheds make them in some respects the model for future buildings. For dates, &c., of these exhibitions see the advertising columns of this journal.

The so-called Dominion Exhibition is to be held this year at Halifax, but in reality what we should call a Dominion Exhibition has never yet been held, excepting in name. The interests of the different Provinces have not yet been united. Local fairs have hitherto eclipsed these Dominion Exhibitions, little interest being taken in them except by those residing in the immediate vicinity. But the exhibition to be held in Halifax this year we believe will be the best ever held in the Maritime Provinces.

It would be much to the advantage of many of our enterprising subscribers to visit the exhibition in some one of our sister Provinces. For instance, the Quebec farmers would be profited by a visit to the Industrial Exhibition at Toronto, or the Provincial at London. Our Western men might with advantage to themselves and their families take a trip to the Maritime Provinces. Many thousands can well afford such an expenditure, and their wives, sons or daughters richly deserve a holiday. Many have now hoarded and saved far more money and property than they will ever be thanked for, much of which will be assuredly squandered to the injury of some pet or by some unknown hand. We say, take a little of the money you have for years been saving and take a trip for enlightenment and pleasure, and you will not regret it. We do not advise those who have not means to spare to expend it in such a manner, but there is much more pleasure and profit returned from a liberal and just expenditure of money than is enjoyed by the mean, pinching, narrow-minded miser whose soul is dried up as hard as the metal he may be accumulating, and for which no one will ever bless him in this world or the next. Every locality has some one or more money grabbers with whom you would not exchange your pleasure for their money had they a million times more than they have. Take a trip. Visit some of these large exhibitions in a distant part of the Dominion. Take your wife or daughter or son with you, and you will be richer for the expenditure of the money—richer in knowledge and happiness.

The Apple Crop.

It could not be expected that we should have a very heavy crop of apples this year, after such an enormous crop as was obtained the past season. Notwithstanding, there are in some orchards heavy crops this year, and all the orchards we have seen have a fair sprinkling of apples in them. The shipping of apples, although attended with loss to some last year who did not understand the business, will be duly attended to this season by those who were successful last, and fair prices will be obtained, particularly by those who have good shipping apples and enough of them to make it an object for a good buyer to call on them. Those who have mixed orchards, that is, a large number of varieties, are not apt to obtain as good a price as those who confine themselves to a few varieties.

Where the fruit is not quite up to shipping quality from any cause, cider should be made, and cider in the hands of those who understand it and its manipulation, pays very well. For instance, this summer we have heard of one man selling all his make at 40c. per gallon. In speaking of cider it is of importance that a person should have a good mill. The large power mills are undoubtedly the best, but many who do not live near one of these, and have not sufficient apples at their command to justify the expense of a large mill, will find the hand mills to answer a good purpose. But it is a strange fact that, efficient as our manufacturers are in all other implements, yet the best cider mills, either for hand or power, have to be imported. We have had a good many Canadian-made cider mills spread over the country, and most of them do the work, but there has been so much inferior metal put into them that the breakage has been very great and dissatisfaction has resulted, consequently the American cider mills have come into vogue. Evaporating or drying answers well with those who understand the handling and marketing.

The American Cattle Commission.

The Secretary of the Treasury at Washington, U. S., has appointed Prof. James Law, of Ithaca, N. Y., James Sanders, of Chicago, and E. T. Thayer, of Massachusetts, a commission to be known as the "Treasury Cattle Commission." Their duties will be to investigate all cases of pleuro-pneumonia in meat cattle, especially along the dividing line between the United States and Canada, and along the line of transportation from all parts to ports from which cattle are exported, and to perform the duties prescribed by the Secretary with reference to disease, in order that cattle shipped from the United States to foreign ports may be known and certified to be free therefrom. Of the above Gommittee, Dr. Thayer has been ordered to Nova Scotia to investigate and report on an alleged cattle disease in that Province. No doubt the "Treasury Cattle Committee" have had the disease called Anthrax brought to their notice, to which the FARMER'S ADVOCATE called the attention of our Government in Jan'y and Aug., '80, and which disease on investigation proved of a local character, of no serious nature, not contagious, and arising solely from food and water. As our neighbors are desirous of creating a suspicion against our cattle, our Government should not relax the most stringent measures, and should exercise the greatest vigilance in all matters of quarantine and cattle in transit.

Some of the farmers in Pictou, Nova Scotia, have suffered very severe losses from Anthrax, or disordered blood in the cattle in that locality. Some hundreds of cattle have died, and the losses again this season are great to some poor families. Our Government has been trying to ascertain the cause and remedy of this disease, but whether the most economical and efficient plans have been adopted we are not about to discuss at the present time. In July, '80, we sent the Minister of Agriculture a box containing the mineral substances that are found on the ground, some of which are well known to contain or impart dangerous ingredients that may injure the blood. We also sent a bottle containing water impregnated with mineral substances.

The death of Seegmiller's sheep at Goderich was caused by Anthrax, or a species of blood-poisoning, as we are so informed by one of our best veterinary advisers. It is a most important matter that correct information is furnished on this subject, as some Americans, some Englishmen and some journalists are only too anxious to make it appear that Canadian meat is diseased, that diseases exist here, while the real facts are that Canadians have never had Pleuro-pneumonia on their farms. Hog Cholera and Foot and Mouth Disease have been introduced into the country, but such is the salubrity of our climate and healthiness of our atmosphere that these diseasas, although they have been on more than one occasion introduced, have invariably died out without any aid whatever. The Anthrax, or blood poisoning, is from local causes and is not contagious.

If our Government would cause a thorough examination into the facts and truthfully show in their statistics the number of animals that have died and the number of farms on which the Foot and Mouth Disease and Hog Cholera existed, it would add much wealth to the country and enhance the real value of our meat and stock in foreign countries, as it is a grand thing to know that the diseases ceased to exist even after they had been introduced into our country. These important statistics should be gained and published at once, and some really independent and reliable parties should be empowered to obtain them.

Since writing the above, Dr. McEachran, the Government veterinary surgeon at Montreal, has again visited the county of Pictou, N. S., and both he and Dr. Thayer pronounce the cattle disease in that locality as neither contagious nor hereditary, arising from local causes, and they recommend that the Dominion Government appoint a veterinary surgeon and botanist to watch the disease.

English Letter, No. 29.

[FROM OUR OWN CORRESPONDENT.

Liverpool, Aug. 1.

The great event of the past month has been, of course, the Royal Agricultural Show at Derby, and you will be pleased to hear that it proved one of the most successful the Royal Society has had, and will leave a handsome surplus to be added to its funds. I was there the whole week, and more perfect summer weather even you in Canada could not have. Not a drop of rain fell the whole week, and as, during the six days 130,000 people passed the pay gates, you may imagine what a busy scene it was. On the Friday the Prince of Wales added the crowning glory to the show by visiting it, and spending some hours in inspecting the animals. Coming to the numbers of the exhibits themselves, some of the departments, and especially horses, were disappointing; but this was accounted for in a great measure by the very considerable reduction in the number and amount of the prizes offered, consequent on the society's heavy losses at Kilburn and Carlisle. Some very fine agricultural stallions in the two year old class were shown, and there was also a fair show of Clydesdales, but the lighter classes contained very few first-rate animals.

The cattle were decidedly stronger, and quite up to the average; Shorthorns included some superb animals, and the judges were loud in their praises of the Jerseys; Herefords were a fair sample; Scotch breeds were not exhibited at this show. Sheep were both numerous and very good, and the Shropshire-downs were conspicuous, both for numbers and excellence. A committee of Shropshire breeders offered special prizes to the value of £80 in this class. Pigs were about an average.

There was a very large display of implements and machinery, but rather a dearth of meritorious new inventions. The great contest in combined reapers and binders continues. A great number of machines by the leading American, Canadian and English makers were shown, but the judges await a practical trial early this month, in the harvest field, before they make any award, even should they now meet with a machine to fill the ordinary field requirements of the farmer. Canadian exhibitors were few, and there was nothing especially noteworthy in what they had to show.

I except of course the stand of the Dominion Government, which was under the charge of Mr. John Dyke, assisted by Mr. Graham, of Carlisle, and which excited immense interest every day of show. Samples of the grain, grasses, woods, soils, and minerals of the various Provinces of the Dominion were shown in attractive forms, and these, with the assistance of photographs of scenery, sporting trophies, and literature in the shape of delegates' reports, emigrants' guides, &c., combined to make a very attractive and pleasing little exhibition. It was amusing to watch the sturdy, and if the truth must be told, somewhat prejudiced, midland farmers looking round at what Canada produces, and their exclamations of surprise and wonder that such an outlandish place, as many of them still regard it, could produce samples quite as good as any of their old acres have ever yielded. The Prince of Wales, though sorely pressed for time during his visit to the show yard, managed to spare a few minutes to look in at the Canadian stand, to chat affably with Mr. Dyke, to express his great interest in the welfare of the Dominion, and his congratulations on the very interesting little exhibition which had been got together. The practical value of these exhibitions cannot be over estimated, and it is to be hoped that the Dominion Government will make arrangements for them annually, and upon an enlarged scale. A grander opportunity for making the resources of the Dominion known to the eligible classes, could not be desired.

Our wheat crop is likely to be a large and good one, and I hear similar reports from Russia, Hungary and other European countries. Low prices, therefore, are sure to prevail. Barley and oats are less favourably spoken of, especially the latter, and any of your farmers who should have good samples of oats should not lack a remunerative market. The hay crop was very thin in places, but the bulk of it has now been got in grand condition.

The Canadian horse and cattle trades are rather quiescent just now.. I hear nothing of interest.

A large number of Canadians, and of those interested in Canadian trade, were at the Royal Show. Amongst others were Mr. Jackson; Mr. Spencer, of Dorset farm, Ontario; Mr. Simon Beattie and Mr. John Holderness, of Toronto, who were looking for likely stallions; but there was unfortunately a very limited selection. Mr. Beattie, I understand, offered as high as £750 for a three year old Clydesdale, without tempting the owner to a bargain. Messrs. Douglas & Hendrie were also in the field, with a larger contingent of American stallion purchasers than I have ever before noticed at these shows. Canadian buyers were also busy amongst the sheep, Mr. Spencer securing a Southdown ram, which had won several first prizes, and five shearling ewes of the same breed and holding equal honors, together with some aged ewes and ewe lambs. Also some thirty prime Shropshire-downs. On the whole, however, the Royal Show at Derby cannot be considered a favourable one for colonial buyers, and many of them have gone north to Glasgow, and to the Highland Society's show held at Sitrling, where no doubt they will find many things to their liking.

Mr. Dyke, the Dominion agent here, has just gone on a special commission to the continent; but as to its nature, I am quite in the dark.

"Apatite."

BY PROF. J. T. BELL, BELLEVILLE, ONT.

I have long viewed with sorrow and indignation the manner in which the mineral wealth of our country is being drained off to enrich the capitalists and increase the national wealth of our neighbors and rivals on the south side of the lakes. No sooner is a vein of gold, silver, copper, lead or iron ore discovered and developed within our borders than in steps an American company, or as it is now the fashion to call it, a syndicate, and for a pitiful consideration of a few hundred dollars, or perhaps a "royalty" of ten to twenty-five cents per ton, amounting in all to a mere fractional percentage of the actual value, the property passes for ever out of Canadian control, and the rich material, which once gone can never be replaced, is conveyed out of the country to feed the furnaces and the factories of the United States, and to be thence returned to us in a manufactured state, at such prices as the owners may be able to exact from our necessities.

But, sir, deeply as I have deplored this unfortunate propensity of the Canadian Esau, to sell his birthright to the American Jacob for a very insufficient mess of pottage, I have hitherto refrained from giving vent to my feelings through the press; but as the last straw is said by the Eastern moralist to break the camel's back, the lavish manner in which our national stores of mineral manure is being "extradited" to enrich the soil of foreign lands has overcome my reluctance to appear in print, and impelled me to enter my humble but earnest protest against the indifference with which our farmers view the removal and probable exhaustion of this valuable fertilizer, which Providence stored up countless ages ago for their benefit, but the value and the certainly approaching want of which they seem neither to appreciate nor to recognize.

The substance to which I allude, and to which I wish particularly to call attention is the mineral phosphate of lime, or "Apatite," as it is called by the mineralogists, which, when pure, contains 54 per cent, of lime and 46 per cent. of phosphoric acid, being of the same chemical composition as bone-earth, fresh bone containing in addition a certain amount of nitrogenous matter. Now the phosphoric acid in combination with lime is an exceedingly valuable ingredient in the composition of our arable soils, as though it enters only in small proportions into the substance of the plants, it seems to be a most important promoter of their healthy growth, and an essential element of their food value. It exists in greater or smaller proportion in all soils capable of supporting vegetable life, and is one of the substances which are soonest exhausted, and of which the smallest quantity is returned to the soil in our ordinary manures, at the same time that it is one of the most efficient agents in maintaining the fertility of the soil, or of restoring it when diminished or exhausted by overcropping.

When the value of phosphoric acid as a manurial substance was first recognized, the only substance in which it was known to exist in an available form was bone, and a large industry sprang up in the collecting and crushing or grinding bones for agricultural purposes Now the phosphate of lime, whether in the shape of bone or rock, when in mass is very slow to decompose under the ordinary atmospheric influences of sun, rain, dew and frost, and is almost totally insoluble in water, and therefore unavailable for plant-food, and it is therefore necessary, before applying it to the growing crops, to reduce it to a soluble condition. This has been mostly done in the case of bones by breaking them down into quarter-inch, half-inch or inch bones, and treating them with sulphuric acid (oil of vitriol) so as to convert the insoluble phosphate into a soluable superphosphate; the sulphuric acid taking a portion of the lime from the grasp of the weaker acid, and converting it into sulphate of lime, *i. e.* plaster, while the phosphoric acid thus set free attaches itself to the remaining phosphate and forms the superphosphate. This substance being soluble in water is consequently immediately available as food for the plants; but as they require but a very small quantity of it, its very solubility renders its effect transitory, as much of it is leached out by the rain and melting snow, and carried off by the drains, or washed down into the subsoil, below the reach of the roots, while the surplus acid of the remainder combines with the lime of the soil to assume again the insoluble state from which it was formerly reduced, and hence it is that in many cases the superphosphate produces but little effect, and its application is neither economical nor profitable. Modern experience, however, has shown that it is by no means necessary to use the expensive and dangerous sulphuric acid, but that if finely ground, and applied to grass land broadcast as a top-dressing, or drilled in with the seed for other crops, its effect will be both immediate and lasting. Some persons indeed doubt whether it is a direct article of plant food; but it certainly acts as a wonderful stimulant to growth, and seems to act upon the plants as salt, pepper, and other condiments do in the human stomach, which they aid in the performance of its functions of digestion and assimilation.

As I have already stated, this valuable fertilizer exists in small proportion in the generality of our soils, and is constantly being abstracted from them in the crops we gather. It enters into the composition of the milk, and builds up the bony framework of the animals which feed and fatten on our pastures and meadows, and is consequently largely exported in the cheese, and live and dead meat, no less than in the wheat and other grains which we send to feed the millions of Europe. The principal, I might almost say the only manure in use among our farmers are barn-yard and stable manure, and gypsum, or in ordinary farm language, plaster. The sole elements supplied by the latter substance are lime, sulphur and oxygen, while those derived from the former are chiefly nitrogenous, carbonaceous, siliceous, and alkaline matters, with perhaps a very minute portion of phosphorus. It is clear then that if the fertility of the soil is to be maintained at a profitable pitch, the phosphoric element must be supplied from time to time as it becomes exhausted. We are now exporting our animal products to such an extent that in a few years the supply of bones will run short; but happily there has been stored up for myriads of ages in the recesses of our Laurentian hills an ample supply of this precious mineral, sufficient, if utilized along with our other manurial and mechanical resources, to maintain the agricultural productive power of the Dominion at its pristine pitch of luxuriance till time itself shall be no more.

Let us hope then that the farmers of Canada will avail themselves of the rich inheritance which Providence has placed within their reach, reflecting that if this mineral will bear its cost at the mine besides freight, insurance, commission, and merchants' profits wholesale and retail, and still be found profitable by their European brethren, its use must be much more beneficial to themselves, who have only to pay the first cost and the expense of crushing.

Canada's Great North-west.

Canadians hardly, even yet, comprehend the immense extent and unequalled fertility of their inheritance in the North-west. It has been generally supposed that the greater part of that vast area was a snow-covered wilderness, and inhospitable mountains unfit to be the home of civilized man. Those mistaken ideas have ceased to exist, but the great extent of those unpeopled territories, that are more than sufficient to produce food for the whole population of Europe, is as yet known to few. Even land that had a short time since been pronounced worthless is now known to be of surprising fertility. The hills were a light and sand-coloured sandy loam, with numerous boulders and great quantities of gravel, and the flats were of cretaceous clay, and so acid that grass could not form a sod. The vegetation in the flats was sage-brush and cactus, and every thing betokened confirmed acidity. This was at the time of Professor Macoun's first visit. A second visit opened his eyes. The hard acid soil had been broken. The cactus and sage buried by the ploughshare had given way to a crop of wheat. The grain was about ripe at the time of his second visit. The ground had only been broken for an inch or two in depth, but the change was astonishing. Close to the ploughing the unbroken soil was so hard that it could not be penetrated. Not a yard away it could be dug to any depth. The apparent acid land is not really so, and will, the Professor says, blossom like the rose.

Mr. LaTouche Tupper, who lately travelled through the North-west as far as Battleford, furnishes very interesting notes of his trip, from which we take the following extracts:—

Manitoba—or rather old Manitoba, for the borders are now enlarged—is low, flat, alluvial soil, very rich but the characteristics of the country are unattractive; the soil, though, is practically exhaustless and when a proper system of drainage is carried out must always rema n a very rich and profitable country; as, however, it is pretty well all taken up, we will on west. Take a map and draw a line north and slightly west from the eastern side of the Pembina Mountains; then continue the line in the same direction and you keep the eastern slope of the Duck Mountains, Porcupine Mountains and the Basquia Hills. This line is the first step to the Mountains—rising about three hundred feet along the hills—you never go down again nor do you again see the dead flat so objectionable in Dakota, Minnesota and Manitoba—nor do you get the storms of these so often storm and flood swept States. At the sea the storms are resistless because there is nothing to break the wind, so Dakota and Minnesota's immense flat, treeless plains are storm swept, while our North-west with its frequent ranges of wooden hills such as Cypress Hills, three thousand eight hundred feet above the sea, and Wood Mountains, three thousand four hundred feet high, which stand on our southern border as giant sentinels to challenge and throw back the bitter storms which sweep northwards from the immense sterile plain which occupies so much territory in the heart of the United States, commencing near the border of Mexico.

In Minnesota, Dakota and Montana hundreds of lives were lost, tens of thousands of cattle perished and buildings were submerged and swept away, while I was crossing

OUR BEAUTIFUL PLAINS

with horses, they feeding on the rich grasses of the plains, being turned loose noon and night, I being comfortable in my tent, and actually travelled from Winnipeg to Edmonton and return, a distance of over eighteen hundred miles by trail being out 120 days in the depth of winter and never was stopped an hour by storm—the deepest snow anywhere being 18 inches while at Battleford and in that section the deepest snow was six inches all winter!—as I neared the Rocky Mountains it got as deep as 18 inches!—coming back I took carts at Victoria on the 15th of March, the most northern points of the Great Saskatchewan River!

I think there are two great currents of air or winds which affect our North-west. Taking the great trail from

WINNIPEG TO EDMONTON,

the widest prairie is but thirty miles from wood to wood, and I never camped away from wood in eighteen hundred miles travel, so you can see our west is not a treeless waste of dead flat, but is, after rising on the first steppe, a rolling country, well drained, the streams all carrying large valleys, well wooded, free from stumps as we are here, and free from the dreaded grasshopper. There is but a small percentage of waste land and the soil is rich and quick, you can have your choice of subsoil from heavy clay to light sand or gravel, while your topsoil will be all the way from heavy clay loam to light sand loam. Water is good everywhere; there are many salt lakes, but fresh water can always be had near them, often within 100 feet. The country improves as you go west, and I think the richest and most attractive country I ever saw is Edmonton district (a little larger than Nova Scotia)—here is abundance of coal; gold is taken out of the river for the distance of 200 miles and yield is over 35 bushels of wheat per acre; oats, 70 bushels, while root crops are immense both as to yield and size. There are some fine farms here, and although it is under the shadow of the Rocky Mountains, there are three grist mills, three sawmills, two steam threshers and improved machinery everywhere.

I have seen a great many Nova Scotians in the west, particularly about Fort Ellice and Birtle, and wish more of them would go west; those there are doing well and are more than satisfied with their prospects; they make the very best of settlers and are sure of a warm welcome there, and every assistance in getting on their land; health and wealth await every settler. A great deal has been said about the railway; I would say that after travelling through all the settlements since the Syndicate bargain has been made, and after meeting most of the best men of the west, that the bargain is for the best interests of the intending immigrant; the bargain is such that they say that in order to make it pay, the Syndicate must settle up the country; there you have it in a nutshell—to get business for the line they must have their land tilled, to get the land tilled they must promote settlement, to promote settlement they must sell their lands cheap, and give cheap transportation and prevent speculators tying up land.

Berberry Hedges.

Attention is called to a letter from J. S. M., in the usual department on "Berberry Hedges and Rust." Our subscribers who have had any experience with berberry hedges will do a great service by communicating their views on this important subject. In our next issue some articles from leading authorities are expected.

On the Wing.

AGRICULTURAL IMPLEMENTS.

A person fairly posted may obtain considerable information about agricultural implements by going through implement factories or attending agricultural exhibitions. But such observations never made a plowman. It is by actual work in the field, observation and real practice that efficiency and defects must be found out.

To gain a little more knowledge about implements we have devoted a little more time this year than usual to their observation. At the present time no agricultural implement is specially engaging the attention of manufacturers so much as the Binders. Mowing and reaping machines have been brought to such a degree of perfection that it appears almost impossible to add to their efficiency. There have been a great many alterations made in harvesters during the past few years. Some of the machines with these alterations have been brought out under new names, as new or improved machines; but actual trial during the past year has convinced us that the word "deteriorated" would often be more applicable than "improved." There are some manufacturers who through parsimony or ignorance have used inferior material when constructing even really good machines. Some agents under the cognizance of manufacturers have made incorrect statements to farmers to enable them to effect sales of implements, knowing the machines to be of inferior quality, sometimes worse than useless.

All the available inventive genius that reaper manufacturers can procure is now centered in perfecting the binder. We presume many hundreds of thousands of dollars are now being expended for this purpose both in the States and Canada. There are eight in Canada we have heard of who are working on this binder business, and if we reckon all who are agitated about it, we have no doubt but we might add one 0 to the 8, perhaps two; and if we step across the border we presume we might add the third 0. The fact is that binders have now been brought to such perfection, and are such a success, that the best farmers will have them. Although the price is high, the investment is a paying one, and in some localities it would be almost a ruinous matter to attempt to employ men to do the work. There are many efficient wire binders, but in using them there will always be danger in the impossibility of keeping the wire from the grain and the straw. By the use of strong magnets the millers can pretty effectively remove it from the grain, so we need be in no apprehension of finding it in our bread. But the poor animals may be compelled to eat the straw and chaff, and have not magnets and sieves to protect them. A tooth may be broken, a small piece may get between the teeth, a portion may be swallowed, or it may stick in the claws of the foot. What ails that cow, ox or horse? Don't know! Veterinary does not know—physic—bill—better death. The fact is, we do not want the wire binder in Ontario, and they do not want it in any part of the States, or anywhere else where the straw is used by stock; and yet so valuable are these binders found that some farmers will risk the danger of the wire.

The cord binders have up to this season not been as efficient as the wire binder. It is to the cord binder or straw binder that attention is now turned. The first binder we saw this season was worked in the county of Middlesex. The machine is a new invention. Five long teeth bent in this form ⌒ run under the grain. A large grappling fork then forced the grain to an elevation on which two men were standing, each taking a sheaf alternately, and thus the work was done. The machine ran on two wheels and was drawn by one horse. We could see no advantage in using this implement, and think the inventor's time wasted.

On the farm of Mr. J. Black, in the county of Haldimand, we saw a Harvester and Binder in operation. This machine is called the St. Paul Cord Binder. It is the original and first cord binder invented; it has been improved. This is the first one of this kind ever introduced into Canada. It works lower and nearer the ground than the other binders, and did excellent work, taking the grain off the ground very neatly and cleanly. It was drawn by three horses, and threw the sheaves clear out of the way of horses and men, and dropped them gently on the ground. Although the machine worked several hours without breaking a cord, at one time when the cord was tangled or of an inferior quality there were a few breakages. The cord used was made of hemp. We are informed that there are many of these St. Paul Cord Binders in use in the States; on one farm ten of these binders were used the past season, and on many farms a less number. But up to the present time A. Harris, Son & Co., of Brantford, Ont., appear to be by far the most successful in the manufacture of cord-binding harvesters in Canada. We are informed that Messrs. A. Harris, Son & Co. made 200 binders the past season, and that 120 of them were sold in Manitoba and 80 in Ontario. Nearly all those sold in Ontario bind with cord, and a large proportion of those sold in Manitoba use the same material. They use a Manilla cord. This cord has a decided advantage over the cord made from hemp; it is stronger and it neither stretches nor contracts by being wet, and costs less. All the other cord binders that we have seen used the hemp cord. In the early part of the season they had some little difficulty with some of the machines because the cord was not strong enough, and some did not understand how to use the machines and wire had to be substituted; but as soon as proper cord and instructions were supplied, the difficulty was overcome.

Such is the satisfaction given by Harris's binders that they are about to build extensive additions to their now large workshops, and the demand is such that he says they do not expect to be able to fill the orders, and that if they had the facilities they would build 500 binders for next season's business. The past season, independent of their own productions, they were obliged to import binders from the States to fill their orders.

The harvester and binder is not adapted for every farm. It requires a large farm to be able to afford the investment of so much money in one machine; it also requires a person to have some mechanical judgment to manage such a machine properly. A binder would not answer if trusted to that class of old country farmers who object to American hay forks because the tines spring, and there are thousands of people yet on the old sod who make that excuse for not using them.

The abilities of some of our best manufacturers have been unusually taxed this season to enable them to supply the demand for implements, which has been so great that some had not space enough and others could not get sufficient skilled workmen. In Brantford, Harris, Son & Co., Wisner & Son, and the Waterous Engine Works Company, are all making extensive additions to their works. The Waterous Co., in addition to their large saw and grist mill constructions for the Dominion, have turned out 120 portable agricultural engines and have lots of work ahead. When we consider the capacity of the work of one of these engines, and then consider the number of portable agricultural engines turned out by all the other portable engine builders, some of which turn out nearly as many as the Waterous Company, we must conclude that we are in a more prosperous position than ever. In the city of London alone there are four large establishments constructing portable engines for threshing machines. Then there is Whitlaw, at Woodstock; Abell, at Woodbridge, etc., etc. When these engines have good dry grain they can thresh from 50 to 100 bushels per hour. It should make us consider what a contrast the present is to the past.

The Wave of Prosperity.

During a residence of 39 years in Canada we have not seen such a season as the present in the western portion of Ontario. Labor has never been in such demand; mechanics and farm laborers have been difficult to procure. Many agricultural implement makers could have disposed of greater stocks could they have procured sufficient hands. In the cities and towns building is rapidly progressing. The farmers in this vicinity never experienced a more favorable season; the crops are excellent and the prices good. Many mechanics left for the States during the past few years, and many poor farmers have sold out and gone to Manitoba. The attention of European emigrants has been called to the western and northern parts of this continent, and Ontario has not recently been receiving as many of the better class of settlers as formerly, although the demand for skilled labor, the high rate of wages paid, and the opportunities of purchasing improved farms and living comfortably on them, present, in our opinion, more advantages than are to be found in the old country. There is much land yet to be possessed by the active husbandman, yet unoccupied in Ontario, and our almost boundless extent of land in the North-west offers such advantages to emigrants that we can as yet form but little idea of the number of inhabitants this dominion may contain.

Our regular subscribers are freely invited to send for as many copies of the Exhibition number as they may be willing to distribute among those who are interested in rural affairs. All our friends who are satisfied with the efforts we have made to instruct and please them, are solicited to aid us, through this Fair number, in so extending our circulation that further improvements may be inaugurated and sustained during 1882.

All subscribers who wish for one or more copies of the Exhibit on issue to give or show to their friends, or who wish us to mail copies to those that are likely to become subscribers, will please inform us by post card or letter, and their requests will be attended to.

PRIZE ESSAY.

Our Future Public Agricultural Expenditure.

BY P. E. BUCKE, OTTAWA.

The paper called for on the above subject by the July number of THE FARMER'S ADVOCATE is of considerable importance to the Province of Ontario, and it is trusted that a large number of those who are interested in our native resources and industries will give their views upon it.

It will be admitted by every thinking individual that Canada at present is essentially an agricultural country; but a country may be purely of a pastoral nature, and yet so undeveloped that its resources are not of a merchantable character. To illustrate my meaning I will cite two instances. First, the butter interests. Thousands of pounds of this commodity have been shipped to the Liverpool market from this country at a loss to the exporter, the article having been so badly made as to turn rancid during transport, and it has finally

been used as axle grease for car wheels. Second, the cattle trade. When the shipping of horses and horned cattle was first begun with England, the animals sent were of such a quality as to be entirely unsuited to the British market; during the last twenty years these things have been considerably changed, both by the experience gained by the shippers, and by our annual exhibitions, stimulated as they are by government grants, and these exhibitions are now attracting dealers from the old world to inspect and purchase such horses, cattle and dairy products as we have to sell.

Exhibitions are also held for a variety of other objects. Amongst these are, first, the stimulation of the production of merchandise, cattle, fish and fowl, the products of the soil, of the mine, and fine arts, &c. Second, to show the progress which is being made in these articles from time to time, with the view that by making and rearing the best that can be produced, the general progress of the country may keep pace with other parts of the world, so that this country may not be found behind in the character of its products for export, when presented side by side with the commodities of other nations in the markets of the old world. This especially refers to our cereals, cattle, timber products, and manufactories, &c., and third, as an advertisement of the commodities which the parties exhibiting have to dispose of. Exhibitions, also, whether township, county, or Provincial, add much to the amenities of life, as they collect together a large number of people, who discuss the various trades, businesses, professions or callings to which the individuals belong, and thus by the attrition of mind on mind, the moral and intellectual standing of the whole people is elevated, and all are more or less benefited. Another advantage which occurs from these festive occasions—for they partakte also a good deal of the holiday, after the heat and worry of the harvest—is, that such numbers of people are moving from place to place, that railways and steamboats reduce their fares, and thus parties living at a distance are enabled to visit their relatives and friends, or expand their ideas by a little wholesome travel in various parts of the country which they had never visited before, at a reasonable rate. The visiting of kindred and friends, and a general knowledge of the country and people, keeps alive an interest which does much to weld the people into one homogeneous mass, and engenders a feeling of loyalty to the crown, and a love of one's country.

It has been well said, "Man was not made to live alone," and these annual gatherings do much to cheer the onward path of life.

These displays which have now grown to be of such value to the state and nation, were much stimulated by the late Prince Consort, who inaugurated the first Universal Exhibition, which, after much anxious thought, was opened to the world in 1851, in Hyde Park, London, England.

This world's fair did more to stimulate trade in Britain and other parts of the globe than anything that had preceded it. Raw and manufactured articles from all parts of the world were put on view side by side. Manufacturers, scientists and artists all vied with each other in their endeavor to excel. Ideas were obtained from the way in which certain works were performed and copied in distant lands. The manufactured and industrial products of modern times were pushed simultaneously to a higher level, and the knowledge of mankind as a whole was greatly advanced. A new epoch was by this means established, and so great were the benefits derived, even in this first attempt, that it has been many times repeated since, and always with marked success. These exhibitions took such a place in the world at large that they are being continued in a more humble, though quite as useful a way, amongst our own people of to day, and those who witness the busy and excited throng on the grounds in London, this month, will see in a diminutive degree the crowds which assembled just thirty years ago in the metropolis which we as Canadians have named our little city after, and which, as the children of our great fatherland we delight to imitate.

Some people, it is thought, have, without sufficient reason or consideration, decried the practice of giving money prizes at these exhibitions; this position, on reflection, it is believed is quite untenable. There is no doubt the exhibition of thoroughbred stock, machinery, &c., is one of the best advertisements for its proprietor, yet it is denied most distinctly all the benefit is from its exposure. Individuals wishing to compare and purchase, can do so much better when the articles are brought into proximity with each other, and the opinions of those best able to judge have been pronounced upon them. These opinions could not be had in any other way than that which has grown out of the necessities of the case. Any man could *form an opinion* as to which was the best of two animals, situated in two different counties; but it would be impossible, if they closely resembled each other, to pronounce an exact judgment, unless they were brought together, and it would scarcely be fair to expect that the expense of the transport of stock or any other commodity should be borne entirely by the owner, when a considerable portion of the advantages derived are gained by the individuals who come from far to see the exhibit with the view of purchasing or utilizing the stock shown.

Of the expediency of holding exhibitions and giving prizes, there is certainly no two opinions. A doubt may arise as to whether the money voted has been legitimately expended. The itinerant system of holding the Provincial must of necessity make this show an expensive one; but on the other hand, the advantages gained by the Province as a whole would probably quite compensate for this mode of procedure. Were the exhibitions held in one place continuously, as in Toronto, which is easy of access both by boat and rail, with a dense population living immediately in its vicinity, a large portion, if not all the $10,000 subsidy granted by the Ontario Government, could possibly be dispensed with; but it is highly questionable whether the benefits of educating the people up to the proper standard would be gained in all parts of the Province.

With regard to the grant of $3,000 to the Dairymen's Association, it must be confessed that much has been done in the direction of improving our butter and cheese products during the past twenty years. The signal triumph that attended Canada's Centennial dairy exhibits, at Philadelphia, fully showed the great advance made on the products of former years. Our higher class cheeses now compare favorably with any produced by the manufactories of Holland, Switzerland, or England itself, and the better class of gilt edged butter made in Ontario creameries, where the temperature of the air and milk are properly regulated, brings such an advanced price, that if all the butter made were similarly manufactured, it would add many thousands of dollars to the export trade of the country. It is therefore considered the money is wisely expended and will be amply returned before many years by raising the quality and quantity of our dairy products.

The $1,800 expended by the Fruit Growers' Association for the purpose of raising and importing new and better fruits, for dissemination to every locality of this Province, is doing a valuable work. Hundreds who had no idea of the advantages possessed by our favored soil and climate are now living under the shadow of their own vines. Not only are plants distributed to members, but the annual report, replete with useful information, is distributed gratuitously amongst its members. This Society is also taking up the subject of Forestry, which is the largest interest in the Province next to agriculture, and which, it appears, is liable to become extinct within the lives of men now in existence, unless it is closely looked after. Nothing adds more to the healthfulness and enjoyment of life than good fruit. It is also becoming one of the acknowledged articles of export, and now that a surplus is being produced, will add largely to the money value of the country when sent across the water in its green, canned or dried state. Again, amongst vine-growing countries are found the most temperate people under the sun. The grape acid appears to be peculiarly fitted for the health of those who live in hot countries where it is produced, and fills a place too frequently supplied by ardent spirits. The writer is no advocate for alcohol of any kind, but men must be taken as they are found, and it is much better they should indulge in mild stimulants than in those fiery beverages which kill both soul and body, and make man a by-word and a reproach to all those who come in contact with him.

The Entomological Association gets $1,000, and it would be impossible for the country to do without a society of this kind. It will be remembered that when the Colorado potato beetle invaded this country, in 1871, the Hon. John Carling, then Minister of Agriculture, despatched Mr. William Saunders, the then Vice-President of the Society, and Mr. E. B. Reed, Treasurer, to the western part of the Province, to examine and report on the dirty beasts. These entomologists made experiments, with the view of adopting the best means of fighting the insect, and it was found that Paris green was the only remedy available as a cheap and compact means for its destruction. This drug has been adhered to ever since, and the society has in this one instance alone saved the country hundreds of thousands of dollars. They have also assisted in arresting the ravages of the codling moth, the "Little Turk" and the cabbage butterfly embryo, the sand fly which attacks the raspberry, and that which is the enemy of the currant and gooseberry; but these are only a trifling part of the benefits derived from this Association. To extend the list would be to drag out this paper beyond all bounds. The objects of this society are to watch for insect enemies, and to study their habits through their several changes; and if injurious, how they may be easiest met and exterminated; to determine which are beneficial and which injurious; and in fact to protect mankind against one of its insignificant but most persistent foes.

The Poultry Association is awarded $700 per annum; and if we are going to compete in the poultry trade by shipping fowls to England, it is certainly time we were beginning to improve our breeds of chickens, because, although we have some fine fowls in this country, the majority of them are not such as would pay for export to a discriminative market. It will be found in this trade, as well as in that of fat cattle, that it will be necessary to get a good bird at the least cost at the youngest age. Many farmers' daughters have the privilege of raising chickens as a means of enabling them to make a little private pin money, and no one will grudge them any advantage that will enable them to double their scanty income.

The total grant for agriculture for the year ended 31st December last was in round numbers $76,000. This may be looked upon as a very liberal one, but when it is considered that nearly the whole revenue of the Province is derived from this source, including the Crown timber lands, it is only right that a small portion should be returned to stimulate these industries and fit them better as articles of export. It may be a question, however, if more good could not be done by amalgamating the counties, by clubbing the funds, three or more together, for exhibition purposes; but this would be a matter for the executives of the societies to consider. It would also be well for these rural societies if they could see their way to offering prizes for the purpose of encouraging tree planting on waste lands, ravines and roadsides, or where permanent fences are located on farms, and around dwellings and outbuildings, for the purpose of shade, ornament and wind-breaks. It is believed that no greater or better legacy could be left by a parent to his children than a grove of a few acres of black walnuts, now worth $100 per 1,000 feet—the price of which is in no way liable to decline—or the European larch, a rapid-growing tree, suitable for fence-posts, railway ties, or any other object for which an enduring wood is required. For wayside trees there is nothing more suitable than elm, the hard or soft maple, &c. A judicious planting of trees might be made without much cost, which time and the influences of nature would convert into a saving bank, either to dower a daughter or to pay off a mortgage contracted for farm improvements. A farm well ornamented with trees will always bring a higher price than one with bleak surroundings.

It might be well to consider whether it would not be advantageous to hold county exhibitions every third year, devoting the Government grant for the intermediate two years to the purchase of thoroughbred stock, such as stallions, bulls, rams, boars, &c., to be let at a cheap rate to members of the Agricultural Association. Nothing requires improvement more than Canadian farm stock, and there is probably no way of obtaining this object better than that above suggested.

In conclusion, therefore, it is suggested—first, that in no case should the present system of Provincial, county and township exhibitions be interfered with; secondly, that the prize lists might be advantageously revised, so as to give prizes with the view more to encourage home adornment, and for those articles mainly produced for export; and, thirdly, that it might be desirable to hold the county shows every third year, instead of annually, as at present, and expend the Government grants for the intermediate period for the production of better stock.

Finally, it is estimated that the $76,000 annually expended to stimulate agricultural production is not a tax of a hundredth of one per cent. on the forest and farming products of Ontario, and it is the least possible sum that should be expended for such a laudable object.

Garden and Orchard.

Raspberries and Blackberries.

On rich soils the black cap raspberries and blackberries, especially in moist seasons, make a strong, coarse growth of wood, not well adapted to endure the severe cold of our winters or the drying winds of our springs. This may be entirely obviated by a proper systematic pruning or pinching off of the tips of the young canes as they grow. With the black raspberries the tips of the young canes should be nipped off when two to three feet high. This will cause the canes to throw out lateral branches, and the tips of these should be pinched or clipped off when they have grown about a foot. Twice pinching back is sufficient in field culture, but in the garden this may be done much oftener, greatly to the benefit of the plants and their next year's crop. The best implement that we have used for clipping back is a light sharp butcher's knife. A quick stroke downward, cutting the canes easily without any jar. An active person can go over a row of these berries very fast the first cutting, when cutting in the main canes, nearly as fast as he would walk. Cutting in the side branches is a little more tedious, but no great task.

With blackberries the same general course can be pursued, but more judgment is required; the varieties must have different treatment, for in their growth they vary much more than the black cap raspberries, and no special rules can be laid down for the summer pruning of different varieties; for some varieties would be rendered nearly barren by the practice that would be found the best for others. Perhaps the best general practice for the novice would be the second year after planting to cut the tips of the young canes when they are two feet high. This would cause them to throw out laterals. With the Kittatinny variety, these should have their tips clipped off as soon as they are from six to eight inches long, and then allowed to grow. Any cutting back of this variety after it has matured its growth, we have always found to spoil the next year's crop. But this variety (the Kittatinny) has become so liable to disease—the "red rust"—that it has about gone out of cultivation. If it would only remain healthy we would yet consider it the most valuable of blackberries. For with thorough summer pinching or clipping back, it is about as hard as the hardiest, and its crops are so immense, of such perfect quality, and ripen up so completely that it is hard to give it up. We still find it to withstand the red rust on soil composed of almost clear sand. But on clayey soil it seems useless to plant further. The Snyder is unquestionably the blackberry for the North-west, and we should be greatly pleased to have the summer treatment given it by some of our larger growers of it for market. We have practiced with it two different modes of summer treatment: The one to cut back the young canes, or to stop them when about two feet high, and then let them grow, and then the next spring to cut in the side branches about one-third; the other, to let the young canes grow as they will, and the next spring cut them back one-third; for we find that the Snyder, if not cut back in the spring, will set more fruit than it can mature.—[Prairie Farmer.

The Tuberose.

The tuberose is easily cultivated, provided the temperature is right. Once well started they grow and bloom as freely in the open ground as the gladiolas, but they require a high temperature, or at least a heat of 70 to 80 degrees at the roots to forward them during the early season of the year. The bulbs may be planted in three-inch pots, one in each, and then plunged in a good hot-bed. In a few weeks they will start into growth, and subsequently repotted and grown in six-inch pots, or may be turned out into the border to bloom; such as happen to be late, and likely to be overtaken by the chilly nights of September, may be taken up and potted, and carried into the parlor or greenhouse to flower.

It has been the custom, because some authors have asserted that the old roots were worthless after blooming, to throw them away. This, however, is an error. If the roots are carefully ripened off when done blooming, and kept in a warm, dry place in winter, they may be started early in spring and if planted out in good rich earth will bloom freely.

Get good firm bulbs, not too large; pot them in January or February, for early bloom, and from March to June for a succession; use three-inch pots in almost any kind of soil; as soon as well started, put into four or six-inch pots in a compost of rich loam and old manure; if in four-inch they will have to be repotted again into six or seven inch. About the first of June plant in open ground, or plunge the pot as the flower stems grow; tie to neat stakes, as the wind is likely to break them off. For later flowering the roots may be potted from the last of June to August, and kept in the coolest place, to retard them as much as possible. Early in September remove to a house where the temperature is 45 degrees or more at night, and they will bloom until Christmas. The new variety called the Pearl is quite an improvement, as it grows only about two feet high, and the flowers are larger and finer. A good bulb should produce about three dozen flowers.—[Mass. Ploughman.

A Tub of Lilies.

Those who admire our beautiful water-lily—Nymphæa odorata—and cannot have a pond will find that much enjoyment may be had from an old wash-tub arranged after the following plan: No matter how warped or rough the tub is so it will hold water securely; a barrel sawed in half will do, though not convenient to move without handles. Set the tub up a little ways from the ground on bricks or blocks to preserve the wood, half fill it with rich garden soil, in this imbed the root, one is enough for a tub; fill carefully with rain water so as not to wash holes in the soil; more water must be supplied when needed, to replace that lost by evaporation. Some of the common duckweed or any other small water plant and some minnows in the water, would aid in keeping it fresh until the lilies became established.

The birds are partial to this miniature pond, and, if it is not guarded, will appropriate it for their morning bath—pecking and breaking the lily leaves To exclude them take some shingles, saw them once in two cross ways, split the pieces into strips about an inch wide and tack them around the edge of the tub with brads, putting two brads into each strip; this forms a paling sufficiently firm and high to keep the birds off the edge of the tub and but few will have courage to fly down inside of it. The flowers of this lily are usually pure white, fragrant, and semi-double; they open only in the forenoon and each flower opens for three successive mornings, it then closes and then sinks below the surface of the water to mature the seed. The plant remains in bloom from June to September. The roots if not obtainable from some neighboring waters, may be found at most any of our reliable florists. It is too late to have the lilies, if planted now, bloom this summer, but preparations may be made for an early start next spring. In the fall when freezing weather begins, the water in the tub must be allowed to dry down to the soil; the tub can then be moved to a cool, dark cellar, where the plants will keep perfectly through the winter.—[J. M. M., Ex.

Ornamental Hedging.

E. F. Ellwanger of Rochester, writing on the above topic in the American Cultivator says:

In our cities hedges may occasionally be seen as division lines. They are mostly arbor vitæ, but in winter the color is objectionable. When used as a substitute for the many fences that are pulled down, I consider Japan quince (*Pyrus Japonica*) a very appropriate shrub. It can be pruned in any desired form, and its beautiful flowers in May will give any place an inviting appearance. This shrub will answer in front, while a hedge of roses, or some other flowering shrub, would do well between neighbors.

Take for instance the beautiful hybrid perpetual roses; out of the many hundreds of varieties many could be selected that would form a really ornamental hedge, while "the girls" would certainly have a good chance to make rose bouquets. A hedge of roses would attract the attention of every one passing by; the whole lawn would have a lively look. But what beyond the rose hedge? Grape vines, I say. Why could not you and your neighbors have a hedge of vines as well as roses? Both the vines and the bushes will stand pruning; both are ornamental and useful.

And here I would remark that in my judgment, in many fine places, there is too much space devoted to lawns. I have actually seen places where every tree and shrub was cut down to make a lawn, just because an extensive lawn was the prevailing rage. There stands the house isolated, and all you can see in the back-ground is the post for the clothes-line. Now for a rose-hedge you may choose either "John Hooper" or "Gen. Washington," "Madam Lafay" or "Pius IX," or any other. For any ornamental hedge of vines I should take the Delaware grape; its foliage is graceful, and its growth is just rank enough, while it is very hardy. For a wild hedge, on which you do not mean to bestow any care, take the Clinton grape. If you want good grapes at the same time, and wish to keep it in trim, Rogers' No. 4, 15, or Salem, are good. I would also recommend the Brighton, with its fresh and beautiful green.

Planting Nuts as Tree Seed.

The gathering of nuts for purposes of seed should be done as early as possible after their maturity, as the least possible amount of drying by the influences of the atmostphere is injurious to them as germs of future plants. The nut gatherer must be a close and discerning observer of nature, as in the treatment and preservation of nuts some require treatment quite different from that of others. Some must be kept studiously dry and away from all outside moisture during winter, while others must as studiously have a liberal supply. Again, some must be kept cold, and exposed to frequent freezing and thawing to subdue their obstinate coverings, while others must as carefully be kept out of the reach of frost. And still again some may be advantageously planted in their seed beds in the fall of the year, while others will not endure this treatment with impunity.

But to particularize, it will perhaps be best for our purpose to make some special statement as briefly as possible relative to the management of each kind of nut for seed purposes.

English Walnut, *alias* Maderia Nuts, (*Juylans Regia.*) Nuts ripe early in October. Dash from the trees, gather and place in thin layers on the ground, and slightly cover with damp earth to keep moist and secure from the atmosphere during the winter. In early spring take out and plant in a seed bed six inches by two feet, keep clean and protected from the severity of the sun. These nuts will not do as well in this country as our native variety, but in favorable spots the young trees will do tolerable well, although but very few are now found growing amongst us.

Black walnut (*Juglans nigra,*) and Butternuts, (*Juglans cinera,*) are native forest trees of fine proportions. Nuts ripe the latter part of October or first part of November. After they are matured and loosened by the frost or shaken down by the wind, they must be gathered as soon as possible and protected from the atmosphere, and planted early the following spring. Fall planting may also be adopted, but spring is greatly preferable, as thereby solidifying of the ground and encrustation is mostly prevented.

Hickory Nuts, (*Carya alba*, and *C. amara,*) are treated much like the preceeding. The first is an exceedingly pleasant and nutricious food, and is greatly relished by both man and beast. The nuts are slow in germidating, and for a year or two make a slow and feeble growth, but with patience and care they eventually make fine trees.

Beach Nuts, (*Fagus sylvatica,*) are produced on native forest trees of noble growth. The nuts ripen in great abundance early in October, and readily fall by the influences of frost and wind. On low spreading trees they are dashed and gathered on sheets and preserved in dry sand out of the way of frost, and sown very early in the spring in well prepared seed beds in rows one foot apart. They readily germinate and form fine trees in a comparatively short time.

Chestnuts, (*Castanea Americana* and *C. pumila,*) also Spanish Chestnuts, (*C. Vesca,*) and the ornamental and beautiful lawn tree, the Buckeye or Horsechestnut, (*Æsculus hippocastanum,*) are all the fruit of forest trees of deserved and growing popularity. The first three sorts are exceedingly relishable, and are much used for food. Nuts ripe in October or November, and will readily fall by the action of the wind after frost. May be gathered and kept in dry sand out of the way of frost. They readily germinate in the spring, and may be sown in rows one foot apart and six inches in the rows in a well prepared and liberally enriched bed. They may be transplanted in the nursery rows at one or two years of age, and need some protection as they are a little tender while in their infancy.

Hazel Nuts, *Alias* Filberts, (*Corylus Americana L. Avellana,*) a very popular and much esteemed for food, especially the English variety. The nuts may be gathered and stored away in dry sand out of the reach of frost, and sown as early as possble in the spring. They will thus make fine plants to be taken up early the ensuing fall. They are not much grown in this country.

Almonds, Peach, Nectarines, Apricats, and Plums, are all related, both in nature and the treatment of their seed. The Cherry, may also be included, in the successful management of their seeds, the one eccential point is studiously to prevent them from becoming thoroughly dried while exposed to atmospheric action. As soon as cleansed from their outward covering they may at once be stored away in boxes of damp sand, and put out of the way of frost. But they must be moved at the earliest possible moment in the spring, as they readily germinate upon the slightest approach of vernal influence. In the case of Apricots, most experienced nurserymen gather them as soon as matured, and at once commit them to the seed bed. —[Abridged from the "Canadian Horticulturist."

Experience in Pear Culture.

We find that the pear was common in the earliest times of the Romans; it was common in Syria, Egypt and Greece. Virgil mentions pears which he received from Canton; Pliny describes the varieties in cultivation in his time as being numerous, and mention is made by the Emperor Tiberius of most delicate and agreeable pears.

The pear is not a native of America, but was brought from other continents. We read of its growing wild in some parts of Europe, Asia and China. It was brought to great perfection by such men as Van Mons, Knight, and many others of the present day. But I am not asked for the history of the pear, but the result of my own experience with it. I shall therefore begin with the little Amire Joanette, which yielded in 1879, being planted eight years, standard, 2¼ bushels, which were sold for 12½ cents per quart, or $9.00. In 1880 my sale book gives it credit for 64 quarts, and sold for $8.00, besides a few quarts for the use of the house. It ripens about July 15th. I keep the soil clean and rich around it.

The next in order is the Doyenne d'Ete, which which ripens here about the 20th July, and sells freely for 12½ cents per quart. It grows well either as standard or dwarf, and is a most delicious little pear. The skin is clear yellow marked with small dots, and red next the sun; flesh white, melting, very sweet and juicy.

Beurre Giffard come next, and is much larger than the former, with a greenish-yellow red next the sun. Flesh white and most dellcious, and the fruit sells here for about 10c per quart. The tree is a slender grower, but health hardy and productive. It is ripe here about the last of July.

The Bartlett is a splendid pear. The tree grows upright, with straight yellow shoots Skin smooth, yellow, with a blush on the sunny side; it is sweet, juicy with a highly perfumed vinous flavor. It is ripe here from the 25th August to the 10th September, and sells for $2.50 per bushel.

The Clapp's Favorite is my next,—a most gorgeous pale yellow pear, marbled and splashed with red and light brown. Flesh white, fine grained, juicy, melting, buttery, rich, with sweet perfume. The tree is a rapid, straggling grower, with large shoots; it stands the frost and severe weather well; the bark is a yellowish-brown color, and is clean and healthy. Succeeds well as dwarf or standard. The fruit should be gathered some days before ripe; it will not keep long—[Ex.

Cyclamen for the Window.

Florists cannot understand why the cyclamen has not been more extensively grown for window gardening; there is scarcely a plant used for that purpose that can excel it in any of the features so necessary for show. It has a pleasant fragrance, is graceful in bloom, the colors are various and often unique, the foliage is very attractive, and to crown all, it is easily grown. Autumn is the proper time to sow the seeds, which should be thinly scattered over the surface of a pan of light, turfy, peaty soil. The covering must be carefully done, and should be accomplished by shaking a little very light soil through a fine sieve, merely sufficient to partially protect the seeds from the air. Water well at first, and never thereafter allow the surface to become dry; but, on the other hand, do not deluge the soil so as to rot the seeds; if the seeds are fresh the young plants will soon make their appearance, with their little roundish leaves showing a tiny bulb at the base, when extra care must be exercised neither to rot nor yet to dry them up.

When firmly established prick them off singly into the smallest sized pots and shift them into larger sizes as the roots require more room. During summer they must not be allowed to dry entirely, but at that season the best situation for them is a cold frame, covered with a lath shade. The ensuing winter they will begin to bloom, but two year-old plants give the most satistaction if well grown. Cyclamens do not need a strong heat nor will they thrive in a very low temperature, but at the same time extremes of either will not destroy the plants more readily than the majority of window vegetation. All winter long they continuously throw up their slender stems with delicate white, red, and variegated nodding flowers, filling the surrounding air with their pleasant fragrance as well as delighting the owner with the labor he or she is obliged to bestow upon them.

Planting Trees on the Prairie.

The success of a settler on prairie land in growing trees may encourage some who are making their home in our North-west prairies. A few years may change the aspect of the black treeless country, and dot it with groves and hedges. W. W.'s experience, which we give as follows, is very encouraging:

I selected a part of my farm just south of where I intended to plant my orchard, and had it broken up. But what should I plant? came up for consideration. Having had twenty acres of sod turned over and planted to corn the first year, I noticed that there were quite a number of cottonwoods come up among my corn. I thought, therefore, to take them up and transplant them in my intended grove. The next spring I did so. I also gathered black walnuts in the fall, and slightly buried them to remain all winter, and the next spring I planted land intended for a grove in corn. I had a child drop in every alternate hill and in each alternate row a nut, planting now and then a cottonwood. The nuts came up nicely, the cottonwoods also grew finely. I continued to cultivate my grove, planting corn for three or four years among my little trees, and all did well. I also from time to time kept planting out trees of various kinds, filling up vacancies. My grove now is quite a little forest. The walnuts and burr oaks have been bearing nuts for many years, and my pigs now seem to enjoy themselves hugely and have been doing finely on the nuts, and have been all winter busy cracking them. My cottonwoods, since the grasshopper raid of 1876, have many of them died, but they make fine stove-wood. Have been cutting stovewood the past winter, and think I will have twenty wagon loads from what is dead, dying and going to waste, and still I hardly miss what is being cut away in my little grove of five acres. I also planted a grove of cedar north of my dwelling which now serves as a fine windbreak, besides being an ornament to my farm, so everybody says. Some fifteen years ago I also planted a little grove northeast of my dwelling in soft maple. They have done finely, and grown very fast. Some of them are now twelve to eighteen inches in diameter. I thought to test their sugar qualities this spring, and when I thought the weather warm enough for the sap to flow, I tapped twenty of my little trees and have made five or six gallons of excellent syrup, and a little sugar to test its granulating qualities.

I am well satisfied with my experience in tree raising, and think any one can have a fine grove at very little expense or trouble. I would recommend for planting, black walnut, burr oak, soft maple, elm and cedar.

Drainage versus Frost.

Our daily experience shows us that all things which are wet freeze sooner than such as are dry. It is needless to ask why; it is enough that the fact is notorious. No wonder, then, that plants should be affected in the same manner. If plants are ill-drained they grow late, ripen their wood badly, are watery, and upon the approach of frost suffer excessively. But thorough drainage has, in most cases, the effect of preventing the accumulation of watery sap; the delicate tubes of a plant are able to change its nature, or to throw it off for the winter, and the frost when it comes has nothing to operate upon. Not, indeed, that tender plants when most favourably circumstanced will bear any amount of cold. On the contrary, every species has its own special degree of tenderness, which nothing has yet succeeded in changing. It is not in a case of this sort that well-drained plants become more hardy; the truth is that ill-drained plants become unnaturally tender. Besides, an ill-drained plant is in a state of perpetual bad health; well-drained plants are the reverse, and sickly plants, like sickly animals, are always impatient of cold.

The favourable influences of good drainage are not, however, confined to plants in the open ground; those in pots are affected by precisely the same circumstances. I am certain there are few of our readers who have not instances of this brought under their notice from time to time, in the matter of plants destroyed by a degree of cold which their neighbours of the very same species endured with impunity. Here, then, we have drainage exercising its salubrious effects; for the hardiness of one and the tenderness of another plant of the very same sort can be accounted for on no other grounds.

Keeping Fruit.

From an article on the above topic in the Massachusetts Ploughman, we condense the following:

"Every fruit grower frequently desires to keep specimens of some particular variety of fruit beyond its usual time of ripening. All experiments prove that fruit which is thus to be kept must be gathered before getting fully ripe and that all sudden changes in temperature and moisture are productive of decay, and should therefore be avoided. A dry cool place where the temperature is even is best calculated to retard decay and improve the keeping qualities. Peaches may be kept several weeks beyond the usual time, if gathered when hard, wrapped in thin paper, and stored in stone jars in a place where the temperature does not rise above 60 degrees. Plums are more difficult to keep, but the same treatment will preserve them a couple of weeks. Summer pears and apples gathered before being fully ripe may also be kept in good condition for several weeks. Grapes are easily kept if spread upon papers in shallow drains and carefully covered.

"It is believed that the decay of all things is caused by minute spores which float in countless numbers in the air, and whatever will prevent access of these to perishable articles, is the best preservat.ve method. To fix the exact degree of temperature best calculated to preserve fruit, is not yet ascertained, but it is generally conceded that six or eight degrees above the freezing point of water is about right.

"Those who have large quantities of fruit to keep find it economy to prepare a room expressly for storing it: some fit up rooms in dry cellars, others in basements where one-half is above ground and the other half below, while others prefer to have a building entirely above ground, and keep it cool by double walls. Either of these are well enough, if the hot and damp air can be kept out. The heat can be kept out much easier than the moisture, for where fruit in large quantities is stored there is a constant evaporation of moisture from the fruit which soon fills the air with dampness unless proper measures are taken to ventilate the room. To do this and not let in too much hot air is one of the difficult things to perform. If the house is to be used in hot weather to store summer fruit, the fresh air must be cooled with ice before it reaches the fruit room; but if the room is to be used only in cool weather, there will usually be found days enough when air will naturally be of the right temperature to keep the fruit cool.

"In fitting up a room for keeping fruit, shallow bins should be made, so that the fruit shall not exceed twelve inches in depth and twenty inches in width, and provision should be made for opening and shutting each bin, as the state of the atmosphere may require. To one who has large quantities of fruit that is to be kept for the spring market, a good fruit room is indispensable, and will pay as well as any building on the farm."

Of all the many remedies that have been tried for the imported cabbage worm since it first began to spread over the country, and to play havoc with our cabbage fields, few, if any, have given satisfaction. It is safe to say that the most satisfactory remedy so far discovered is in the use of pyrethrum. We were the first to apply this in 1879, but did not care to recommend it until further experiments had been made. These we have made the present year, and caused to be made by a number of our agents and correspondents. The general experience is most favorable, and we unhesitatingly recommend it for all the different worms affecting the leaves of our cabbage plant.—American Entomologist.

Stock.

A Model Steer.

By the kindness of Mr. Mills, President of the Ontario Agricultural College, we are able to present to our readers cuts Nos. 1, 2 and 3 (which show the parts of a bullock), and give the name of each; also a scale of points. When that part of an animal under consideration is perfect, it is given the full number of points; if not perfect a proportionate number is assigned. By a careful study of these points farmers can more intelligently judge the beasts which come under their notice; and we have no doubt that many of the judges at our shows would be much benefited by a like study. We believe our agricultural fairs will not give the best results possible until all judging is done by using a scale of points. This opinion is held by nearly all leading agricultural authorities. Any thoughtful man can readily see the great advantages to be derived from such a course. Young and old would soon learn by this means the proper proportions of a model animal, and would thus be able to select their breeding animals more advantageously. Often when attending the fairs we hear complaints by exhibitors that justice has not been done. If a well established scale of points were used in all classes of live stock, and in all departments where possible, these grievances could be easily settled and satisfaction given to all. As it is now "best" has too many meanings, one committee-man putting more value on one point than another; thus where all desire to do their duty mistakes are made. When men are allowed to judge animals without any official guidance, partiality is more easily shown, but when each part of an animal is valued at a certain number of points, it is difficult to make a poor animal come out first.

Another thing we would strongly recommend at our shows is that the judges shall make reports on all classes with which they have to do, and when they think necessary, make such recommendations as they deem would be of benefit to the public, the association or exhibitors. As the matter now rests, to one not present little advantage is to be gained by simply reading "Mr. So-and-So took the first prize in such a class," &c. No other facts are given. The public thus lose a great deal of information which justly belongs to them, and from which they would derive a great benefit.

TABLE OF PARTS.

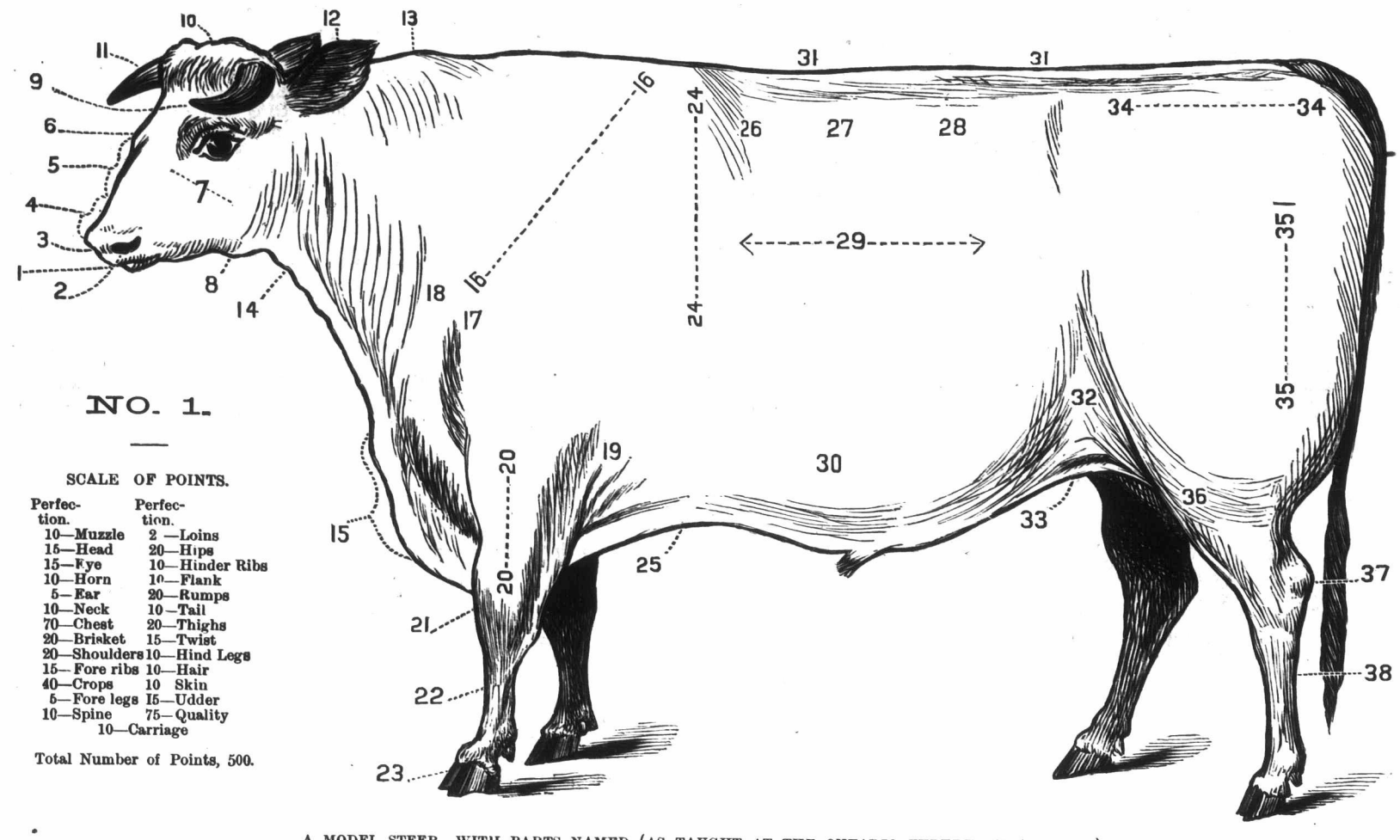
1. Mouth.
2. Nostrils.
3. Lips.
4. Muzzle.
5. Face.
6. Eyes.
7. Cheeks.
8. Jaws.
9. Forehead.
10. Poll.
11. Horns.
12. Ears.
13. Neck.
14. Throat.
15. Dewlap.
16. Shoulders.
17. Shoulder Point.
18. Shoulder Vein.
19. Elbows.
20. Arm.
21. Knees.
22. Shanks.
23. Hoofs.
24. Crops.
25. Fore Flank.
26. Fore Ribs.
27. Mid Ribs.
28. Hinder Ribs.
29. Barrel.
30. Belly.
31. Spine.
32. Flank.
33. Plates.
34. Rumps.
35. Hips.
36. Thighs.
37. Hocks.
38. Hind Leg.
39. Brisket.
40. Bosom.
41. Chest.
42. Loin.
43. Hooks.
44. Purse.
45. Twist.
46. Pin Bones.
47. Tail Head.
48. Tail.

NO. 1.

SCALE OF POINTS.

Perfection.		Perfection.	
10	Muzzle	2	Loins
15	Head	20	Hips
15	Eye	10	Hinder Ribs
10	Horn	10	Flank
5	Ear	20	Rumps
10	Neck	10	Tail
70	Chest	20	Thighs
20	Brisket	15	Twist
20	Shoulders	10	Hind Legs
15	Fore ribs	10	Hair
40	Crops	10	Skin
5	Fore legs	15	Udder
10	Spine	75	Quality
		10	Carriage

Total Number of Points, 500.



A MODEL STEER, WITH PARTS NAMED (AS TAUGHT AT THE ONTARIO EXPERIMENTAL FARM).

Our new premium list appears in another column, and will be found liberal and attractive.

One good, active person in each township can make money, do good to themselves, their neighbors and to us, by making a thorough canvas for new subscribers. A most liberal offer will be made this year. Send for particulars.

Good Stock and Good Feed.

The Maritime Farmer, in speaking of the importation of thoroughbred stock by the Agricultural Society of New Brunswick, writes as follows of the necessity of good feeding for stock of good quality:

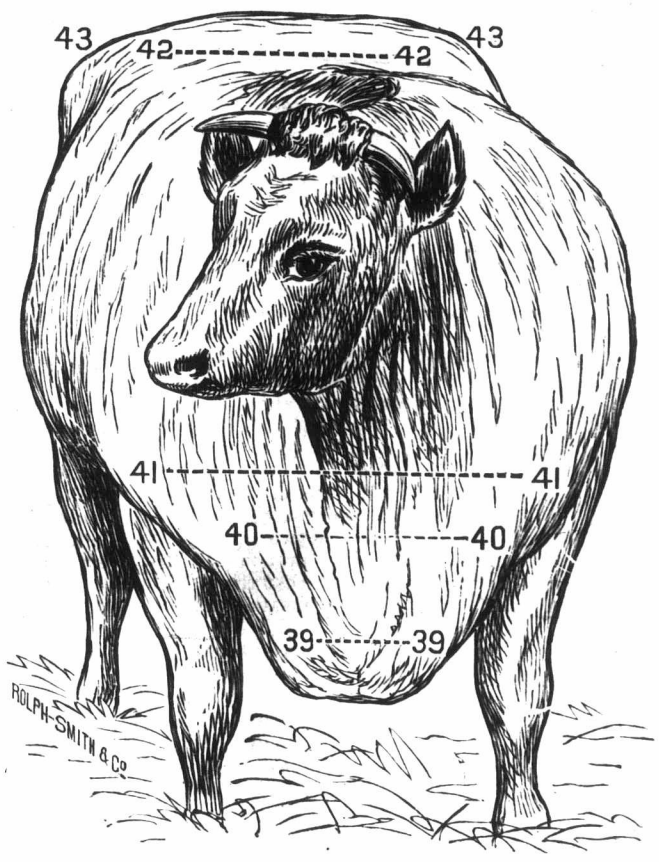
Importations of thoroughbred stock, and improved system of feeding, have not been without their effect. In this Province there have been and there are intelligent and progressive farmers who take a pride in their calling, and who will not if they can help it be behind the farmers anywhere. But good stock and good feed here are confined to a few localities. What is wanted in the Province (to confine ourselves to our own bounds) is a general transfusion of pure blood throughout it, and a more liberal system of feeding (shorts, corn, cotton seed meal, etc.) in winter.

Good stock and good feed are necessary adjuncts. Without good feed the best stock will grow poor and degenerate. It is, in fact, waste and cruelty to give fine animals to the care of farmers who are too penurious or careless to attend to or keep them up to their proper condition with generous feeding. Even the common cattle will thrive and repay their keepers in beef and milk when well attended to. The establishment of the stock farm, and the importation of a number of cattle of the best breeds, are steps in advance towards supplying the Province with good stock. If the selection of stock is carefully made (as we do not doubt it will be) and if the farm is properly managed, and the pure bred stock kept in it are kept for the purpose of improving the common run of stock about the district, and of creating the nucleus of herds of superior cattle to be sold to farmers in all parts of the Province, and if those of the imported animals not wanted for the farm, are sold to farmers who will know how to use them well, a step will be taken towards supplying New Brunswick with good stock. Pure bred stock is the fountain from which we must ever draw the leaven with which to leaven the common stock of the Province. But, to keep up good stock throughout the Province, care must be taken that it be well fed and well tended. Many farmers have much to learn in the way of taking care of cattle, and to give them fine cattle before they perceive the necessity of good feed and care to keep them up to their original mark, would be cruelty to the animals and of no benefit to themselves.

Live Stock at the Royal Show.

The following concerning the Royal Society Show last month at Derby is taken from the London *Live Stock Journal*:—

The live stock show at Derby teaches more than one useful lesson to the visitor who is acquainted with the past as well as the present animals of British breeding. There is not—there could not be—the extraordinary annual progressing improvement presented in the implement department. The influence of the Royal Society has been rather diffusive then creative. The beef, the mutton, the pork, are not better than they were even sixty years ago; but sixty years ago the quantity was small, and the consumption of the best joints was confined to the rich—laborers ate no fresh meat—mechanics very little. The Society's great work has been in diffusing the principles of selection, by which the best tribes in each breed have been created, and by collecting by competition the best examples of the best breeds.



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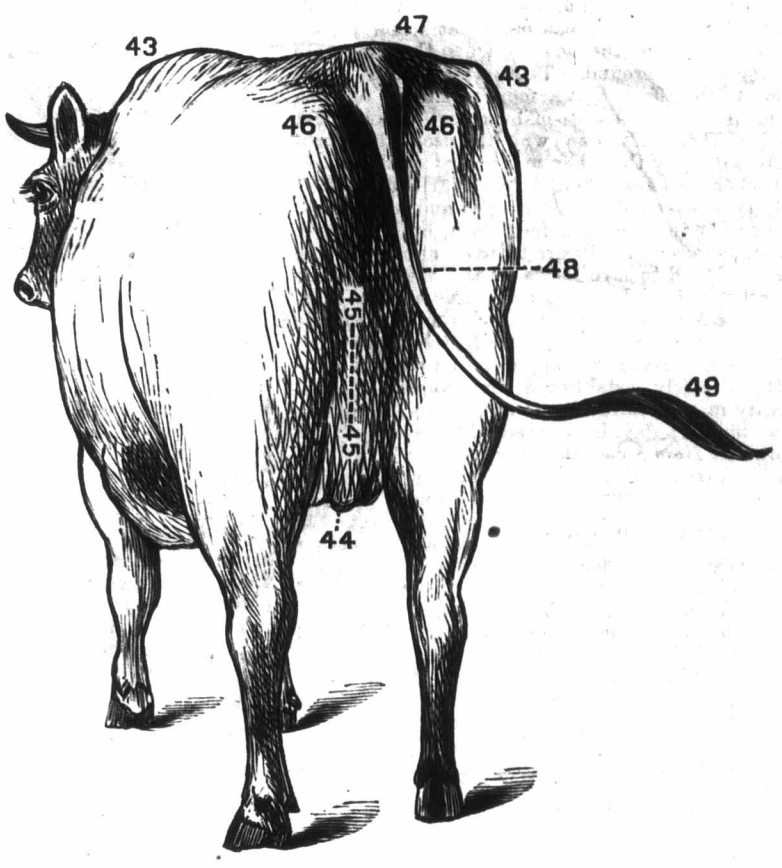


NO. 3.

In cattle, the most striking feature of this second show at Derby is the admitted preponderance of the Shorthorn, whose superiority as a beef-making animal, wherever sufficient food can be provided in pastures and stalls, is now undisputed. As a beast of draught in those countries where oxen are required for the plow and wagon, it has many superiors. As a dairy cow several tribes are equal, some superior; but in manufacturing by crosses with other tribes, beef for the million, it has no equals. Even the famous black Polled Scotch oxen, which hold the top place in the London market, are supposed to owe something of their weight to an occasional cross of the Shorthorn.

The Devons stand just where they did 40 years ago—excellent for their own locality—often profitable to feed, seldom to breed, out of the Hereford district of England, but favorites with rich men, real ornaments to their parks and pleasure grounds, and able to finish by presenting first-class beef on the table. The first Earl of Leicester said, fifty years ago, that to breed Devons and pure South-Downs in Norfolk would ruin any tenant farmer.

It is sometimes complained that the prizes of the Society have led rather to the cultivation of quality to the sacrifice of weight, in the Devon classes. The oldest member of the council, Mr. George Turner, of Great Bowley, near Tiverton (he was elected in 1845), bred quite as good Devons in 1843 as are bred now; but there are a great many more sent to market fat from the North Devon hills, their original home, since railways opened up to the breeders there the markets of Birmingham, Bristol, and, above all, London. Before the railway extention they were sold as stores.

The show of Herefords was not large, the site of the show being out of the great green pastures, where this beef-making ox thrives. As an ox the best specimens cannot be beat; it is as a cross or a cow that the Hereford fall short of the Shorthorn—a point much disputed forty years ago; not in the least now, unless by the patriotic Mr Duckworth. The Sussex are to the butcher big Devons, and the classes for them a concession to modern improvements. The Long-Horns, although they are in their own district, can only be looked upon as curiosities—the beef-makers of the past; the subject of the immortal Blackwell's experiments is now beaten out of the field of trade. His long-wooled sheep, on the other hand, shares the triumph of the Shorthorn, as a general improver of the mutton-making tribe. See Bewick's "Quadrupeds," a book no squire's library should be without, for what farm stock was seventy years ago. The most marked difference in the cattle classes between 1844 and 1881 is in those offered for the dairy breeds—Jerseys and Guernseys—to which so much attention has, within the last quarter of a century, been paid. As cattle for the dairy, for private use, as well as wherever there is a first-class demand at watering-places, like Brighton, these hold the first place.

The recent attention paid to the improvements in dairying by the Royal Society naturally increases the interest in these really cream producing cows of the Channel Islands. Fancy has divided them into two tribes, by their color. Is there any practical difference between the grey and yellow tribes? At any rate, there was a famous show of the greys at Derby; the yellows not so numerous.

In sheep, forty years have created one new tribe, in the Oxford-Downs; at least, if not created, have kept it up by careful, constant crosses, and supplied a combination of quantity and quality; also very useful rams. They have conquered classes both in breeding stock and fat stock shows. Although only bred within a limited area by a few well-known names, Oxford-Downs may have existed, but certainly were not known to the public in 1843.

Within the same space of time the improvement and increase in the number of breeders of Shropshire sheep has been enormous. What they were originally is a much disputed point, but at present, careful selection, with or without crossing, has made the rams one of the most popular for crossing, especially for breeding lambs for market. It has for many years been admitted that the cross bred sheep are the most profitable to the tenant farmer, whether his stock be short-wooled or long-wooled, according to the soil, climate and market, and shrops are a very favorite cross. The South Downs were out of their district in Derby, and consequently limited in their number. At the 1843 show, Jonas Webb, the greatest breeder of his day, had already improved, on his Cambridgeshire farm, the size of the Sussex sheep without losing any of the quality of the best mutton in the world. The South-Down out of Sussex and the south coast still remains the gentleman's sheep *par excellence*, invaluable to cross other Downs, as well as certain long-wools. For quality, there is nothing like it, and South-Down rams have, like Shorthorns, been used to cross for mutton all over Europe.

Leicesters hold their stereotyped place where Blackwell placed them, and Lincolns retain favor for size and constitution. Other breeds of sheep beyond those named are seldom heard of out of their counties except at Royal shows.

In pigs—see again Bewick's pictures—the transformation made by the Society has been a revolution. All the personal names have disappeared; early maturity, accompanied by constitutional activity, are points aimed at and obtained by all breeders of note. We hear no more of Rander, or Prince Albert, or Norfolk, or Sussex breeds: Hampshire exists, but does not show; Berkshire blacks and Yorkshire whites remain the only local names. Large white and small white breeds, ditto ditto black, are the distinctive names of all the classes except the Berkshires.

Nothing has done so much in substitution for unprofitable show-growing pigs, early matured, and well-shaped ones, as agricultural shows, assisted, it must be added, by pig-rearing squires and pig-investing Yorkshire merchants.

A cash commission of Twenty-five cents will be allowed for each *new* subscriber paid for one year, sent in singly. Increased commission for ten new subscribers and over.

One name or a dozen may be forwarded at any time. Subscriptions can commence with any number of the ADVOCATE.

Apples in the Stock Yard.

Comparatively few analyses of apples have been made with reference to the several constituents that may take part in their nutrient effect, and there are no separate analyses of the seeds. We give in the following table the average of the results of the analyses of different varieties of apples, together with a statement of the average composition of some other articles of fodder for purposes of comparison:

	Water.	Albuminoids.	Carbohydrates.	Fat.
Apples.....	83.6	0.4	13.7	....
Mangolds.....	86.6	1.2	10.0	0.1
Potatoes.....	74.6	2.2	21.2	0.15
Good Hay.....	14.6	10.1	40.9	2.3

Poverty in the important albuminoids is shown by these analyses to be the special characteristic of apples as compared with potatoes; nor is the fruit especially rich in any other valuable constituent which may serve as a compensation for this deficiency; so far as anything is known about the proportion of fat, it differs to no important extent from that in potatoes or mangolds. Obviously one would not buy apples at usual prices, when mangolds, potatoes or hay can be had at usual prices; but it is quite another matter when the apples are rotting on the ground. There is abundant testimony to the effect that a more profitable use can be made of them than to manure the orchards that produce them. No one who has used thom properly will deny that they make very good fodder; but when we are advised by one friend to feed only two pecks a day to each cow, and we are told by another that we can feed two bushels with profit, between our desire to save apples on the one hand, and to save cows on the other, we are unwillingly forced to stop and consider the matter, or seek more definite counsel from our favorite agricultural newspaper; and while we consider, or wait for an answer, the apples go on rotting.

It is safely established that apples of good quality may be safely fed to some cows at the rate of a bushel a day, by a gradual increase of the allowance from a peck a day up to this limit. It may be carried still further up to two bushels a day with other cows; but one rule cannot be made for all cows. We have seen one cow begin to shrink in milk on a bushel per day, while another by her side on the same feed continued her yield undiminished. There is no question but that both yield and quality of the milk may be improved by feeding apples; it is possible to obtain an increase of 50 per cent. in the yield, with at least no loss in quality by judicious management. Many farmers, basing statements on their own experience, affirm that apples are worth more, in years when very abundant, for feeding to stock than for cider—even twice as much, one assures us who has fed many hundred bushels. Fed with corn they are said to be worth half as much as the corn. Others claim that they are as productive of growth or milk as mangolds or potatoes, but such an assertion is not justified by their chemical composition. The general opinion as to their value is more moderate and reasonable, though too vague to be put in plain figures. There is no well established difference between the feeding value of sweet and sour apples, although there is some prejudice in favor of the former. It is not based, so far as we are aware, on any careful comparative tests.

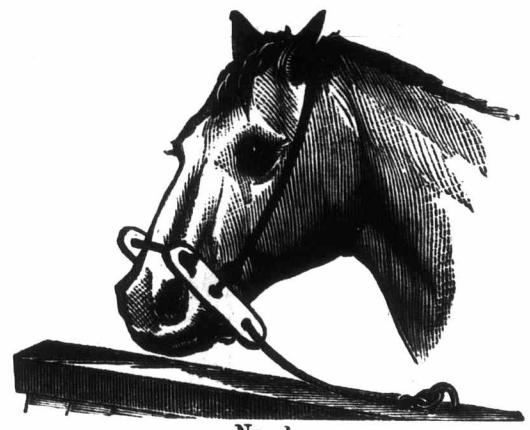
Our inquiring friends may safely feed surplus apples in large quantity to all stock if they but closely watch the effects, and lessen the allowance in any case so soon as bad results begin to appear, either in the yield of milk or the health and appetite of the animal; but other food of a more nourishing character, like oil-cake, bran or meal, with good hay or grass, should also be liberally provided. It is poor economy to allow any product of the farm that possesses feeding value to go to waste if there is any way of bringing it into use, even though some richer fodder may have to be purchased to mix with it. The free use of salt is advisable with large rations of apples. It would be worse than useless—for it might do positive harm—to lay down more precise rules than these; but with a reasonably careful observance of such general directions, our over bountiful apple crop of every alternate year may be well utilized, although not with such profit as if the fruit could be sold at the prices that rule in years when apples are comparatively scarce.—[Ex.

Any subscriber may become our agent.

Postmasters are requested to act as our agents.

Halter for a Horse which is in the Habit of Breaking Loose.

This halter is plainly shown in our engraving, No. 1. It consists of rope and two pieces of strong hard wood of a suitable size and strength. For a horse of ordinary size the pieces of wood may be eleven inches in length. Three holes are bored in each piece, one at each end and one six inches from one end and five from the other. Through these holes ropes are passed making a halter, as shown in the engraving. The rope used should not be too large, but must be strong. In making the halter be careful to have the pieces of rope of such a length as to make it fit comfortably on the head. Measuring from the middle hole of the side pieces, the longer portion projects forward. A knot should be tied in the shank or tie rope on

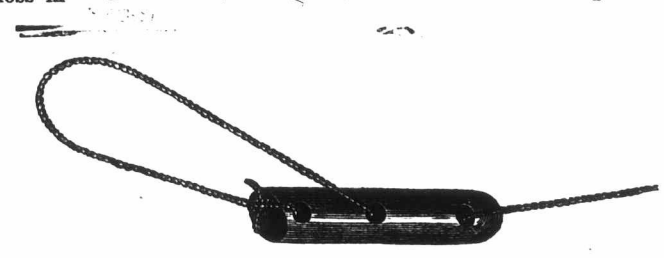


No. 1.

the outside of the pieces of wood, to prevent them from spreading apart too much, and allowing the horse to rub the halter off. This means of tieing horses which have been in the habit of breaking loose has been used to some extent by Canadian and American farmers, and has been found very serviceable.

CUT No. 2

Represents a very useful and simple implement, very like the slide used to tighten and hold tent ropes at the proper tightness. We have found No. 2 very useful when attached to plow lines. Every plowman knows the inconvenience caused by the lines shrinking in damp weather and again stretching when they become dry, or from the lines being



No. 2.

too short or too long when used with different teams or different implements. By using this simple contrivance these troubles are easily overcome. The slide may be made of any hard wood; about three inches is a suitable length. Bore three holes, one near each end and one in the middle; the holes should be of such a size that the plow line will just slip through (it will always be found an advantage to use small but stong lines). Our engraving shows the slide and a portion of the line arranged ready for use. When the line is too long draw it through the slide, making the loop to be held in the hand larger; but when too short, draw it through so as to lengthen the line and make the loop smaller. If neatly made, it will be found not cumbersome, but very handy.

Prevention Better than Cure.

Were more attention paid to the sanitary condition of our live stock at all times, there would be a great saving of veterinary bills. Better feeding, better grooming, and stricter attention to ventilation would make a great improvement in the condition of farm horses. They manage these matters better in England:

Both the health and comfort of horses have of late years been greatly improved by the better construction of stables. They are made more roomy and lofty and provided with means of thorough ventilation. In many new stables lofts are done away with or the floor of the lofts is kept well above the horses' heads and ample shafts are introduced to convey away foul air. By perforated bricks and gratings under the mangers and elsewhere round the walls, and also by windows and ventilators, abundance of pure air is secured for the horses; while, being introduced in moderate amount and from various directions, it comes in without draught. Too much draught is almost an unknown stable luxury. To secure a constant supply of pure air horses require more space than they generally enjoy. Even when animals are stabled only at night, a minimum of 1,200 cubic feet should be allowed. In England the new cavalry barracks give a minimum of 1,509 cubic feet, with a ground area of fully ninety square feet per horse, and the best hunting and carriage horses have more room.

Feeding Turnips.

From the first cultivation of the turnip for stock feeding it has been highly valued, not only as food for sheep and store cattle, but also for fattening. We have fed steers and heifers for the English market on turnips and hay, that were admitted by the purchasers to be prime beef—A. No. 1. It has, however, of late been not unusual to depreciate the feeding properties of roots, especially of turnips. These theorists say there is little or no nutriment in them, and add that the beef of cattle fed on turnips is of very inferior quality, with an unpalatable flavor. A Vermont correspondent of the American Cultivator fully disproves this erroneous idea.

To satisfy himself, he says, as to whether the food that a beef or other animal was fatted on would impart the flavour or taste to the meat, he decided to feed one cow on turnips. This cow was fed about two bushels of cut rutabagas a day, after she was fed on hay, and this ration was continued up to the day before she was slaughtered. Two quarters of this beef were sold to different parties, the others he kept for his own use. While the beef was being dressed and cut up, and while trying out the tallow, he was unable to detect any turnip taste or smell. On inquiring of those persons who bought and used the two quarters of beef, mentioned above, they pronounced the beef of a superior quality, and that they discovered no turnip flavor about the meat or tallow in any way that it was used.

The cow that he fatted the next year was fed and treated in the same way, and a part of the beef sold to other parties, and with the same results. Since that time he fatted beeves wholly and in part on rutabagas, and sold the meat to butchers and other persons; yet he has never heard of a single instance in which the taste of turnips was noticed in the meat. For several years past, when he has had a surplus of turnips to spare for that purpose, he has fatted beeves partly on turnips and partly on meal, giving one ration of turnips and one of meal in a day. In all respects, he thinks that the results have been more satisfactory than when he has fed either turnips or meal exclusively.

During the past winter he fatted three heifers. Two of them were two years old in March, 1880; the other, two years old in October following. After they came to the barn he commenced feeding them, in addition to what hay they wanted, one-half bushel of turnips in the morning, and two quarts of Indian meal and one quart of wheat bran mixed together, at night. January 11th he killed one of the oldest heifers; and the 5th of February the other two were killed. The dressed weight of the three was 2,084 pounds. The quality of the beef was pronounced by the butcher who had two of them, to be equal to any that he had ever bought.

The lot of lambs that he fed one year ago last winter were fatted on turnips and corn. In the spring they were sold to a butcher, who dressed and used them for his own trade. He said they were the fattest lot of lambs that he had ever bought. He never intimated to me that any turnip flavor had been noticed by him or others to whom he had sold the meat, although he knew that they had been fed turnips every day up to the time that he bought them.

Subscribers are desired to send names and P. O. address of parties who may wish to subscribe to the ADVOCATE, and a sample copy will be sent to them.

The Dairy.

Butter or Cheese—Which?

BY L. B. ARNOLD.

A Canadian correspondent asks, "Which would be most profitable to the proprietor, to establish a creamery or a cheese factory, both to be conducted on the principle of paying the market price for cheese and butter, say, for every 10 lbs. of milk the price of one pound of cheese, less 2½ cts per pound for manufacturing, or for every 25 lbs. of milk, the price of 1 lb. of butter, less 6½ cts. per pound for manufacturing, the milk to be hauled by and at the expense of the factory, the whey to be the property of the factory?"

As questions similar to the above are often raised by dairymen and factorymen who are contemplating the erection of new factories, or changing from cheese to butter, or the reverse, I send the answer to the ADVOCATE, thinking it might interest a good many others as well as the enquirer.

Whether butter making or cheese making will pay best depends something upon circumstances. Experience has settled some points, and we may use these in comparing results. The cost of manufacturing and fitting for market will be the same for a given quantity of milk, whether made into butter or cheese. The making, therefore, need not be taken into account so far as the above question is concerned. The same may be said in respect to the cost of factory and apparatus. They will cost, in either case, about the same. The hauling of the milk will cost more in the case of butter because it must be drawn twice a day, if the cream is raised at the factory. It will cost, at the very lowest estimate, 50 cts. per 1000 lbs. to haul milk for cheese, delivering once a day. To haul the same for butter, delivering twice a day, will cost one half more, say 75 cts. per 1000 lbs. It will cost more if the patrons have small herds and are much scattered.

The refuse of a butter factory is worth more than that of a cheese factory. Butter separated by cold setting, so that the skim milk will be sweet when used, is worth more than when fed sour. If used with some cheap solid food such as grass, clover, shorts, or roots, the sweet skim milk and buttermilk from 100 pounds of new milk will, if fed to thrifty pigs, make 5 to 6 lbs. of live weight. Fed to older animals it will make less. The whey from 100 lbs. of new milk fed in the same way will only produce about two pounds of live weight, or 2-5 what would be produced by skim milk. Whey, as usually fed without other food accompanying, will produce still less. The loss from feeding milk alone is less than the loss from whey fed alone. If the sweet skim milk and butter-milk are made into skim cheese by the most approved methods, a hundred pounds of new milk will make four pounds of butter and seven pounds of skim cheese, which sells from two to three cents below the price of full milk cheese. Great improvements have been made recently in skim cheese making. Formerly we could only calculate on getting the same number of pounds of product from a given quantity of milk, whether made into whole milk cheese, or into skim cheese and butter; but lately the total weight of product is increased, more and as well as better skim cheese being produced.

On a basis of allowing 25 lbs. of milk for one of butter, and 10 of milk for one of cheese, we may trace the results by taking a given quantity of milk and supposing it to be worked up in the different ways. Take, for example, 25,000 lbs. of milk; this will produce 1,000 lbs of butter and 1,250 lbs. increase in weight of pigs, or if made into both butter and cheese the productions would be 1,000 lbs. butter x 1,750 lbs. skim cheese x 500 lbs. increase in weight of pigs from the whey. If made into whole milk cheese the products will be 2,500 lbs. cheese x 500 lbs. of increase in weight of pigs. If prices were uniform, or varied alike on the different products, we could answer the question definitely which is the most profitable. But sometimes butter is up and cheese down, and the reverse. The price of pork also varies some, and the price of skim chesee fluctuates most of all.

The present value of the different products are about as follows, viz, butter, 25 cts., cheese 10 cts., skim cheese 6 or 7 cts.; pigs, live weight, 5 cts. a pound. With these products and prices the comparative results will be as follows:—

When made into whole milk cheese:

	CHEESE.	LIVE PIGS.	
25,000 lbs. of milk =	2,500 lbs. x	10 x 500 lbs. x 5 =	$275,00

Made into butter, and skim milk fed to pigs:

MILK.	BUTTER.	LIVE PIGS	
25,000 lbs. =	1,000 lbs. x	25 x 1,250 lbs. x 5 = ...	312 50
Deduct extra for hauling milk twice a day			6 25
Net			$306.25
Difference in favor of butter			31.25

Made into butter and skim cheese:

	BUTTER.	SKIM CHEESE.	LIVE PIGS.	
25,000 =	1,000 lbs. x	25 x 1,750 lbs. x	6 x 500 lbs x 5	380.00
Deduct extra for hauling milk twice a day				6 25
Net				$373.75
Butter & S. cheese over butter and feeding refuse.				67.50
Butter & S. cheese over whole milk cheese				98.75

The recent improvements in apparatus for raising cream now separates it so perfectly as well as quickly that factorymen are now able to make a pound of butter from less than 25 lbs. of milk of average quality.

Reports of factories from different localities concur in showing that butter is now paying better than cheese, but how long this state of things may remain nobody can tell. It will not be safe for everybody to rush from cheese to butter, or to butter and skim cheese because they are now paying best. Such a change would soon reverse the relation of prices. Taking one year with another, there is little or no difference in the net profits between making butter and cheese. Whenever a difference becomes apparent, dairymen soon gravitate toward the better paying side in such numbers as to quickly restore an equilibrium in profits.

A Travelling Dairy School.

The Royal Agricultural Society of Ireland has devised a novel plan of teaching the art of dairying, quite in advance of the dairy station—it has organized a travelling dairy school, which brings knowledge to the dairymen, instead of his going in search of it. And then it is highly probable that the dairyman will consider that he is conferring a favor upon somebody by receiving it; such is the indifference of the great agricultural class to improvement in most countries. But this travelling exhibition of the dairy art is worthy of a Yankee origin, so completely does it take in the whole sitaation and combat all the difficulties of the case. This travelling dairy school has a complete apparatus, with all the most modern improvements, and these dairy appliances are made to suit the requirements of 8 to 10 cows. Starting in a dairy district, it accepts an invitation from any proprietor for an exhibition on the farm for a few days, aud notice is given to all the surrounding dairymen that they may avail themselves of this practical instruction. A small admission fee of 6, 11, and 22 cents is charged on different days, to suit the means of the learners, which is devoted to paying the expenses of those who operate it. It is accompanied by an expert butter maker and operator of the apparatus. This plan has many good points. 1st. The dairyman where it is operated can compare the result with his own previous method of butter making, as the milk of the herd to which he has been accustomed is used. This, then, will enable him to compare the quantity and quality of butter under the two systems. 2dly. This exhibition on his own farm, will enable him to fully understand all the minutiæ of operating the new system, and give a valuable practical insight, which no amount of reading would accomplish. 3dly. It affords the same opportunity to a large number of dairy operatives employed upon the neighboring farms. Many of these could not avail themselves of these instructions in print, and would profit but little from a verbal lecture by an expert, but yet may be quite apt at understanding a practical illustration, and would be quite able to repeat the process they see practically exhibited.

This working dairy was on exhibition at the recent Birmingham Dairy Show, and was watched by large numbers with much interest. This dairy school has been in operation all the season, and reports say with much success.

Tuberculosis

TRANSMISSIBLE THROUGH THE MEAT AND MILK OF THE ANIMALS AFFECTED WITH IT, WHEN CONSUMED BY YOUNG CHILDREN AND ANIMALS.

In 1865, Villemin proved by repeated experiments that it was possible to produce consumption in previously healthy animals. He found that finely divided tuberculous matter when introduced upon the skin of rabbits and Guinea pigs produced tubercles, in three weeks, in their lungs, thus proving, from these experiments, that tuberculosis should be classed as a specific infective disease, capable of being conveyed by inoculation, like small-pox. Numerous pathologists have verified Villemin's experiments. It was also found by Dr. Wilson Fox and Dr. Saunderson that pneumonic matter, pus, putrid matter, etc., would produce disease in healty animals, and transmit it, through their meat and milk, to dogs, cats, hogs, and through milk, to young children and animals to whom it had been fed.

Cows living under bad hygienic conditions, predispose to tuberculosis in themselves, and render their milk poisonous to children. The milk from diseased cows poisons thousands of city children, who are supposed to die from cholera infantum, when, in fact, they die from tubercles of the intestines resulting in wasting diarrhœa. Consump ion is infinitely more common in city kept cows than it is believed to be, even by physicians.

Tuberculosis prevails extensively among domestic animals over the entire globe, and especially in populous end crowded localities. In Mexico thirty-four per cent. of slaughtered animals supply tuberculous meat, and it is probable that the milk cows are affected to the extent of fifty per cent. in the large towns.

Van Hertsen, of Belgium, found tubercles in all the tissues of an apparently healthy bull, seven years old. From these facts it is apparent that there is great danger in eating uncooked beef for fear of contracting consumption. The sources from which consumption is derived are now known to be infinitely more numerous than former pathologists supposed.

It is more dangerous to eat the milk of tuberculous animals than to eat the meat; for the milk is seldom cooked, while the meat is almost always cooked. Cooking is a most valuable sanitary measure. Cows confined in dark, damp, unventilated stables become tuberculous eventually to the extent of seventy-five per cent. Fleming says: "For it must be borne in mind that there are few animals which have been kept for any length of of time in cow sheds, and fed and milked in the usual manner, which are not more or less phthisical; more particularly is this the case if the dwellings are bad."

The milk of tuberculous cows is of a poor quality, besides being liable to produce the disease.

Klebs has produced tubercles in rabbits, Guinea pigs, and dogs, by giving them the milk of diseased cows.

This milk given to young children produces catarrh of the intestines before the tubercles are deposited in the lungs. It is not often that the intestines of young children who die from what is supposed to have been cholera infantum are examined after death, but doubtless the lesion of tubercle of the intestines would be frequently found.

Garlach and others have demonstrated that the milk of tuberculous cattle will produce phthisis in creatures fed with it. Fleming says: "It is certain that tuberculosis is a somewhat common and a very destructive disease, among dairy cattle especially, and more especially those of towns." And consumption is one of the most fatal diseases of large cities, and doubtless from this cause. Marasmus is undoubtedly largely attributable to

diseased milk, and many thousands of children perish from tuberculosis. The excessively hot weather of parts of July and August is productive of an irritable condition of the stomach and bowels of young and teething children, which condition acid, impure, or tuberculous milk greatly aggravates, and renders poisoning with diseased milk from unhealthy cows more common than it is popularly known.

Neimeyer declares that destruction of the pulmonary tissues, the establishment of cavities, and consumption of the lung are much more frequently a result of chronic inflammation than of tubercular deposit. Virchow first taught this very doctrine. Neimeyer again says that the predisposition to consumption is strongest in persons of feeble and delicate constitution, and especially that children poorly nourished are most subject to the disease. The children fed on the milk of tuberculous cows must of necessity suffer in a two-fold sense—from bad food, and from poisonous food also. From a seventh to a fifth of all deaths are caused by consumption, and nearly half of the post-mortems show the traces of nutritive disorders from which pulmonary consumption proceeds, and "consumption of the bowels" is the more frequent form of the disease in children, as a result of bad food and diseased milk.

Butter Making.

BY MISS FANNIE MORLEY, BARABOO, WIS., U. S. A.

Fashio and style of dress change, and with them our ideas of what is beautiful and becoming change also, insomuch tha we naturally conform in dress, to some extent at least, with the prevailing fashion. If this, though of no pecuniary benefit, rather the opposite, adds to our pleasure and gratification, how much more should it add to our satisfaction to be up with the times with our various vocations, which is, as many can testify, of great moment from a pecuniary standpoint.

A great change in the process of butter making is rapidly taking place; new ideas and theories are wiping out old-time notions, the aged little milk-pan and clumsy dash churn are going to wreck and the milk itself is being submerged. Now, although the Cooley gives us good satisfaction, I am not here for the sole purpose of advocating that; no, indeed, but I do advocate a more thorough investigation of improved apparatus for butter making, and a more enlightened knowledge of different methods, than many seem to think necessary. We have toiled on in the old ruts long enough. It is fully time we were alive to the issues of the day if we would not be left in the background. Our pride and ambition to be first as a dairy state have not deserted us yet, and we do not contemplate standing aside and allowing them the foremost place. Facts show that no other branch of farming is really as profitable as intelligent, systematic dairying. Consider the adaptation of our locality to this business, the present high reputation of western butter, and we may safely conclude to engage in this work extensively, confident of profit to ourselves and credit to our state. May the present outlook charm us to action.

If our neighbors are making more and better butter with less labor and expense than you are, you ought to know it and the *why*. Having obtained the desired information, put it to the most practical use your judgment suggests. I well know that with my imperfect knowledge and experience in butter making, I cannot hope to say anything really new and interesting on this subject. I think, however, a brief sketch of what *we* are now doing in this line will prove acceptable. Instead of these large pans, holding some 700 pounds of milk, we are using Cooley cans for raising the the cream. We strain the warm new milk immediately into them and submerge in cold water about forty-three degrees Fahrenheit, letting them remain eleven hours, at which time the cream is all separated from the milk.

The philosophical explanation of the scientific principles involved in this submerging process for raising cream is very simple. *Water* being a better conductor of heat than *air*, the warm milk submerged in very cold water cools more rapidly than if placed in air equally cold. Rapid cooling makes the milk heavier, and descending it forces up the lighter cream, and I suppose that by the time the milk is thoroughly cooled the cream is all at the top. The weather can exert no influence upon milk set in this way. The result is always uniform, if the same condition be observed, and all practical butter makers appreciate the value of a uniform quality of cream and butter.

We follow as closely as practicable the rules laid down for using the Cooley, and the result is we make fully three-fourths of a pound of butter more than obtained from the pans to each one hundred pounds of milk. It was quite startling to realize the fact that we were feeding out in sour milk between thirty and forty pounds of gilt-edge butter per week, yet that is virtually what we were doing.

Cooley cream is thin, sweet and very cold when taken from the milk, and we found some difficulty in bringing and maintaining it at such a temperature as to sour it in the desired time (fourty-eight to sixty hours), new cream being added each milking time till within eight or ten hours of churning. I quote a few words relating to this subject of curing cream from Prof. X. A. Willard.

Speaking of the fine aroma in butter so much sought after and admired by lovers of butter, he says: "If the temperature of the milk when set for cream be about 60 Fahr. it decomposes, forming lactic acid and several other new principles, among them aromatic butter. If, on the other hand, the temperature of cream at such times be near the freezing point, the decomposition necessary for production of aromatic principles is held in check, and consequently the aroma of butter obtained from fresh cream is so feeble that it is not perceptible to persons accustomed to butter prepared as above indicated, in the same way as French butters are now made. But if it be desired to obtain a more aromatic butter, all that is required is to place the cream in circumstances favorable to lactic fermentation and a few hours will produce the desired effect. It is obvious that incipient decomposition, which is but another term for ripening, developes the flavors we so much admire; and it is equally obvious that these pleasant flavors become unpleasant after a time, as decomposition proceeds. Thus it follows that a given degree of acidity is useful in both cheese and butter making, devoloping as it does the flavor and aroma."

For curing cream we are now using a heater, which proves to be the right thing in the right place. It consists of a galvanized iron tank, large enough to contain two thirty-gallon cream cans, supported by a wooden frame-work above and connected with a small boiler, constructed on the same principle and very similar to that commonly used under a cheese vat—that is, the fire-place in the boiler, surrounded, except at the ends, by a water chamber, which is connected by means of two pipes with the tank above. Of course, you see that when the water around the fire begins to heat, it will ascend in the higher pipe as the cold water descends in the other pipe to fill its place, so that the water in the tank can be warmed sufficiently in a short time, and with the use of but little fuel. The tank also has an aperture near the top, so that if desirable we could have cold water running through it. Hence, the cream can be kept at the desired temperature both summer and winter by the aid of this arrangement. It is important that the cream should be stirred frequently, and allowed to stand eight or ten hours before being churned, as, if new cream be added during that time, it will not have become properly cured, and hence may be lost in the buttermilk.

Sixty-two degrees Fahrenheit seems to be the right temperature for churning Cooley cream in winter, since, if colder, I find it requires a longer time in churning, and if at a higher temperature a less amount of butter is obtained.

We are using a square box churn, manufactured by Cornish & Curtis, of Fort Atkinson, Wisconsin, which we like very much, as it does its work in the best possible manner, is well made and easily managed. It has a capacity of 125 pounds of butter, is run by horse-power, and usually requires about forty minutes to bring the butter. As soon as the butter will permit, and while it is yet in fine grains, the buttermilk is drawn from the churn, and cold brine poured over the butter to wash it. There seems to be a great difference of opinion entertained by butter-makers concerning this washing operation, many claiming that it should be washed, and *vice versa*. Prof. Arnold explains the reason of this in the following words: "The *flavor* of the butter which has been washed is different from that which has not been washed. The difference between washed and unwashed butter is analogous to the difference between clarified and unclarified sugar. The former consists of pure saccharine matter, the latter of sugar and some albuminoids and flavoring matters, which were contained in the juice of the cane, mingled with it, which gives a flavor in addition to that of the sugar. Brown sugar, though less sweet, has more flavor than clarified sugar. When unwashed there is always a little buttermilk and sugar adhering to the butter, that gives it a peculiar flavor in addition to that of pure butter, which many people like when it is new. Washing removes all this foreign matter, and leaves only the taste of the butter pure and simple. Those who prefer the taste of the butter to that of the foreign ingredients mixed with it, like the washed butter best. The flavor of butter consists of fatty matters, which do not combine with water at all, and therefore cannot be washed away by it. The effect of washing upon the keeping qualities of butter depends upon the purity of the water used. If the water contains no foreign matter that will effect the butter, it keeps the better for having the buttermilk washed out instead of worked out. Evidently the grain of the butter will be more perfectly preserved if the buttermilk be removed by careful washing. The grain is such an important factor in the make-up of fine butter, that it is necessary we should be very particular not to injure it in any way if we would excel in the art of butter-making." But to return to *our* butter. After being washed it is salted at the rate of one ounce of salt to one ounce of butter, while yet in the churn, and the salt evenly distributed throughout the butter by revolving the churn forty-eight times around. It is then taken out of the churn, allowed to stand a few hours, carefully worked over and packed.

During the past five years we have made a practice of shipping our butter regularly to J. H. Phillips, Chicago. Nearly all of our butter made during this time has passed through his hands, selling for a price sufficiently remunerative to justify our continuing in the butter business.

In closing, I wish to refer briefly to the erroneous idea, so prevalent among people generally, that only those of long experience and mature age can excel in butter-making. Just abandon this fancy, and give us younger people a chance, and we will show you we are willing to learn, and having learned, are competent to manufacture the real gilt edge. Hon. Hiram Smith, a few weeks ago, expressed as his opinion, that for any intelligent person to learn all he *needs* to know of butter-making, requires from ten to twelve days' experience. The length of time, however, depended somewhat on how many erroneous lessons he has to unlearn. Though my own experience does not fully coincide with Mr. Smith's ideas, still I think, if this work of butter-making be transferred from the patient, tired hands of *mother* to our own, we shall soon be in possession of an attainment, an *accomplishment* in the highest sense of the word.

[Miss Morley was born June 10, 1859, near Baraboo, Sauk county, Wisconsin, where she now resides, and had the usual experience and success of farmers' daughters in attending and teaching schools, until March, 1879, when she quit the schoolroom to take charge of her father's dairy, and from that time to the present has had the care of the milk from about seventy cows. In November, 1879, she made the butter which was awarded the Sweepstakes Prize at the International Dairy Fair in New York City the following December, in competition with the world, for the best butter made at any time or place.—ED. F. A.]

SHADING THE SOIL.—A farmer says: "My own observation satisfies me that we are too much disposed in the cultivation of plants to leave the soil exposed to the burning rays of the sun. So, also, with the fruit and ornamental shrubbery; the consequence is the moisture is so evaporated as to retard the growth if not entirely destroy the plant. We have found by actual experiment that some of our flowering plants that will not flourish in soil exposed to the sun succeed admirably when planted in the lawn with grassy sod growing around and among them. The best Japan lilies I have seen in this vicinity were grown in this manner. Nearly or quite all of our beautiful Japan lilies fail to succeed in our cultivated grounds unless the surface is kept cool by mulching. The same may be said of most of our garden as well as our field plants. Strawberries, for instance, are particularly benefited by this treatment, and by proper attention to it newly-set plants may be saved, as well as fine crops of fruits insured from established plants."

The wheat crop in Southern Russia, the great grain growing section of the empire, which has Odessa for its outlet, is stated to be unprecedentedly abundant—brilliant it is called. This will be a great relief in Europe.

Poultry.

Exhibiting Fowls.

BY R. A. BROWN, CHERRY GROVE, ONT.

The time is now fast approaching when breeders, farmers and amateurs will be visiting and showing poultry at our agricultural fairs, and a word or two on the subject may not be out of place.

I have no doubt that our old and successful breeders will be out in full force; but this should not deter the farmer or amateur from bringing out their stock at the County Fairs at least. We know many who breed poultry purely for the pleasure, and who take great pains and are to considerable expense, and the fruit of their hard work in size, seem to be the *ne plus ultra* of their skill and patience, and yet those same parties will not show for fear of having their birds criticised and themselves as breeders; and why is it so? Well, this is why: at our County and Township Fairs where poultry are exhibited for prizes, there are such poor judges selected to give the awards.

Aylesbury ducks very much resemble the Pekin; the English grey goose, the Tolouse, the light Brahma to the white Cochin, and several others have a sameness of appearance to the uninitiated, yet an adept can tell at a glance the one from the other, and also the poor judge is as apt to give the red ticket to the worst bird in the lot as to the best. Directors very often select men to judge at their shows from the jurisdiction in which the show is to occur on purpose to avoid expense. This is one of the greatest mistakes a board can make, for after a good breeder showing birds where such judges have awarded premiums, they are loth ever to show again, whether they have had a share of premiums or not. This is not only so at small fairs, but in large ones as well. For at the Western Fair, last fall, I heard a breeder say that the worst pair he had (of that class) got first prize, and the best ones were passed over. The breeder called the attention of the judges to the fact, yet the red ticket remained where it had been placed, and in all probability that pair would be sold at a high figure because they were "first prize birds at the Western Fair"; and still the owner could retain the culls at home and come out first the next year. Then if the purchaser of the last fall's birds exhibit this year, the ones that got first prize last year and gets beat this year, he will denounce the present judges as being ignorant, and the seller as a humbug and a fraud and the whole exhibition as a huge swindle.

It is quite customary to select two, three or more judges, and limit them to a small portion of time to make the awards; the judges will arrive on the ground and start discussing the pro's and con's of the birds, and every one must have his say before arriving at a conclusion, and when they are about half through the time is nearly up; then a large portion of awards are posted on the first pairs presenting themselves, whether right or wrong, the judges cannot help it for their time is up and the work must be done at the appointed time. A better way is to choose but one judge, and send along a man to carry and place on the tickets; be sure and get one that knows good stock, no matter from where he comes, whether it be near or far distant, it will pay the society every time to procure competent men to act as judges, whether it is poultry, sheep or cattle; the next thing is do not limit the time to so few hours where there is a number to judge. Also where there is a very large show like the Western, Industrial, or Provincial, the proper way is to choose about five judges and let each man judge by himself.

No man becomes perfect in all classes, and but very few become even good in one. Our best breeders only study up the classes which they are breeding and those belonging to other classes which they do not rear, they do not know but very little about, sometimes not anything.

Therefore, it is better to alot each man a class which he knows the most about.

The Benefits of Poultry Shows.

The money gain to the fortunate exhibitor at our poultry shows is mere naught in comparison to the many other benefits gained by the less fortunate as well as the visitor. All go in hope of winning; those who are only defeated by a point or two can understand the cause and hope to do better at the next, but those whose birds are either disqualified or score so low that no award could be bestowed on them, are the ones most benefited by the show, providing they are of an improving nature and not disposed to find fault with just judgment and proper awards. No one can know what a *fine specimen* of *any* bird is like until he has seen them enough to be familiar with them. Learning to *judge* by theory is like learning to swim in the grass. The breeder uses his best judgment in selecting his birds for the show room; without doubt his very best are put forth in hopes of being successful; if disappointed his benefit should be gained in first finding out wherein his birds are defective, has his judgment as a breeder been at fault or is his stock bad; if so what must he do to remedy the evil. Often the premium birds are bought; this will do if some experience is purchased at the same time, if not, poor management will soon produce poor condition and the birds that scored 93 or 94 to-day will not score over 80 in a month from now. Why is this often the cry? The only answer is carelessness; poor accommodations, bad attention, filthy drinking pans, and dirty houses and yards will soon disqualify the best specimens ever produced. First adopt the good old rule, "Be sure you are right, then go ahead." Don't buy fine stock unless you understand how to care for it; first look all the stock over, then study the good and bad points, ask questions, talk with the successful breeders, gain information any way possible, for by so doing you will go home with more reward than he who wins first prize. Too many of us are too proud to acknowledge our ignorance as breeders, and are unwilling to let any one know what we are about. How often is heard in our show room, "I know my birds could not win, just put them in to help along, but if I had thought such judgments as these would be made I would have stayed at home." This won't do; don't try to hide your own faults, your stock has told on you. Come forward and take lessons from those who do know how to breed good stock and gain *your* benefit from the show.

Red cards attract the visitor; all love to stand around the magic pens and pour out their admiration in great volumes of praise to these grand specimens of the fowl kind, while the many around them that only lost by one or two points are not worthy their notice. This is for the best, as he who wins should have the honor as well as the profit, but of what benefit is this to the visitor; change the cards to poorer specimens and it will be just the same. A trick was played at one of our leading shows; a very fine bird was offered for sale; some one rubbed out the mark of $20 and made it $2. Many said as they passed by, "Who would have so poor a bird?" Let all who go study the points of the birds before them and so inform themselves that no trick can bias their judgment; by so doing their benefit is gained. Many of our best breeders spend days at our shows studying the birds of their opponents and comparing their birds with his point by point, to see in what way his can be improved. Hours are spent in talking together comparing ideas and making notes for future use, in this way our most successful breeders gain much benefit at our shows. The great secret of prize winning is *condition*, with it goes good plumage, healthy looking comb, wattle and ear lobe. clean smooth legs, and without it all these are lost, which will destroy the chace of any bird winning in even fair company. Good stock well conditioned will show up well in any company, but the very best can soon be wrecked if allowed to get into poor condition. Don't let this winter go by without gaining your share of benefit from all the shows you can possibly attend for by so doing the information gained may place you in the first ranks another year.—National Poultry Monitor.

The same remarks come with equal force when applied to any variety of stock. More attention should be given by the general public, when attending to fairs. Our poultry shows are at hand; make the best of them.

How to Keep Eggs.

There are several methods by which eggs may be perfectly well preserved for six months, and this is the season for putting these in practice. To relieve the market of its surplus now, and also relieve it of its scarcity in the winter, would tend to equalize prices, to raise them now and to moderate them then. But, as the preserving requires both care and regular attention in the summer time and some little neatness and skill, and the majority of persons are averse to take the requisite trouble, there will never be a sufficient quantity of eggs kept over to have an effect upon prices in the direction referred to.

The common methods of preservation all depend for their effect upon closing the pores of the shell and excluding air from the perishable interior. It is also especially requisite that the eggs be treated while they are perfectly fresh, for if decay has begun it cannot be arrested by any known process. The most popular preservative is lime, used in the following manner: A tight barrel is half filled with water, into which are stirred slack lime and salt at the rate of half a pound of each for each pailful of water. Some dealers add four ounces of saltpetre to the half-barrel of pickle. The eggs, perfectly fresh, and gathered twice a day, are placed in a shallow dish and carefully let down into the pickle, in which they settle to the bottom, always with the small end downward. The barrel will be filled when it is half full of eggs. the equal proportion of pickle making up the difference. A cool place for storage is required to keep the eggs. The pickle has a certain corrosive action upon the shells after two or three months, but to avoid this the eggs may be smeared with lard before they are put in the pickle.

Another method used for domestic purposes is as follows: The eggs are placed in a convenient willow basket or net, and are immersed in a boiling solution of five pounds of common sugar to a gallon of water. The heat sets the albumen in a film on the inside of the shell and the sugar closes the pores. The eggs are then packed small end down, in a mixture of two parts of dry bran and one part of finely powered charcoal.

The French, who produced and kept enormous quantities of poultry, have several methods of keeping the eggs. All of them, however, are alike in respect of the materials employed. These are oil and wax. One of their best processes is as follows: Four ounces of beeswax is melted with eight ounces of olive oil. When the mixture has cooled to a safe temperature each egg is dipped into it and wiped with a soft cloth to remove the excess. The eggs are then packed in boxes in powdered charcoal, freshly burned, and have been thus kept perfectly fresh for two years. Fresh charcoal is desirable because of its excessive affinity for oxygen, which it absorbs and occludes within its pores, thus keeping the eggs free from contact with the only agent of decay that is to be feared.

Paraffine is odorless, tasteless, colorless, harmless and cheap; it is a mineral wax or fat, and may be used instead of beeswax or oil, with equally good effect. As it melts and becomes liquid at a little over 100°, it is easily applied and easily removed when the eggs are boiled for use. Fresh charcoal finely powdered is at least four times as effective a preservative as the lime pickle. Dry salt has been recommended for keeping eggs, but it is totally useless where the air is at all damp as it is in a cold cellar.

Water glass, soluble silicate of soda, has been used by the Germans for keeping eggs. This is a clear liquid, of the consistence of syrup, and when smeared over the shell entirely impermeable to the air.

Eggs are to be packed with the small end downward, because in that position the yolk is suspended exactly in the centre and does not touch the shell. When it touches the shell and air reaches it, decay instantly begins.

One stale or broken egg will spoil a whole barrelful.

The packing should be so placed between the eggs that no two shells come into contact.

An even and cool temperature is necessary. A changing temperature causes disturbance of the air among the packing, and starts a molecular action in the egg, which is favorable to, if not productive of, decomposition.—*H. Stewart in New York Times.*

It is now stated that Russia has 50 per cent. more wheat this season than she has raised for many years. Our advice is as it has been—Sell!

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 open, and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

PREPARING BEES FOR WINTER.

SIR,—How strange that with all our new fangled improvements, increased knowledge of bee keeping, greater facilities for working them and hosts of bee journals, we have no better success in wintering than during the reign of the box, gum and skep, and I think not as successful, for if we take up any journal on apiculture to-day we will see the statements of parties who have lost nearly all of their colonies during the past winter, saying that their surviving stocks are mostly in boxes, gums or skeps. We also notice that parties who seem to take least care are often most successful in wintering.

Now, there must be a reason for this. Let us look at the bees when allowed to follow their own instinct to find a solution. Here we must look if we would learn of them, for instinct teaches them to do that which best protects themselves from our long cold winters, if they are left unmolested.

First, let us examine a colony which has not been disturbed during the latter part of the summer and fall, and we will find that upon opening the hive all the holes causing a draft have been closed up, the combs securely fastened together, preventing any movement among them, and honey all stored away as best suited to their needs. Now let us examine a hive that has been opened repeatedly, and we will find everything the reverse, unsealed cracks, swinging frames and honey and brood all mixed up together. Nature has made them able to take care of themselves; then will not their undisturbed condition be most beneficial?

Again, let us consult the bee and see what they will tell us. Take a swarm that has not been extracted from very late, which has plenty of honey, and we find they are raising plenty of brood straight through till winter. Now let us examine a colony which is scarce of honey or has only sufficient to safely winter them. Upon first look we may not notice anything wrong; there will not be much capped brood or larvæ it is true, but plenty of eggs, and this is what we will be apt to find next time and the next; always plenty of eggs but no larvæ or capped brood. And why is this?

Instinct teaches the bee that they have no more honey than they need for winter's consumption, without exhausting the supply by raising brood. So that though the Queen still continues laying, no brood rearing is done, and no young bees hatched to form the back bone of our winter colony; for unless we have plenty of young bees, wintering will inevitably be a failure.

Now, Mr Editor, I think we have seen from these observations that those hives which have not been opened during the approach of cold weather, have all the cracks sealed up, the frames firmly secured and the honey placed in the most convenient place, while hives that have been opened late have all the joints around the quilt or honey board open, the frames swinging free from one another and honey mixed up. Also, that hives which have had plenty of honey all the time are full of brood in all stages, have kept their strength well up and have plenty of young bees, while those that have had their honey weighed out to them, exactly so many pounds and no more, will have eggs, but no brood in any stage further on and no *young bees*.

These I hold are the great requisites in the way of preparation for winter hives. Many have advantages over one another, but unless they are in good condition, chaff hives or cellars will be of little avail.

How are these conditions to be arrived at? It is easy enough in theory but somewhat difficult in practice, for we cannot always manage them exactly as we would wish. Sealed hives and secured frames can be had by preparing them for winter early—while the weather is quite warm, and then never opening them till spring. The other advantages can be had by feeding early and plentifully. By feeding early we will have the honey in the best condition and placed just where they want it, and by feeding plentifully they will not be afraid to raise young brood during honey drouth quite up to winter. Do not stint them of honey; they will not eat any more for having it in their hive. I would say if you will weigh them, do not have less than 35 or 40 lbs. It will pay. The additional 10 or 15 lbs. will give you more than four fold by their extra strength and energy the next season.

We can now come to the reason why a box or gum will sometimes outlive the carefully looked after moveable frame. We cannot get into them, as they are made all secure, and have all the honey that they can store into the body of the hive, leaving them in the best condition for winter.

In conclusion let me emphatically say to those who wish for success in wintering to feed *early* and *plentifully*, and then leave them to seal the hive up as they see fit, and rear young bees to stand the winter.

Will not some of our beekeepers give us their views on this subject?

F. C., Woodstock.

FRUIT DRIERS.

SIR,—Your magazine for August to hand. The statements are all facts in regard to the profits of manufacturing. Of course peaches stand at the head for a large margin of profit, black cap raspberries next. Messrs. Davis & Draper, of Milford, Del., last season, with 6 five foot machines, cleared $5,500 curing peaches. Mr. Davis recently purchased two more of the largest machines, for curing apples this season. Two months ago he came to Philadelphia and purchased all the canned peaches in the market, over 7,000 cases with two dozen cans in each case. He never saw the goods nor handled them in any way, and yesterday and the day before sold them at a profit of over a dollar a case. These goods before he purchased them, were held by only three parties. He represented to them before purchasing that there would not be a crop of peaches this year. They laughed at him and remarked the old story, "You country men always start about the peach crop and we always have plenty." But he has the laugh on them now; he goes home to his farm with over $7,000 cleared without any labor or trouble. The fox came at last; no peach crop story proved true this time. Some time when there is a crop in the Peninsula it might pay you if you could leave home to come this way and see how they handle a large crop. In 1875 they had the largest crop ever known in the Peninsula, between eight and nine million baskets. Then there was not more than 3 or 4 evaporators in the two States. One party at Middletown, Del., shipped to the city 700 crates with two baskets of peaches in each, each basket representing 5 8 of a bushel. After paying freight and commissioners for selling he came out of the transaction over $24 in debt. Many of the peaches were thrown in the dock that year and left to rot on and under the trees; but since that year the evaporators have proved the farmers' and fruit growers' salvation. In the town of Milford, Del., alone, they have over thirty large evaporators, each capable of curing 200 baskets of peaches in 24 hours. They run day and night and ship to market only the very best, and keep posted by telegraph, so that if there is a likelihood of a glut in the market they do not ship any, and in this way control the market and save their crop. After they are cured they have the world for a market and are not limited to six weeks to dispose of their year's product. Thus you see the great advantage to the farmers and fruit growers the fruit dryer is. With these machines they can save their crops and sell them at their leisure. E. McF., Phila., Pa.

CROPS IN MANITOBA.

SIR,—The crops in this part of the world never looked better, and the prospects for the settler are very bright. Wheat has been headed out about three weeks now, and looks first-class, and promises to yield of from 25 to 40 bushels per acre. Oats are well headed out and will yield from 50 to 80 bushels per acre. Barley looks first-class, and gives prospects of a splendid yield. Potatoes never looked better. Garden vegetables are simply immense, beating anything of the kind that I have ever seen in Ontario, unless it be a highly manured market garden; but then you must remember that we apply no manure; if we did everything would grow to rank.

Farmers are all very busy putting up their hay at present. The wild grass does not come to maturity here until the end of July. The imported cattle take to the wild hay very kindly, and seem to eat it with great relish, especially when it is well cured. I have seen cattle fed on nothing else but the wild hay all winter, and keep up in good condition; of course working cattle require to be fed choped grain when they are working. It would do you good to see the way cattle fatten on the green grass here. Working cattle get nothing else in summer and fall, and a great many of them can break three acres a day and get fat on it.

We have had a good many very heavy storms during the month of April; the month of June was cold and wet most of the month, but July has been very hot with only an occasional thunderstorm. We had a splendid spring this year; it opened about the middle of April. We commenced sowing grass in the third week in April, and there was no rain of any consequence until the end of May

Harvesting will begin in the second week of August. G. D., Rapid City, Man.

CROPS AND STOCK-BREEDING IN NEW BRUNSWICK.

SIR,—The crops are very promising. The heavy rains for the past ten days have retarded haymaking, and laid the grain somewhat; but on visiting some of the country districts I do not think it serious. The potato-bug is doing much injury as yet. Everything is very promising, and our people are doing well. We are looking for a large importation of stock from England, which Mr. Beattie is selecting for us. We are also establishing a stock-breeding farm on Provincial account. Stock for it will be selected from that coming from England. We cannot see any other way of supplying the demands of the local breeders. It is possible it may lead to Model Farm ann Agricultural School.

J. L. I., Fredericton, N.B., Aug. 12.

SIR,—Crops in this section are now growing rapidly, and haying is being pushed forward with vigor. The weather is all that could be desired for this purpose. Hay on the upland will be rather light, the dry weather of the last part of June and first July having materially lessened the crop. The spring was very backward, and as a consequence July work is being done now. Everything is nearly a month behind the usual time. If the weather proves favorable much grain will be harvested. B. J. C., Andover, N.B., Aug. 5.

SIR,—The crops are looking well, especially hay, but the weather has been so bad that there has been some hurt in trying to get it in. It is now getting old and ripe, and the weather continues bad. C. A. A., Bayfield, N.B., Aug. 8.

CROPS IN P. E. ISLAND.

SIR,—This has been the wettest season experienced here for a number of years. Crops are very heavy. Hay is more than a common yield, but fears are entertained that a great deal will be spoiled in making, on account of the continuance of rain. The early wheat is not as good looking as commonly. Other crops are abundant.

J. H, Kensington, P.E.I.

HOW TO MAKE THE COUNTRY PROSPEROUS.

SIR,—I think it strange that we human beings, as a general thing, are so ignorant as not to care more than we do to take agricultural papers, and improve the mind, &c. I believe it would benefit the country to have every farmer in it furnished with an agricultural paper, and charge it to him in his taxes. No one would be the loser, for it would have to be a fool of a man who could not get the worth of his money many times over, and eventually it would be called a blessing.

J. T. B., Midland, Ont.

WILD RICE.

SIR,—Where can I procure the seed of wild rice? We have here a large area of land suitable to its growth. J. H. R.

[This plant grows in many sections of Ontario, a very large amount growing in the marshes of Scugog Lake. We do not think you will find it in any seed store; but we think if you were to write to Mr. James Graham, Port Perry P. O., Ont., he might be able to name a person who could supply you.]

SIR,—(1) Can you tell me what is the cause of some colts not having the use of their limbs when foaled, especially the fore legs? We had one this spring, from a sound young mare and sound young sire. It stood up the second day, but not afterward, without being lifted, to suck. It died on the fourth day, apparently in great pain. Its legs were cold from the first. Two other colts from the same sire were all right. Two years ago the mare had her first colt; it was just the same way, and died when three or four days old. Two other colts that year from same sire, all right. The trouble is evidently with the mare, though a great milker. Do you think, if the colt were taken as soon as foaled, and its legs rubbed well and frequently, that it would save it? or what do you think could be done for it? (2) Can you tell me if there is any kind of reptile which has a skeleton? I found one (skeleton) about 15 inches long, the head like a snake's head; the ribs going clear round, from the backbone to it again; the backbone was in sections, a rib to a section; the skeleton tapered to the tail; no skin to it. Having examined it, I foolishly threw it down and forgot it, and cannot find it again.

J. T., International Bridge, Ont.

[(1) Often it is caused by the mare being too highly fed, especially with grain. It is not a good plan to have the mare in high condition; it is much better to have her in a good thriving or healthy condition, allowing her to have plenty of exercise, being careful not to drive fast or to load too heavily. Sometimes we find colts die exhibiting symptoms similar to those that you describe caused by getting a chill, setting up disease of the pleura and extending to the peritoneum, or lining of the bowels, causing water to form in the chest. The colt generally lives from two to four days; it generally lies most of the time, now and then exhibiting spasmodic pains, which become more severe as death approaches.

(2) Perhaps some of our correspondents could give some information concerning the skeleton.]

SIR,—I have a valuable mare, which is very flat-footed. In the spring her feet becomes so thin on the soles as to cause lameness when driving any distance; the gravel gets under the shoes, so as to hurt her feet; then the shoes have to be removed again, and she is all right for a short time. If you can give me any information concerning this, it will be worth more than all the papers we have ever taken.—Information either on shoeing or directly on her feet, but if possible something that will toughen or change her feet.

C. A. A., Bayfield, N. B.

[You should keep your beast shod regularly every four weeks, with a good strong shoe. Have it sprung from the last nail hole, so that it will not press on the heel. You should see that the back part of the shoe is thick enough to prevent it from bending down on the heel with the weight of the horse when he treads on it. Some recommend placing a piece of soft leather or felt between the shoe and foot, which prevents the shoe from bruising the foot, especially when the sole is weak. To make the hoof grow, we would advise you to apply a cantharidine blister around the coronet, composed of cantharides 1 part and lard 8 parts. Rub well in once in two weeks all around above the hoof, about two inches wide. A good hoof ointment, to toughen it, is made of equal parts Friar's balsam and lard, applied all over and on the sole of the hoof every second or third night.]

SIR,—What will take warts off a sow's teats?

D. S., Presque Isle, Ont.

[The best plan is to either ligature or remove with the knife.]

DOES A BARBARY HEDGE CAUSE RUST?

SIR,—I write you to know if Barbary hedge has anything to do with rusting or affecting fall and spring wheat. My wheat for the last four or five years has been a failure. It is not a red rust, but black spots on the straw and head. It never fills after affected. I had about twenty acres of spring and fall wheat this year, and I won't have two hundred bushels of wheat, and a very poor sample at that. I lay the cause to the Barbary hedge. The hedge is on the farm east of mine, just across the road, both corner lots. The farms on the north and south corners are also more or less affected, but none so bad as mine and the farm where the hedge is planted. Last year he had as fine a looking field of wheat as you would wish to look at, but it was not worth cutting scarcely. It was quite close to the hedge, on the east side. Wheat is yielding well and not affected in this locality, except four or five farms close by me. The hedge has been set out for about ten years or so. We always had splendid wheat till of late years. Our soil is clay. Our farms are worked as well and our seed as well put in as our neighbors'. It goes pretty tough when you see other people's wheat turning out so well, and our own so poor. I intend trying another year, and if it is not better I will have to stop trying to raise fall or spring wheat.

J. C. M., Meadowvale.

PRICKLY COMFREY.

SIR,—Will you be so kind as to give information in your valuable paper as to how prickly comfrey is propagated? Will it grow from seed, or are the roots to be parted and planted as potatoes?

R. C., Eramosa, Ont.

[It is propagated from the roots, which can be cut in small pieces and planted like potatoes. Planting may be done at any time, except in cold weather. It should be grown in rows, three and a half feet apart, with the plants about three feet apart in the rows.]

THE WOOL QUESTION.

SIR,—The wool buyers around here say that our wool is to coarse, it is hardly fit for horse blankets, and the highest price they paid was from 20 to 23 cents. In Waterloo is one of the largest woolen factories in Canada, and the President said they would have to get finer wool than what they can get around here. Buyers pay so much more for fine wool, would it not be better for us to move for finer wooled sheep. Which are the largest and best, the Southdown or Shropshire Down. By giving your best opinion upon the above you would oblige a reader. J. B., Berlin, Ont.

In reply to the above we give an extract from an article recently published in the *Monetary Times:*

"Twenty thousand pounds of Canadian wool, which cost me twenty-nine cents, I offered this week for twenty-four, and could not get even that." Such is the story of a country merchant a few days ago. The statement is made that 750,000 pounds of Canadian long-stapled wool is at the present moment on hand, unsalable. We hear of cases in which single holders have lots of from 10,000 to 40,000 pounds on hand, bought at high prices, and offered in vain at a loss of from six to ten cents per pound. American mills have had Canadian wool in store for a year, unable to make use of it. What is the remedy for this?

Farmers and breeders in Canada must change the character of the wool they grow, or make up their minds to sell it at a low price, if indeed, they can sell it at all, We have already shown (Monetary Times, 1st July) that the bulk of our wool is fit only for making worsteds, coarse yarn, blankets, &c. But worsted goods such as alpacas are largely out of fashion, and the wool that suits for making them is no longer in request at home or abroad. Besides, as a large wool dealer tells us: Most of the domestic wool offering now is too coarse even for blankets or etoffes. The result is that our manufacturers have to buy mainly English, Scotch, Cape, Australian, and other fine wools, of which to make Canadian woolen goods. And for this foreign wool 30 to 40 cents is paid, while 22 to 24 cents is the ruling price for our native combing. If, therefore, Canadians would grow the kind of wool that Canadian mills want, there would be no need to go to Europe, Africa and Asia for it, but the Canadian farmer would find a ready market at a greatly improved price.

Finer fibred and shorter stapled wool is a distictly felt want in this country, and the sooner our growers realize this fact and act upon it, the sooner they will make some profit out of their sheep. And what is more, by obtaining animals which yield the right kind of fleeces, they will receive better prices for their mutton. The country wants other breeds than Cotswolds or Leicesters. The Southdown and Shropshire Down, will give better mutton and finer (and higher priced) wool, or a cross of the native sheep with one or other of these will improve the quality of both flesh and fleece, and thus put money in the farmers' pockets. To repeat what we have already stated, upon the authority of a grower, three Southdown sheep can be fed and kept in proper condition at the same expense for food and room as two Cotswolds.

A very important confirmation of the views we have urged is found in the conclusions reached by Professor Brown, of the Model Farm at Guelph, which we give in his own words:

In the fattening of wethers, to finish as shearlings, the Cotswold and Leicester grades can be made up to 200, the Oxford Down to 180 pounds and the Southdown (grades) 160 pounds each (live weight).

Combining wool and flesh value, the Southdown grades give the highest returns—as much as double that of the Cotswold grade and 35 per cent. over that of the Leicester grade, also slightly in advance of the Oxford Down grade.

The Professor, in his advance report of the Ontario Experimental Farm, considers it "a point subject to no dispute, that the great, roomy, raw Cotswold sheep will eat one-half more than the hardy, compact Southdown." Having tested during five past years the crosses resulting from pure bred Leicester, Cotswold, Oxford Down and Southdown rams upon ordinary Canadian ewes at the farm, all being fed alike, the following conclusions are reached as to the yield of each sort of animal, in flesh and fleece:

	Cost.	Yield.	
		Wool.	Carcass.
Cotswold grade.....	$9.30	$2.25	$9.95
Leicester do	8.10	2.24	9.90
Oxford Down grade.....	7.40	2.80	10.60
Southdown do	6.00	2.40	1 .20

Showing that where the Cotswold and Leicester show a profit of $3.17 and $4.04 respectively, the Oxford Down yields $6.02 profit and the Southdown $6.60."

In the above experiment Southdowns are shown to be the most profitable for crossing. But it must be remembered that the Cotswolds at the Guelph College are *large and coarse* and that the downs are the reverse. The Cotswold ram which has been used at the College Farm for the past two years is a very unsuitable sheep, and we have no doubt if Mr. Brown had a better sheep in his place the result might have been slightly different; in fact, it is hardly fair to the many breeders of longwools in Ontario, that experiments should be made with such a sheep; it would be difficult to get a pure Cotswold ram more unsuitable for such a purpose, and while we would like to see a better sheep in his place, we have no doubt that the Downs will be found more profitable to the majority of farmers, but there will be room enough for all. Not long ago long wools sold well, and it is the opinion of men who are authorities on the subject, that such will be the case again in the future, as fashions change and different styles of clothing are worn, different kinds of wool will be wanted. The great advantage that the Downs have is that they supply a superior quality of mutton, and considering our export trade this is of great importance.

Southdowns may in some cases be found most profitable to cross on our native stock, especially is this the case when the ewes to be bred are large and very coarse both in wool and frame; but we believe in most cases the Shropshire Down will be found by far the most preferable; they are more hardy, have better constitutions, and are better suited to rough it; under ordinary circumstances they are better feeders.

PREPARING MANURE.

SIR,—I wish now to speak of fertilizers, and all that I have to say is the result of experience on my own farm. I long ago adopted the practice of using stable manure as a top-dressing, and I find that its value for the wheat crop depends largely on its mechanical condition. A cord of good manure, applied in a coarse, lumpy condition, may be in the long run worth as much to the soil—although I greatly doubt it—as if it was finely pulverized; but as we want all the benefit possible to the first crop to which it is applied, on the principle of the "nimble sixpence," I have learned to fine my manure for wheat. As far as the first crop is concerned, I would rather have five cords of fine manure, evenly spread on the surface of an acre of wheat, than ten cords plowed under, or even spread on the surface in a lumpy condition. We make it a point to utilize the days in May and June, if the ground is too wet to work, in turning the manure which is to be used for wheat, and as decomposition is very rapid at this season of the year, we find that it takes very little time, and, if moisture is abundant, only two turnings, to reduce coarse manure to such a condition that it can be spread evenly and thinly on the surface. The cost of this handling is not great, and much of it is saved in the hauling, as the bulk of the manure is greatly reduced, and it is in a condition to be easily handled.

So convinced am I of the value of manure for

wheat, and the certainty of getting liberally paid for it from the first crop, that I almost grudge the garden its necessary manure, and keep all that I can to be applied to the wheat. In keeping an expense account with my wheat fields, I never charge more than half the cost of the manure to the wheat crop, for I find that the effect of manure shows for many years on limestone clay soils, and as we never fail to sow clover with our wheat, this top-dressing gives a fine growth, and puts the land in better condition for a corn crop than if the manure had been applied for the corn. This, to my mind, is one of the great advantages of using manure as a top-dressing. We not only insure a good wheat crop, but we make our manure do double duty, by growing a clover crop at the same time for fertilizing the soil for subsequent crops. This is a matter of great importance, because the supply of s able manure is limited, and always far below our wants, while there is scarcely a limit to the production of clover for fertilizing.

I have experimented somewhat with night-soil and poultry manure, and should further use of these confirm my present opinion of their value, I shall save with the greatest of care all that I can get of them. In the fall of 1879 I sowed four acres of wheat on a piece of thin land which had been in corn. I do not think it produced over fifteen bushels of corn to the acre, and I thought it an excellent piece of land on which to compare the value of different fertilizers. I divided it into four equal plats, and on No. 1 I drilled one barrel of poultry manure; No. 2 had twelve loads of stable manure; No. 3, 200 pounds of raw bone meal, and No. 4, 200 pounds of superphosphate. Strips of one drill width were left without fertilizers between the plats. As we did not cut and thresh separately, I cannot, of course, give the exact figures, but the yield on the four acres was 116 bushels, or 29 bushels per acre. As nearly as I could tell by comparing the unmanured strips, I estimate that the crop was doubled by manuring. The stable manure gave the heavi st yield; the poultry manure and bone meal were as nearly as possible equal in their effect, and the superphosphate the poorest. The poultry manure was prepared by mixing a little dry bran with it, and wetting it with strong manure water, and piling it in a conical heap on the barn floor. As soon as it was thoroughly hot, the pile was turned over and spread so that it was only six inches deep, and every day for a week we turned it over and beat it with the shovel. We then sifted it through a mason's fine sieve, and dried it thoroughly, and had no trouble in drilling it. It would seem impossible that a single barrel of poultry manure should add ten bushels, or more, to the acre to a crop of wheat, and yet I am convinced that it did in this case.

The preceding year I experimented enough with night-soil to convince me that it is of great value, but it will require further experiments before I can give its value as compared with poultry manure and bone meal. I feel sure that it is of great value, and that some acres of wheat might be manured yearly on each farm with it, if it was saved.

W. F. B.

A VISIT TO A PRINCE EDWARD ISLAND LOBSTER FACTORY.

SIR,—Having had occasion to take a tour around some of the southern sections of the Island, I happened to call and see the Beach Point Lobster Factory, Murray Harbour, owned by that persevering and successful gentleman, M. McFayden, Esq. Mr. McFayden being away off the Island, we were shown all through this beautiful establishment by the obliging and kind gentleman in charge, Mr. McL od, who is always ready and willing to accommodate tourists and visitors who may chance to call and see this establishment.

There is no odour or any decayed matter allowed to remain around by Mr. McLeod. Everything is as neat as clock work, and has a healthy appearance, being refreshed by the sea breeze. This establishment engages between 90 and 100 hands when in full working order. There are at present 40 girls and 60 men and boys employed. They secure a daily average of between 6,000 and 7,000 lobsters, and while I believe the other lobster factories around the Province are hardly doing anything, they are kept busy all the time, and have put away already this season 294,000. Besides this, Mr. McFayden engages in the mackerel and cod fish business extensively.

The cereal crops around this part of the country look beautiful. The farmers find lobster shel s to be good fertilizers.

TOURIST.

Agricultural.

Green Manures.

How many of your readers have given rye a fair trial for plowing under, and are able to say just what it is worth to them? Not one in fifty, I venture to say. I think rye possesses some advantages, when used for this purpose, over almost any other plant. It costs little to put it in, as it can be sown on the loose ground after the corn is cut up, and covered with the harrow. It starts into growth so early and grows so rapidly in spring, that it is ready to plow under in time to produce a crop the same season if desired I have not experimented with rye as a green manure as much as I wish to in the future, but all my experience and observation is favorable. In May, 1877, I plowed under an acre of rye on heavy clay land. The season was unfavorable and the crop of corn was poor on all the field, and I do not remember that we saw any difference where the rye was plowed under. The field was planted in corn again the next year, and in gathering the corn in the fall we found a very marked difference in favor of the land where the rye was plowed in. This would indicate that the best effect of rye was produced the second year. The most earnest advocate of rye as a green manure that I ever met was Mr. Root, of Rockford, Ill., who was a successful seed grower, and writer for the agricultural papers. He claimed to have discovered its virtues by accident. He wished one year to grow several acres of muskmelons for seed, and could get no land that suited him, except a piece on which a heavy crop of rye was growing. He plowed it under, and the season proving to be dry, he was pleased to find that his land kept loose and moist, and produced a full crop, while on all the other land his crops were short. As long as he lived afterwards he practiced sowing rye on all land on which he could use it, and was invariably pleased with the result.

I hope some time to see the following experiment in green manuring so thoroughly tested as to establish what it would do for land: Plow under as heavy a growth of rye as possible in May. Then sow buckwheat and plow it under in July, or the first of August, and follow the buckwheat with sowed corn. These three crops would produce a large amount of vegetable matter, and would shade the soil completely while growing, and I doubt not would be found exceedingly profitable. As it is impossible for the farmer to get enough animal manure to supply his wants, and commercial manures are expensive and often uncertain in their action, it would seem as though there is no field of experiment that promises so much as t is. There are, without doubt, countless fields which would not only produce more grain in three years, if one year was devoted to a green manuring such as is recommended, but they would also be permanently improved.

To draw out and spread enough stable manure to cover a ten acre field, involves a large amount of hard, dirty work, even if you have the manure on the farm, and vastly more if you must go some miles to the village for it. All the work in green manuring is clean and pleasant, and this is much in its favor. I am fully convinced from long experience in buying manure at 50c. a load two miles from my farm that I could have done much better to have depended on green manures, after using what manure I could have saved from my own stock For a number of years I have depended on home resources for keeping up my farm, and have grown as good or better crops than when I bought manure, and at less expense, oth of cash and muscle.—[W. F. B., in Country Gentleman.

Wood ashes, hen manure and lime, are all good fertilizers, but the lime should not be mixed with them until just before it is applied to the soil, and when applied it should be harrowed in before the corn is planted. The reason why the lime should not be mixed long before applied, is because it separates the ammonia from the manure, and it is thus lost unless it is so covered that it may be held by moist earth, or a covering of mu k.

Pendleton, in his "Scientific Agriculture," gives the following directions for making rich compost: A layer of stable manure six inches thick, with a good sprinkling of ground phosphate (or ground bone) over it; then a layer of muck three inches thick, or a mixture or ditch scrapings, poultry house scrapings, leached ashes, old mortar, leaf mold, sods or other waste matter; then a layer of stable manure six inches thick.

Saving and Applying Manure.

One would naturally suppose that, as important as manure is to the farmer, he would not only save and apply all that could be produced on the farm from every source, but that by careful experiment he would ascertain just how and on what crops he could use it to the best advantage. That farmers do not do this needs no argument, for there is abundant evidence on nearly every farm that there is no uniformity of practice, and little appreciation of the value of manure.

In looking at the effect of manures, we find that they not only furnish plant food, such as nitrogen, phosphoric acid, potash, &c., but that they also affect the soil mechanically. I think also that there is an intimate connection between the important subject of atmospheric fe tilization and manuring, that should be borne in mind, not only because the atmospheric acts more readily on a fine, porous soi, but because of the law of affinity. I am writing from the stand point of a practical farmer, and not from the scientific one; but my experience teaches me that finely pulverized manure at or near the surface of the soil, will attract from the atmosphere the same properties it contains, and largely increase its value. Whether scientific or not, I have found in practice that I get double the good from my manure when used as a top-dressing as when plowed under—at least when applied to the wheat crop.

Another reason why I used it in this way is because of its quicker action. If manure is plowed under six or eight inches deep, the roots will find it without doubt, b t as the growing season for wheat in the fall is short, and it is important that it should get well rooted, and make enough growth of blade to protect it, it is certainly wise to apply the manure where its effect will be immediate. Still another reason why we should do this, is because it gives a seed-bed for grass or clover, which insures a stand and promotes a heavy growth, and thus our manure is made to do double duty—grow a crop of wheat and a crop of clover, which will fertilize the land for the next crop.

For the same reason that I use manure at the surface, I make it as fine as possible. I feel certain that a single experiment will convince any farmer of the profit of this. Let him manure an eighth of an acre with coarse lumps, or strawy manure, and then use on an adjoining plot of the same size, one half of the amount thoroughly pulverized, and my word for it, he will find much the heaviest wheat where the pulverized manure is used.—[Cor. Country Gentleman.

Clover as a Preparation for Wheat.

PROFESSOR G. C. CALDWELL.

It is universally acknowledged that clover before wheat leaves the soil in a better condition for wheat than wheat before wheat; but it is also true that wheat requires much assimilable nitrogen in the soil for a paying crop, while in the crop of clover a much larger quantity of nitrogen is carried from the field than in a crop of wheat. This looks very much like eating our cake and having it too, which we have been taught from childhood up to be an impossibility. Can the curious fact be explained, or do apparently impossible things happen in the ordinary course of nature?

It is customary to account for this relation of the two crops by supposing that clover gets its nitrogen largely from the air, through its abundant foliage, and in its large quantity of stubble and roots transfers the necessary supply of nitrogen to the soil for the wheat crop. Nearly all who adopt this explanation go no further than to suppose that only chemically combined nitrogen of the atmosphere, which exists there as ammonia or nitric acid, is thus carried to the soil. Ville, who is well known as a writer on agricultural chemistry, his work on chemical manures having been translated from the French, and who is accepted as authority too often simply because what he has to say is well presented and the reader has no opportunity to verify his conclusions, goes much further and affirms that the plant can assimilate or feed upon *free* or uncombined nitrogen. As this nitrogen makes up 79 parts in 100 of the atmosphere, while of the combined nitrogen there are but a few parts in a thousand million; the question is an important one, and it would seem that it might be easily answered; but thousands on thousands of opinions and observations of farmers themselves cannot settle it; it cannot be solved only by careful experiments in which plants are forced to grow without any other nitrogen than that in their seeds, and this free nitrogen; three such series of experiments have been made—one

by that veteran agricultural chemist, Boussingault, another by Ville, and the third by Lawes, Gilbert and Pugh. The plain meaning of the results of the first and last series is that agricultural plants cannot thrive at all or make any normal amount of growth, if confined to those two sources of supply, while Ville draws the opposite conclusion from his results. No one who knows the whole history of these investigations is willing to adopt Ville's conclusions. Although the last and most elaborate series of experiments was performed after his own, by men of acknowledged reputation for scrupulous care and accuracy, and with results that tend directly to cast doubt on the reliability of his investigations, he has never repeated his work, nor explained the discrepancy. That he still abides to his first conclusion is shown in the recent translation above mentioned, where he affirms that free nitrogen is the most suitable form for leguminous plants.

Now, if this is not true, and we insist that according to the best evidence it is not, the farmer who puts in clover and gets a good wheat crop thereafter, is really only making some changes in the disposition of the nitrogen of his own soil, and drawing upon his stock of that substance *both* for the clover and the wheat, and is not adding anything of consequence to his available supply of plant nutrients; it is delusive teaching, for he who believes in it and grows clover much without manure is robbing his soil instead of enriching it. Those who have given the most careful study to the comparative growth of clover and wheat find no evidence that the former has any notable greater power to live even on the combined nitrogen of the atmosphere than the wheat possesses. Mr. Lawes found, as the result of his long-continued experiments, that "in soiis poor in available or accumulated nitrogen both the growth and the after effect of clover were less than in soils richer in available nitrogen"—"that clover can be grown less frequently then cereals on the same soil without manure," and that it can be grown continuously only where the soil is more than commonly rich in available nitrogen as well as other plant food; at the same time he proved by chemical analysis that clover stubble leaves the surface soil richer than before in nitrogen.

Those observations point plainly to the conclusion that clover, like other plants, looks to the soil for every thing except its carbon; and is benefiting a subsequent crop by supplying it with a larger quantity of available nitrogen, it only moves this nitrogen from one part of the soil to another where the cereal can get in more easily; it may possess a great power of transforming unavailable soil-nitrogen into available nitrogen. Moreover, the cereal makes its most rapid and almost its entire growth in the early part of the season, while clover occupies the whole vegetative season. Many experiments indicate that nitrates or compounds of nitric acid contain the nitrogen in its most efficient form as plant food; nitrates are produced in the soil throughout the season by the oxidation of nitrogen in other forms, and are most abundant in late Summer and early Autumn when clover is still growing, while the cereal is either off the ground, or, in the youngest stages of the new crop, in making comparatively little growth. Clover sends its roots to a greater depth and gets food from a larger volume of soil than the cereal, which is a shallow feeder. Thus though the crop carried off is large, the clover may yet leave in its stubble and roots a large quantity of the nitrogen that it has accumulated and in the soil where the shallow feeder can find it.

Thus it is evident that the relation of clover to the cereals can be accounted for without assuming what is contrary to the results of the most careful investigations—that it feeds on free nitrogen, or even that it feeds on atmospheric nitrogen at all, either free or combined. It is entirely possible to explain this peculiar effect of clover on the succeeding serial, by referring it simply to the different manner of growth of the two crops.

Lime and Chalk.

The grass lands of Surrey, Kent, Sussex, and many other counties are generally of a reddish-brown hue, from the large amount of sorrel there is among the grass. This is due to the large quantity of free acid that should be neutralised. Lime and chalk will do this, but as a matter of course lime would do it at once, while it would take a year or two for chalk to begin to have a similar effect.

In some parts of the low-lying districts of the country there are spots that grow but little besides sorrel and semi-aquatic weeds. This occurs on peaty or what are more commonly termed fen soils. In this lies an instructive lesson for application in the case in question. If a portion of this peaty soil, which produces the plants indicated, be put into a flower-pot and "digested," as some chemists say, with a little lime, and then a mixture of sorrel, kingcup and grass seeds be sown, the two former, which can and do feed on a free acid, will not grow. This is because the lime neutralised the free acid by again being partially restored to a state of carbonate of lime. But while this chemical transformation has been fatal to the sorrel and kingcup, it has made the peaty soil into a condition for seeds of grasses or cereals to germinate in and grow.

On the contrary, if a pot of the same soil be placed side by side with the one treated as above described, and the soil be left in its natural state, and a mixture of the above seeds be sown in it, then the sorrel and kingcup will germinate and flourish, but the free acid will prove so noxious to the grass seeds that they will not germinate at all.

The lesson the result of these experiments teaches is clear. Where sorrel and kingcups grow in superabundance—that is, to an extent in which they injure the growth of the grass—it is clear that a dressing of lime or chalk is advisable. Two or three ton of lime per acre, if it be slacked and well broadcasted, will have a due effect, for three or four years, while 5 or 8 ton of chalk would be required to have a similar effect, and this would scarcely begin before the second year after it had been applied.

A better plan of applying the lime, if it can be managed, is to raise a quantity of soil on a headland, or by clearing out a ditch, or by paring down an unnecessarily wide hedgerow in the autumn, and mixing the lime with it. Then, in the spring, or during the frosts of winter, this mixture may be applied at the rate of eight, ten, or twelve cartloads per acre, according to the quantity of the soil available for covering the acreage that needs to be dressed. To mix lime and soil and earth in this way has a twofold advantage when applied to pastures. The lime makes soluble or dissolves some of the mineral constituents of the soil with which it is mixed, which act in combination with the lime as food for the most nutritious grasses, while the lime is there at the same time with all its power to neutralise the free acid which fed the sorrel and kingcups, and allowed them to florish.

To return. Arable land indicates whether it needs chalk or lime by the weeds it produces. Kingcups on clay land show that it does, and water grass on mixed soil points to the same end. We had our first experience of chalk being put on clay land longer ago than we care to mention. The field sloped from the south, and for many years had not produced a kindly crop of cereals or anything else; but the farmer of it had a few bargeloads of chalk brought, and he dressed it with about 15 ton per acre. The next crop, instead of being half kingcups, or as these plants are there called, was as fine and clean a crop of wheat as need be seen. Chalk and lime in the present day are not apparently appreciated at their proper value.

There are other instances where lime and chalk would make a marked effect on pasture land. It is a common observation that patches of a pasture are bitten down bare, while other patches are scarcely touched. There it no better analytical agent than the nose of a cow, horse, or sheep. Where the uneaten patches are seen the grass is coarse and sour from a free acid having accumulated in the soil. In some cases sorrel or kingcups do not appear, but there is the fact of the produce of these patches being distasteful to the animals of the farm. Lime applied in a well-slacked state to the distasteful patches would make them palatable in a few weeks after the first heavy rain, and chalk would do the same if applied as recommended above, before the end of the next year.

One reason why we said chalk and lime are not apparently appreciated at their due value was this singular—not to say ludicrous—instance of wrong judgment. On a farm we visited two or three years ago there was a pasture as patchy as we ever saw one. Parts were eaten down by the cows on it as bare as possible, while on other parts there was enough for a good swathe. The owner of it had collected some lime and earth, and when we were there in the autumn he was putting it on the bare patches! Of course this mixture should have been applied to the uneaten patches. As we have intimated, there if no better agent to test the quality of grass than the nose of an animal which was designed by Nature to eat grass.

An experiment to test the foregoing may soon be made. Where grass in which sorrel or kingcups have grown, to the injury of the grass, has been or is about to be cut, put a peck of well-slaked lime on a square rod, and watch the difference in the aftermath or autumn crop.

Never Pasture Dairy Meadow.

If all dairymen were close observers, this article would be quite unnecessary advice—quite as useless as to gravely advise a man not to cut his own head off. But dairymen will yet keep 15 cows that only give a moderate yield for ten, because they do not observe a difference in the yield of their individual cows, and have no distinct standard in their minds of what the yield of a profitable cow should be; and thus they go on year after year keeping one third of their cows that run them in debt.

When some dairymen observe a little aftergrowth upon their meadows in the fall, they are prone to think of the nice bite it would give their cows, then on short pasture, and immediately introduce them to it, when the cows eagerly consume the small stock that nature has provided as a protection to the grass roots for the coming winter. The short-sighted dairyman prefers the small present gain, regardless of the heavy loss on the future crop—in fact, he probably does not think of the effect upon the future crops at all.

You often hear dairymen lamenting that meadows are so short-lived now-a-days; that they don't hold out as formerly, etc. When the soil was fresh and well seeded to meadow grasses, pasturing in fall affected them much less, and the crops were so respectable that pasturing was not thought to be injurious to the growth the following year. But a little experiment then of pasturing one field and not another, and observing the effect upon the next crop, would have soon undeceived them. Now the case is widely changed—their meadows seldom receive manure, are cut close with mowing machines instead of two inches higher with hand scythes; the vegetable mould being somewhat exhausted, the winters leave the soil much worse, and the grass roots require protection in winter. The after growth operates not only as a muck, but as a fertilizer, as far as it goes. Should the dairyman begrudge even this small return to replenish the loss of his soil in yearly cropping?

But the dairyman who pastures ordinary meadows in the fall robs his next crop to an extent that he does not realize. The writer was conversant with a case where 75 acres averaged, regularly, about 130 tons of excellent hay when no pasturing was allowed; and the owner having a tenant who had been rather unfortunate, allowed him to pasture some 25 cows upon the aftermath of these meadows for a single fall; and the consequence was a reduction of the yield from 130 tons down to 60 tons the next season, and the yield was never recovered until re-seeding. It was estimated that the whole value of the 25 cows in the fall was not equal to the injury of the next crop on the 75 acres of meadow. This practice of pasturing meadows is one of the most ruinous of the mistakes among dairymen, and causes them often to be so short of hay as to injure the yield of their herds in the spring. Good feeding through the winter lays the foundation for a good yield of milk the following season, with good cows. Good meadows are very essential to success in dairying, and therefore this question should be most carefully considered.

One of our principal meadow grasses is timothy, and this forms a tuber or bulb just above the surface of the ground, and is injured or destroyed when this bulb is cut or eaten off. Pasturing meadows of this grass is likely greatly to injure these bulbs, and this explains the serious injury that occurs when these meadows are pastured in the fall. Cutting too close with mowing machines often injures it Timothy is perhaps our most valuable meadow grass, as, with proper attention, it will easily continue ten years in succession to yield large crops. If our meadows consisted of Kentucky blue grass, wire grass, orchard grass, red top, etc., pasturing would not be so fatal, although then not advisable except on alluvial or overflowed land.

But let us see what the real value of the aftermath of timothy meadow is worth. Take the case mentioned of 75 acres pastured. Four cents' worth of wheat middlings and corn meal per day to each cow, would have produced more milk and left the cows in better condition, during the five or

six weeks that they were allowed to run a portion of the day upon the meadows. This would have cost, at the most, only about $1.60 per head, whilst the damage to the meadow was at least ten times as much. Meadows require generous attention, should be top-dressed with stable manure in fall, instead of pasturing them, and when this cannot be had should be top-dressed with some commercial fertilizer every few years, and thus kept in full production, and your dairy full fed through the winter.—[National Live Stock Journal.

Autumn in the Garden.

There is no season more pleasant than the fruit-bearing autumn. Spring has its pleasures, but no little of that pleasure is in the anticipation of future enjoyment. We at that season look forward to the luxuries of the summer crowned with flowers, and above all to the autumn with its profusion of fruit. Richly are we repaid now for the labor of the preceding months. 'Tis true that there is some work in the garden even in autumn. Much of the garden work now is in saving and storing the products of the year, and in preparing for the winter and the succeeding spring. Tender bulbs are now laid up carefully till spring. Hardy bulbs, as lilies of the many varieties, can be taken up to be replanted late in the season. They may be separated, and by this means an additional supply for our own ground and that of our friends is propagated. Such plants as die down to the ground in autumn should be protected with a covering of leaves from the woods, but care must be taken that those that retain their leaves be protected by boughs of pine or other evergreens and a light coat of grass over and between the boughs.

Digging and trenching, if necessary, are now in order Not only does throwing up the earth before the winter storms make it more friable and fertile; it also expedites the spring labor. Walks and borders should be put in good order. Leave nothing undone in the garden that may now be done. Autumn work is spring's labor in advance.

Of some varieties of flowers the strongest plants and most frely blooming are those grown from seed self-sown in autumn. Of those that sow their own seed to live during the winter, the Mignonette, Sweet Alyssum and Candytuft we have never known to fail. The seeds are hardy, and the first genial breath of spring starts them into life. We must not depend wholly on those self-sown plants; but sow the seed in autumn and spring, thus securing a succession of those beautious annuals. Seeds of biennials and perennials, if sown early enough, will flower the next summer. Hardy plants, as the Phlox, Hollyhocks and Pæonias, should be planted in autumn, that they may start early in spring. This is the season for planting bulbs, such as the Hyacinth, Narcissus, Tulip, Crocus, and Snowdrop. The soil must be dry and in good tilth. After planting cover the beds with leaves about six inches in depth.

There are but few vegetables to be sown in autumn in this climate. Onion seed or onion sets may be planted. Parsnip seed we have found to grow freely if sown in the fall, but we prefer sowing it early in spring. Lettuce seed sown now will do well for early spring use. Parsley self-sown grows and thrives. In this climate cabbage and cauliflower, if sown in autumn, are a very uncertain crop. Spinach for spring use must be sown in autumn. Asparagus and horseradish plants may be planted in well prepared beds. Asparagus beds should be covered with litter to act as a protection during the winter.

Raspberries and blackberries may be transplanted now. Cut back the old canes that have borne, and shorten the new ones. Prspare the new ground thoroughly. Take up the roots carefully with a large ball of earth and put into their places at once.

After planting soak the ground thoroughly and mulch it. Currant and gooseberry bushes may also be transplanted. They will start earlier into growth, blossom and bearing than if the transplanting is delayed till spring. There is no better season for planting evergreens than the present. Every farmer should plant a wind-break of them to protect his horse and garden. The only expense to be incurred is the labor, and that is light. Whether it is better to plant fruit trees in autumn or spring there is great difference of opinion. The main points are planting them as it should be done and giving careful attention afterwards. This is of more importance than the choice of spring or autumn. The great extension of the export of apples to Great Britain has given a stimulus to orchard planting.

A copy of the Garden, an English journal, gives the figures of the export from July 31, 1880, to May 14, 1881, from American ports: "The total during this period of nine and one-half months, aggregated 1,348,806 barrels, the bulk being from New York and Boston, the shipments from the former city reaching 599,200 barrels and the latter 510,300. Montreal is credited with 145,276 barrels; Portland, 39,900; Halifax, N. S., 24,250; Annapolis, 20,000 and Philadelphia, 9,872. Of the whole 972,929 barrels were shipped previous to January 1."

The Worry About the Sparrows.

The Editor of the Germantown Telegraph entertains a favorable opinion of the sparrows, that have fallen into bad repute with many. He tells his own experience of his feathered friends as follows:—

We have spoken of the bird so far as our knowledge extends from what we have seen of it upon our own premises, where it has been for years in considerable numbers. We never denied that it would not eat grain in season, and certain vegetables in early spring; possibly it may eat certain fruits, but assuredly not currants or any of an acid description. While it destroys more insects than probably all other birds combined, it is not strictly speaking insectivorous in its habits; it may rather be called omnivorous. They are truculent in the mating season among themselves, but they disturb other birds less than the wren. Now nearly all the sparrows have disappeared, doubtless they are feeding on seeds in the country The small amount of grain, however, they consume is a mere fly-bite to the myriads of insects they daily destroy.

A Simple Conservatory.

Wm. G. Strong gave a description at a Worcester Horticultural meeting of the way in which he altered a cottage home at Newton. When bought, it had a veranda running around it. The improvement consisted in enclosing the veranda on the south side with upright sashes, which changed the whole of that side of the house into a glass conservatory with an abundance of light. This light was regulated by means of shades. Heat was provided by an additional warm-air pipe from the furnace. A double roof eight and a half feet above the floor prevented the heat from rising to the roof of the veranda. The structure is removed in April and put up again in November, with small labor. On bright days the sun adds much to the warmth. The whole cost was only eighty dollars. In this conservatory are kept oranges, palms, acacias and other kindred plants, while camellias, azaleas, carnations, and the Dutch bulbs develop their blooms to perfection.

The Apiary.

Fertilization in Confinement.

The movable comb hive, the honey extractor and the comb foundation, are perhaps the greatest inventions that have been made in the bee-keeping line. It is almost due to these inventions that bee-keeping is the pleasant and profitable pursuit that it now is. There are, however, two more inventions, which, if brought to perfection, would place bee-keeping in the front rank of agricultural pursuits; and these are the fertilization of queens by selected drones in confinement, and the wintering of bees without loss.

Usually, when a queen is about six or seven days old, she flies from the hive and mates with the drone while upon the wing in the open air. Once mating with the drone fertilizes the queen for her whole lifetime. If all the bees within three miles of one's apiary were pure Italians, and none of them were poor or undesirable stock, fertilization in confinement would offer few or no advantages; but such a location as this is very difficult to obtain, hence bee-keepers have repeatedly tried to invent some method by which queens could be mated with selected drones, and thus the breeding of bees could be controlled and carried on with as much exactness as the breeding of stock. In fact, if fertilization in confinement had been made practicable. we should probably ere this have had bees with a "ped gree"

There is little doubt, however, that queens have been fertilized in confinement, but it requires so much apparatus, and especially so much time and patience on the part of the apiarist, that, to use a homely phrase, "it costs more than it comes to." The bee-keeper who has, perhaps, been the most successful is Prof. Hasbrouck of New-Jersey; the same man who tried, but failed, to induce the bees to make comb honey from glucose. Prof. Hasbrouck's plan is to remove the honey board from a strong colony, and place small cages, having coarse wire cloth bottoms and glass tops, upon the top of the brood frames of the strong colony. Into each of these cages he puts a queen cell that is nearly ready to hatch. When the queens hatch out he supplies them, upon wire cloth shelves, with a little honey in the comb. The pieces of honey are nicely cleaned all of superfluous honey by other bees before being placed in the cages, otherwise the young queens would become daubed with it. As soon as one of the queens is old enough to become fertilized, about one o'clock, on a fine day, he takes a box about six inches square and three inches deep, that is covered with a glass, and has an opening in the bottom which is covered with a slide, and places it at the entrance of the hive containing his choice drones. He opens the slide in the bottom so that the bees can pass into the box, and opens the glass cover a little so as to let the workers escape, but retain the drones. As soon as he has caught a drone that suits him he shuts the top, removes the glass cover from the cage whose queen he wishes to fertilize, so that she can come up into the fertilization box when she chooses, and then places the fertilization box containing the choice drone over the cage containing the young queen. The queen and drone fly about in the box close up to the glass, come together, and mate. After describing the apparatus used, and telling how tiresome it is watching to see the operation performed, Prof. Hasbrouck says:

"You fix things again and watch, with a repetition of former experiences, till all at once you notice in one of the boxes a queen and a drone flying at the same time. Now, again, you are all eagerness, but the drone persists in flying toward one corner, till he is tired, and settles. The queen continues flying a while longer, and then she settles, just as the drone is ready to rise again. So the thing goes on, till you begin to think that it was all a matter of chance before, and you do not believe it would happen again in a month, when all at once they are both up near the glass again. They turn towards each other an instant, and there is a great commotion. They go dashing against the top, and sides, and bottom of the box, around and around, you cannot see them—you can only hear till suddenly the drone lies dead, and the queen is running uneasily around, and the thing is accomplished."

Prof. H. says that the queens are very difficult to introduce; that in half an hour after they have been fertilized they may be allowed to run into the entrance of any queenless hive with perfect safety, but if they are kept beyond this time it is almost impossible to introduce them. Although fertilization in confinement is a complicated, tedious and uncertain process, what might be termed "controlled" fertilization is not so difficult, as it consists simply in closing the entrance of a nucleus in which is a young queen nearly old enough to fly, and keeping it closed two or three days; then opening it late in the afternoon, after the drones have taken their usual midday flight. The hive containing the choice drones should also be kept closed upon the same day that the young queen is to be released, until the nucleus containing her is opened. By pouring a little warm honey down among the bees in the nucleus containing the queen, and in the hive containing the drones, the bees, drones and queen will be induced to fly; and as there are no other drones flying at this time of the day, the young queen will be certain to mate with a choice drone.—[W. Z. H., in Country Gentleman.

Honey that has soured in the comb should be extracted, and after thinning with water, converted into vinegar—as no kind of vinegar is superior to that made of honey. The comb may be used again, if the honey is thoroughly extracted and may well be saved, as it is of no little value to the apiarist to have empty combs to add to nuclei in building up new colonies, or to put into new hives before hiving new swarms. If but little sour, the honey might be restored in quality by scalding, but it is very doubtful.

Miscellaneous.

New-Laid Eggs in Winter Time.

Now is the time to provide for the luxury of new-laid eggs next winter. If you would keep poultry at a profit you must save May chickens to lay eggs when they sell at a high price. A Brahma hen of my acquaintance, hatched in May, laid eighty eggs last winter in a hundred days, commencing October 16 A lot of pullets hatched May-day last year began laying October 15. Pullets will lay at six months old, or less, if well fed. It cannot be too widely known that winter laying can be only secured by keeping young hens.

The next point of importance is to allot comfortable quarters to your hens. The hen is exceedingly susceptible to the mischief of overcrowding. She likes a clean and well-ventilated apartment—not too hot, not too cold, and free from draughts of cold air. An excellent house for forty hens and four cocks measures inside 22 by 14 feet, by 8 feet high. The word "clean" must be taken in a special sense. Dirt, according to Lord Palmerston's definition, is "matter in the wrong place." Dry ashes, or sweet, wholesome lime, gravel, lumps of chalk, and old oyster shells would look dirty in a drawing-room, but they are appropriate in a fowl-house, where a "dust bath" is an institution as closely connected with cleanliness as a water bath is elsewhere. "Dirt" in a fowl-house means foul matter which may have been a long time accumulating, and which not only occasions an unwholesome stench, but forms the harbour of germs which may develop fatal diseases. The house, therefore, should be regularly swept, and then strewn with ashes, sand, chopped straw, burnt earth, or common mould sun-dried and stored for the purpose. There is no deodoriser so good and so well adapted for absorbing and neutralising any kind of foul matter as dry earth.

There should be in all poultry establishments a box or other store of dry earth, which should be collected in autumn at the time when the clods are baked by hot sun. It will prove invaluable for absorbing foul matter and rendering it inodorous and inocuous. And I may say of this, as of ashes or any other substance which may be employed for the dust bath or for scattering over the floor of the poultry house, that it should be collected when dry, or dried by artificial means.

The breed of fowl and the kind of food come next in order. The largest eggs are those of the Spanish and Houdan fowl, and they are alike—large, white, strong-shelled, and of excellent flavour. The latter are short-legged, plump, fine, and large fowls, as good for the table as for eggs, and the chickens grow rapidly. It is, perhaps, a matter of fancy to some extent, but most persons prefer eggs of several sizes, neither all large nor all small. The layers of large egg are not such good layers as some of the smaller sorts, such as the Leghorns, which are great layers of medium-sized eggs—the greatest of all layers, in fact, besides being particularly docile and easy to manage; their yellow skin is against them for the table.

As a rule, small breeds lay best. The best layers among the large breeds are the Brahmas. A cross between Brahmas and Leghorns makes a useful bird. The lively little Leghorn is essentially an egg-producing bird. It is small for the table, and its yellow legs are not in accordance with our rules of taste—or fancy, whichever it may be.

Plymouth Rocks are another sort excellent for laying, and strongly to be recommended as winter-layers, provided young birds are saved for that purpose.

The first cross between several sorts that can be named proves useful—as much so for egg-producing as the pure birds, and more so for table purposes when they are killed for that purpose, as winter layers should be, in their second autumn. It is a good plan to keep several sorts of pure hens in separate runs, so as always to have the materials for producing a useful cross. Some Cochins, Brahmas, and Plymouth Rocks, for example, may be kept to themselves, and capital crosses can be derived from them by using a Plymouth Rock cock, with hens of the other two breeds, or *vice-versa*. It is not at all desirable to go beyond the first cross, and, by promiscuous intercourse, to breed "mongrels."

Having selected your breed, the next point is the feeding. Egg production has been described as hard work for hens, especially when they are great layers "An egg," says an excellent authority, "is a potential chicken;" therefore it must contain all the elements of a chicken; its production must be a drain upon the system which a large supply of food can only sustain. The hatching process adds nothing to the contents of the egg, but only develops the chick from the substance already there. Thus there must be in every egg the material for bones, flesh, blood, brain, nerves, feathers. Eggs, like milk, are perfect as food, and being so their production must be attended with the consumption of a large amount of food, which will, in fact, be proportionate to the number and weight of the eggs produced. In considering the sort of food proper to be given, it is obvious that if one sort of grain only be given, and that of a fattening kind—maize, for example—the hens cannot eat enough of it to supply the materials which her daily egg, or egg every other day, will require. And, in point of fact, hens fed exclusively on maize will fatten and grow lazy, and will cease to lay. This is a hint for others besides poultry feeders. I have known horses fatten on maize, and those who have eaten the oily and abominable bacon from the maize districts of America, have "enjoyed" a convincing proof of the quality of maize as a feeding article when used alone.

The diet must be varied Hens are omnivorous. When allowed their liberty at the open period of the year, they find for themselves the variety of food that suits them—grubs, slugs, worms, seeds, corn, grass, and greens of all kinds, and oyster shells, or old mortar for strengthening the shells of their eggs. There is hardly anything they will not eat when ranging at will, and the safest and best way of feeding them in confinement is to imitate Nature, and supply them with the various substances which they require in the production of eggs. The outdoor food should be imitated indoors by using the cheapest articles that come to hand and that supply the same constituents—boiled greens and vegetables, offal of all sorts, and animal food from the house, or, if your numbers are very large, from the chandlers' and butchers' shops, and even from the "knackers;" but this kind of feeding on animal substance must be very moderately restored to. A mixture of maize, wheat, and oats may be given at daybreak and repeated at noon and night. The vegetables and odd bits may be given between these meals. There should be pure water at hand, and sour milk with a little bran mixed in it is good wholesome meat and drink. A little cayenne pepper in very cold weather has been recommended, but I rely on good sound feeding, without finding the necessity of such condiments. Plenty of corn and a little meat are the only rules for feeding which it is desirable to lay down. Hens are great eaters, and they must be fed without stint—not entirely, however, on corn of the more costly kinds, but partly on coarser food of a cheaper kind.

It is a good rule in feeding that a hungry hen will not be a laying hen. The same may be said of a fat hen. The food must be given regularly. Care should be taken to prevent it from being frozen, and I should have stated that the vegetables are best given hot, and that the mixed corn in winter should be scalded, with the addition of a little bran or pollard, and given warm. It should not be too wet—"sloppy." I have now endeavoured to mix details and general principles together in due proportion, so that by reasonable care in their digestion the reader may obtain abundance of new-laid eggs next winter.—[Sussex Poultry-keeper, in Agricultural Gazette.

Food of Dairy Cows.

Rich old grass is the most natural and best of all cattle foods, for producing milk of good quality. It is a grave mistake, practiced by many intelligent farmers, to keep cows on poor, bare pasture, without any assistance in the way of house feeding. Many seem to imagine that land which has been tilled for years, without recuperation, until it has become useless for grain growing, is quite good enough for pastural purposes, and therefore stint their cows of a proper quantity of nourishment. Nothing could be more short-sighted or unprofitable. It requires, in the first place, a large proportion of food to keep the animal in a strong healthy condition, and it is the surplus assimilated after making good the natural wastes, that goes to increase the animal, or for the production of milk. An animal of sound constitution, healthy digestion, and well developed lacteal organs, will prove a good milker.

Those who wish proper returns from these cows should see that they are properly supplied with healthy food and plenty of good, pure water. The quality of milk varies with the different breeds of cattle, their age, the food eaten, and at different periods of the year. The milk of old cows is much thinner than young ones of the same breed. It is astonishing the effect rich pasture or rich food has upon the quality as well as the quantity of the milk. Average milk contains, in 100 parts: Water. 87.00; albuminoids, 4 30; fats, 3 80; sugar, 4.28; and ash, 0.62. Normal milk, then, contains about 13 pet cent. of solid matter, is made of nearly equal parts of albuminoids, fats, and sugar, with fully one-half per cent. of ash or mineral water, consisting chiefly of phosphate of lime and common salt.

Milk is, therefore, unusually rich in nitrogenous compounds and fat, and foods rich in these constituents are required for dairy cows. Animals grazed in poor, dry pastures, in which the albuminoid are deficient and the woody fibre is in excess, will well repay an outlay for artificial food, such as bran mash, or nourishing meal of any kind. —[American Dairyman.

Founder in Horses.

Founder, a disease that is far too common in horses, is caused most frequently by driving or working the animal till it is overheated and more or less exhausted, and then allowing him to cool off suddenly without rubbing dry. A horse is driven hard for several miles, and then hitched to a post in the open air, in cold weather and perhaps forgotten by the driver, who may be telling stories or smoking a cigar by a warm fire. The next morning if not sooner, it is noticed that the animal has not eaten well, and can scarcely move from the stall. The lameness may be chiefly in one limb, or in more than one.

The first thing to do is to place the horse's feet in tubs of warm water, then blanket heavily, and get the animal thoroughly warm all over. The lameness is caused by a stagnation of the blood in the feet, caused by being cooled too rapidly after exhausting labor. The warm water thins the blood, extends and softens the blood vessels, and favors increased circulation. In very bad cases, bleeding in the foot may be necessary, though ordinarily it may be dispensed with.

Knowing the cause of founder, it will be seen that it is much easier to prevent than to cure this disease after it becomes established. In the first place, avoid very severe driving and over exhaustion, but if abuse of this kind is unavoidable, see to it that the horse who has risked his life in the service of his master is not neglected at the end of his journey. Drive into a warm shed or barn, free from cold draughts, and rub vigorously till the animal is dried off. Give warm water to drink, and cover with warm blankets. In short, treat the horse just as you would treat yourself under like circumstances.

Cider for Bottling.

The juice of the apple as it comes from the press should be filtered through straw, then put into barrels, carried into the cellar and placed upon blocks or skids with the bungs up. Next remove the bungs, filling the barrels full with pure apple juice. Fermentation will soon take place, and any impure matter or pomace will work out at the bung hole. As this works out add more apple juice to keep the barrel continually full, otherwise the impurities in place of working out of the top of the barrel will rise against the top of the barrel and remain there. In order that this be effectually done, it must be looked after every day, and all feculent and frothy matter removed. When effervescence ceases and no more matter arises the bungs may be driven in tight. In a few days provide clean barrels, into the bung holes of which insert a strip of clean cotton cloth about an inch and a half wide and about ten inches long, six inches of which has been dipped in melted roll brimstone, set on fire, driving up the bungs of the empty barrels tight, leaving the end of the cloth on which there is no brimstone out of the hole, so that the bung will hold it tight. Next remove the bung from the empty barrel and draw off the cider from the full barrel into it, being careful not to allow any sediment to come off. Finally, bung up this barrel, letting it remain undisturbed a few weeks, when the cider may be bottled at leisure. There are numerous methods of adding sugar, isinglass and other substances to facilitate the preparation of cider for bottling, but the natural process, as above described, answers a good purpose.

How to Make Good Cider and to Keep It.

In localities where the apple crop is abundant the preparation of cider for market is a profitable industry when intelligently undertaken, and there are few beverages more palatable and less harmful than cider when properly prepared. Unfortunately, there are few farmers who really know how to make good cider, or how to care for and keep it when made.

In the first place, apples not perfectly sound and well ripened are not fit for making cider. The russet is one of the best of apples for this purpose, but other and more commonly available varieties need not be slighted.

To prevent bruising, the fruit intended for the cider press should always be hand-picked. After sweating, each apple should be wiped dry, examined, and any damaged or decayed fruit thrown out and used for making vinegar cider.

In the grinding or pulping operation the seed is often crushed, and is apt to taint the juice, so that despite the loss and extra time required it is always better to core the apples before grinding them, as the cider will not only taste and look better, but keep better. A cheap and handy coring machine is shown in Fig. 1. In this the coring tube, which may be of tin (free from iron rust), projects through a common bench or table, and is surrounded by an ordinary furniture spring, P, which supports a piece of wood, A. This has a hole in the centre of it, over and partly into which the apple is seated. The lever, D, on which the piece of wood, B, similar to A, but having an aperture only large enough to admit the coring tube, is loosely hung by side pins, is held in position by the spring, S. The operation of the machine will be readily understood by referring to Fig. 2, in which it is shown in section.

All iron work about the mill or press (rings, rivets, etc.) should be tinned or coated with good asphaltum varnish, as the color and sometimes the taste of the cider is apt to be affected by contact with the rusty metal.

In pressing the pomace many of the best cider makers prefer to use hair cloth in place of straw between the layers, as it is more cleanly and does not effect the taste of or add anything to the expressed juice.

As the cider runs through the press it should be filtered through a hair sieve into a clean wooden vessel capable of holding as much juice as can be extracted in one day.

Under favorable conditions the fine pomace will rise to the surface in about twenty-four hours—sometimes less—and in a short time grow very thick. Then it should be watched, and when white bubbles begin to appear at the surface the liquid should be drawn off slowly from a faucet placed about three inches from the bottom of the tank, so as not to disturb the lees.

The liquid drawn off should be received in clean, sweet casks, and must be watched. As soon as white bubbles of gas appear at the bunghole it must be drawn off (racked) into clean casks as before, and this racking repeated as often as necessary until the first fermentation is completely at an end. Then the casks should be filled up with cider in every respect like that already contained in it and bunged up tight. Many cidermakers add a gobletful of pure olive oil to the cider before finally putting in the bung and storing.

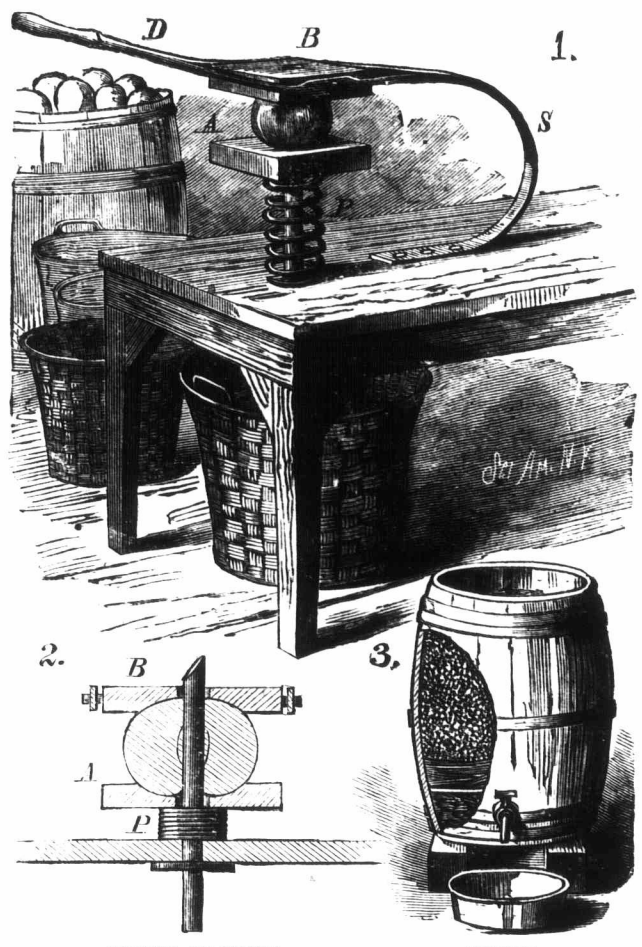
If it is desired to keep cider perfectly sweet—and this is rarely the case—it should be filtered on coming from the press, and then sulphured, by the addition of about one quarter ounce of calcium sulphite (sulphite of lime) per gallon of cider, and should be kept in small tight full barrels. The addition of a little sugar—say one quarter of a pound per gallon—improves the keeping qualities of tart cider.

An easily constructed cider filter is shown in Fig. 3, and consists in a barrel provided with a tap near the bottom. The lower part is filled with dry wood chips covered with a piece of flannel. Over this a layer of clean rye straw is packed down, and then the barrel is nearly filled with clean quartz sand, not too fine.

When the first fermentation of cider has been checked and the liquid barreled it should be allowed to stand until it acquires the proper flavor.

Much of the excellency of cider depends upon the temperature at which the fermentation is conducted. The casks containing the juice should be kept in a cellar, if possible, where the temperature does not exceed 50° Fah. When left exposed to the air, or kept in a warm place, much of the sugar is converted into vinegar and the liquor becomes hard and rough. On the contrary, when the fermentation is conducted at a low temperature nearly the whole of the sugar is converted into alcohol and remains in the liquid instead of undergoing acetification. The change from alcohol to vinegar (acetous fermentation) goes on most rapidly at a temperature of about 95° Fah., and at a lower temperature the action becomes slower, until at 46° Fah. no such change takes place. Independently of the difference in quality of fruit used the respect of temperature is one of the chief causes of the superiority of the cider made by one person over that made by another in the same neighborhood.

The more malic acid and less sugar present the less the tendency of acetous fermentation; hence it often happens that tart apples produce the best cider. But cider made from such apples can never equal in quality that prepared at a low temperature from fruit rich in sugar, which, if properly cared for, will keep good twenty years.



CORING MACHINE. FILTER.

When the first fermentation has subsided and the liquor has developed the desired flavor in storage it is drawn off into other barrels which have been thoroughly cleansed and sulphured, either by burning in the bunghole a clean rag dipped in sulphur, or what is better, by thoroughly rinsing the inside with a solution of bisulphite of calcium prepared by dissolving about a quarter pound of the sulphite in a gallon of water.

The isinglass—six ounces or more (in solution) to the barrel—should be stirred in as soon as transferred, and then a sufficient quantity of preserving powder of bisulphite of lime (not sulphate or sulphide), previously dissolved in a little of the cider, to entirely check fermentation. The quantity of this substance required rarely exceeds a quarter of an ounce to the gallon of cider. A large excess must be avoided, as it is apt to injuriously affect the taste.

Some makers sweeten their cider by additions, before fining, of sugar or glucose, the quantity of the former varying from three-quarters of a pound to one and a half pounds, while as a substitute about three times this quantity of glucose is required. Sweetened cider, when properly cared for, develops by aging a flavor and sparkle resembling some champagnes. Such ciders are best bottled when fined.

The following are the methods by which some of the beverages found in the market under the name of "champagne cider," are made:

1. Cider (pure apple)..... 3 barrels.
   Glucose sirup (A)..... 4 gallons.
   Wine spirit..... 4 gallons.

The glucose is added to the cider, and after twelve days storage in a cool place the liquid is clarified with one-half gallon of fresh skimmed milk and eight ounces of dissolved isinglass. The spirit is then added and the liquor bottled on the fourth day afterward.

2. Pale vinous cider..... 1 hogshead.
   Wine spirit..... 3 gallons.
   Glucose, about..... 30 pounds.

The liquid is stored in casks in a cool place for about one month, when it is fined down with two quarts of skimmed milk and bottled.

Much of this and similar preparations are doubtless sold for genuine champagne.

3. Fine apple cider..... 20 gallons.
   Wine spirit..... 1 gallon.
   Sugar..... 6 pounds.

Fine with one gallon of skimmed milk after two weeks' storage in wood, and bottle.

Cherry trees are very much subject to disease, which appears in the bark, and is known as black knot. The bark of the trunk and limbs, especially the latter, swells and bursts, becomes black, and oozes a gummy substance. The cause is probably an exuberance of sap, which the tree, from weakness, cannot assimilate or dispose of, and it bursts the bark and escapes. The gum provides a suitable place in which fungoid germs can lodge and germinate, and in a short time the wound is filled with fungus growth, which disorganizes the tissue and spreads very rapidly. The way to treat this disease is to cut out all the diseased branches and pare away cautiously the knotty and decayed bark where nothing else can be done, and to invigorate the tree by spreading a peck of lime around it.

The greatest pest to house plants is the so-called ground aphis, a small blue-black fly belonging to the class of insects known as plant lice. This is a winged species a little larger than the green fly, which injures the leaves and it produces small white grubs, which suck the sap from the roots. Roses are especially injured by it, and so also are geraniums and fuchsias. The remedy is to apply strong tobacco-water to the roots of the plants. This will also destroy the green fly and its wingless progeny which injure the leaves.

It is impossible to lay down exact rules for pruning. The best rule that can be given is, first, learn what you want to do; then do it in the best common-sense way you can; if you make a mistake once, learn from that, and don't repeat it; in time you will know how to prune a tree as well as any person could.

One venture in lard cheese to England, sent there as honest goods, did nst turn out well, and ought to serve as a warning to all concerned. When the weather came on warm the oil exuding from them was found by simple sense of swell to be nothing but "hog-fat grease of a low origin," and the price dropped at once from 10 cents a pound to 2½.—[N. Y. Tribune.

Purslane is a weed which everyone is desirous to get rid of, and at the same time it is one of the most nutritive plants raised, either on a farm or in a garden. When once started it is a most rapid grower, crowding out everything else, and it is most prolific of seeds; few plants, however are so rich in gelatine. It is excellent feed for swine.

Pendleton, in his 'Scientific Agriculture,' gives the following directions for making rich compost: A layer of stable manure six inches thick, with a good layer of ground phosphate (or ground bone) over it; then a layer of muck three inches thick, or a mixture of ditch scrapings, poultry house scrapings, leached ashes, old mortar, leaf mold, sods or other waste matter; then a layer of stable manure six inches thick.

The Family Circle.

"Home, Sweet Home."

My Sister Margerie.

"Ten pounds," she said, "Oh, Jean, what fun it all is!"

I could not echo her words; I was sick at heart and uneasy—the more so that on our homeward way Philip Hilliard, walking swiftly, had half stopped, looked keenly into my face, and then hurried on. What could he think of us out at that hour alone? I had not Margerie's high spirits to make a joke of the whole thing; I was more inclined to cry.

The dresses were bought next day, and for a week we sat diligently in our rooms after tea till twelve at night, when uncle Robert thought we were all asleep, stitching away, with yards of tulle around us, making puffings and quillings and all the wonderous accessories of a ball-dress—and very pretty they looked when at last our work was finished

"I wish you were not going in this underhand way," I sighed.

Margerie's proud cheeks flushed. Blanche's lips quivered—the ready tear rose in her eyes.

"Well, well," I said trying to mend matters, "it cannot be helped, and it is uncle Robert's own fault."

* * * * * *

It was the night of the ball. All day we had been in a state of suppressed tremulous excitement, fearful that uncle Robert might suspect something, and put a stop to it all at the last moment; but all went well and a little earlier than usual we went up stairs as if to bed. Cinderella herself was not dressed more quickly than were my two sisters on that night. In ten minutes they were ready, trembling with excitement Margerie looked very proud, and beautiful in her cloudy white robes with a simple piece of black velvet fastened by a little pearl broach round her slender throat; her hair was brushed off her forehead, and she had one white water-lily in it. Standing, her head thrown back proudly, she was smiling encourageingly at Blanche, who was pale as the lily in her hair, and seemed terrified at the boldness of the enterprise.

"Courage Blanche!" said Margerie. "Think of Charlie!"

The name brought the color to Blanche's cheeks. She looked very fragile. Margerie and I exchanged glances.

"Come Blanche, here are your fan and gloves—we must not keep Mrs. Crofton waiting."

Margerie drew back the curtain as she spoke—we had left the window open—and she then uttered a cry of surprise. On the window-sill was a lovely bouquet of hothouse flowers. Margerie took it up—a card was hanging from the boquet.

"'Miss Margerie Chetwood'—Jean it is for me!" she exclaimed, turning crimson with surprise. "Who can have sent it?"

We examined the flowers carefully; but they afforded no clue.

"Shall I take them?" inquired Margerie, doubtfully.

"Of course," decided Blanche, laughing excitedly. "Perhaps uncle Robert put them there, Margerie."

"Hush—he will hear us. Come."

Silently they stepped out of the window, decended the ladder, and flitted across the garden on tiptoe. At the gate Margerie turned and waved her handkerchief—a signal that all was right—and I turned back into the room, and went to bed to sleep away the hours, while Margerie and Blanche were dancing at the ball.

The grey dawn was creeping over the sky, when I heard light footsteps on the gravel under the window. I felt myself blushing in the dark at the deceitfulness of the whole thing. How little uncle Robert knew we were disobeying him! Very quietly Margerie and Blanche came in at the window.

"Are you asleep, Jean?" whispered Margerie, groping about for the matches. "We have had such an evening—it was glorious!"

By the candle-light Blanche looked perfectly white, with dark circles round her eyes, which were unnaturally bright.

"You are over-tired, Blanche," I said. "Get to bed quickly."

Blanche threw herself on the bed with a burst of weeping.

"Charlie is coming to-morrow, said Margerie," "to make a last appeal to uncle Robert Don't cry, Blanche; it will all come right."

Blanche sat up and pushed her fair hair from off her forehead.

"It will never come right, Margerie—never, never! I said good bye to him to-night for ever."

"Nonsense," rebuked Margerie, shortly. "Jean, guess whom I danced all night with."

"How can I tell?"

"Sir Jasper Deleware. Oh, Jean, he is so nice—and he turned out to be that tall gentleman who frightened you in the jeweller's that night."

Sir Jasper Deleware! Then it was he who had overheard our conversation in Mrs Crofton's drawing-room! I made a shrewd guess.

"Perhaps he sent the bouquet, Margerie."

"Perhaps he did. Oh won't uncle Robert be furious when he hears that we went to the ball?"

"You won't tell him?"

"Yes, I must, the first thing after breakfast, before Charlie Dale comes. Don't look so scared, Jean; I mean to take all the blame on myself."

Blanche was slowly undressing, with such a piteous woe-begone face that tears filled my eyes. And till morning I could hear her sobbing and moaning in her sleep.

What passed next morning between uncle Robert and Margerie I never knew, but when she came out of the study there were no tears in the proud passionate eyes, but her hands were clenched and her face wore a hard, defiant expression that was not good to see.

"Charley Dale may spare himself the trouble of walking up from the barracks. There is no hope for him. That man is as hard as flint and as obstinate as a mule," she exclaimed.

"Heaven help poor little Blanche!" I ejaculated.

Blanche made no sign—only when Charlie's knock rang hrough the house she shivered; and when, ten minutes later we heard his step across the hall, and the door shut, her poor sad face turned very white. I put my arms around her, but she pushed me gently away.

"Please, Jean, let me go. I would rather be alone."

Slowly she left the room, and we saw her no more till, pale and silent, she joined us at tea that evening. Uncle Robert looked keenly at her, but said nothing—he only pressed his lips more firmly together. Perhaps the white face conveyed a mute reproach, for after tea he said to her—

"You don't look your best, Blanche; but a few weeks of sea-air will set you up."

Blanche looked up quickly.

"Please, no, uncle Robert. I would rather stay here—I would indeed!"

* * * * * *

Charlie's regiment was gone, and another had taken its place. Uncle Robert had carried off Blanche, in spite of her remonstrances, for a few weeks to Torquay. thus depriving her of a last interview with Charlie Dale, and she came back looking paler and sadder than when she left.

We saw a good deal of Sir Jasper Deleware in those days and he was always a welcome and an honered guest in uncle Robert's house. But all Sir Jaspers attentions were for Margerie, and uncle Robert rejoiced to see the Baronet's eyes always wondering to the fair face of his niece.

Margerie, looking at pale, wan Blanche, grew reckless.

"You ought to feel honored, Sir Jasper," she said one day. "You are the only man that uncle Robert has not turned out out of the house We are not even allowed the visits of our spiritual adviser, Mr. Hilliard."

Uncle Robert's dark face grew dusky red; but Margerie did not care, and laughed a gay, careless laugh, turning her bright mocking face on Sir Jasper.

He changed the conversation by asking if we would like to see the picture gallery at Deleware Castle. "Will you come?" he asked, addressing us all, but looking to Margerie for the answer; and his face lit up when she promised.

Deleware Castle was a fine old place and the warm sun was shining over all as we wandered through it on the next afternoon, admiring its many beauties.

"It is lovely!" cried Margerie rapturously. "Sir Jasper you ought to be happy with such a possession."

He shrugged his shoulders.

"Perhaps so, but we do not always feel as we ought."

"Then you are not happy here?" lifting her bright eyes to his.

"Deleware Castle is lonely," he said. "I hate living here by myself."

"Why don't you marry?" inquired uncle Robert, abruptly.

"Because I have never met anyone I would care to see mistress of Deleware Castle; and perhaps those whom I have thought of might not care to accept the post."

"In plain English, you like your freedom too well!" And uncle Robert laughed his own laugh, which had no laughter in it.

We wended our way through the beautiful grounds, and into the grand old house

"You must be tired now," said Sir Jasper. "Before we 'do' the pictures, we must have that most fashionable beverage, afternoon tea"

In a charming little room, the window of which opened on to the garden, a little table was laid with rare old china and silver.

Margerie smiled, and exclaimed like a child, "how pretty?" Sir Jasper looked at her with a well pleased smile—

"Will you do me the honor of presiding at the tea-table?" Margerie blushed, and complied.

The table was very prettily laid, and made beautiful by hothouse flowers and choice little dishes of crimson glass. What with fruit and flowers, it was a most agreeable meal, and we spent a very pleasant afternoon, then we walked through the long picture-gallery, inspecting all the Delewares long since mouldering in their graves; Sir Jasper. walking with Margerie, bending his stately head to her, talking about the pictures, and explaining what they were, uncle Robert walking up and down, his hands behind his back Blanche drew me aside, and said the only bitter thing I had ever heard her say—

"Jean, if Sir Jasper were anyone but Sir Jasper, would uncle Robert let him talk to Margerie as he is doing?"

I know the bitter thoughts that were in her heart, and could not blame her. Her blue eyes were full of pain and I knew she was thinking of Charlie Dale, who was far away, and whom perhaps she would never see again.

When we went away, Sir Jasper made us promise to come again. He escorted us down the avenue A groom rode past riding a bright chestnut.

"What a pretty creature!" cried Margerie.

"That is Coquette," said Sir Jasper. "She is very gentle; would you care to try her, Miss Margerie?"

"I," exclaimed Margerie, flushing with pleasure—"I have never mounted a horse in my life!"

"Let me teach you then. I will be very careful, Mr. Chetwood"—appealing to uncle Robert who gave his premission with alacrity.

"To-morrow, then," said Sir Jasper, holding Margerie's hand in his, "the first riding lesson shall begin."

"She must get a habit first," interposed uncle Robert.

"To be sure Thursday then. I am sure you will be an apt pupil," he observed, smiling with his dark eyes at Margerie's bright pleased face.

"I will do my best; thank you so much, Sir Jasper."

"No thanks at all; it is very kind of you to let me have the pleasure of teaching you."

From the first I saw how it would be. There was no chance of Sir Josper's being a rejected suitor, no danger of uncle Robert's showing him the door, as he had done before to two as good and as true gentlemen; but then they were not Baronets.

It was no surprise to me when one day Sir Jasper Deleware was closeted with uncle Robert for a long time, while Margerie sat with heightened color and hands which trembled so that she could not hold her work. Once or twice she glanced at Blanche, who was standing looking out of the window, pale and listless. How very thin she was getting! Poor little sorrowful Blanche!

Sir Jasper left the house, and half an hour later rode up again to the door, followed by Coquette saddled and bridled. Margerie was pale then as she stood in her habit, with a dreamy look in her beautiful star-like eyes. Slowly she went downstairs; Sir Jasper put her on her horse, and they rode off together. Blanche looked after them.

"Jean she will be mistress of Deleware Castle, and I—I shall be in my grave!" It was such a hopeless voice.

"Blanche! Blanche, my darling!"

I took her in my arms, and we wept together. What a bitter mockery the world seemed to be! Sir Jasper Deleware with his thousands, could woo and win our sister Margerie, and Blanche must break her heart and droop like a broken lily because she was never to see Charlie Dale again; and Philip Hillard must walk to and fro at his work and meet the woman who had learned to love him, yet never a word could be said to the poor empty heart that was yearning to hear his voice.

Margerie came home that evening with a strange look on her face; her eyes were very bright, and there was a crimson spot on either cheek She came up to where Blanche and I were and said suddenly—

"Sir Jasper Deleware has asked me to marry him."

We waited breathlessly for the next words.

"He asked me to-day," she went on; "and I have told him I will give him his answer to-morrow."

"Do you love him, Margerie?" asked Blanche in a low voice.

Margerie laughed a laugh that had no mirth in it.

"Love Sir Jasper? No; but I shall be mistress of Deleware Castle—and that means power."

Then she went away with the same strange look on her face, and we sat in the gloaming thinking.

* * * * * *

Margerie was along with uncle Robert for an hour next morning, and when she came out of the study I knew by her face that she had made up her mind to accept Sir Jasper Deleware.

In the afternoon he drove up to the door with his tandem, which was the nicest "turn-out" in the neighborhood. Sir Jasper prided himself on his horses; and certainly the beautiful bays which waited so impatiently might have excused any man's pride. Blanche and I watched them from the window, while Margerie was in the drawing-room with Sir Jasper.

After a time he came out looking very tall and handsome, and casting a glance at his horses, he mounted the dog-cart and drove quickly away.

I went up to Mrrgerie's room, and found her standing with flushed cheeks and bright eyes.

"Well?" I said inquiringly.—"I have accepted him," she announced.

I put my arms around her.

"Margerie I hope you will be very happy."

She put me gently back.

"I don't want any congratulations, Jean—it is to be; and as to happiness, I shall be quite as happy as Sir Jasper's wife as I should in any other conditions."

"But, Margerie, do you care for him?"

"No not in the sense you mean. I have no love for my future husband; I don't care for him in the way you do Philip Hillard or Blanche does Charlie but I like him better than any one else." Then suddenly she burst into wild and bitter weeping. "Oh Jean, Jean, if I have done wrong, remember always I have done it to save Blanche's life, and for your sake too, Jean."

"Oh, Margerie, what do you mean?" I cried.

"I mean," she said choking back her sobs, "that Sir Jasper loves me and I have no love to offer him, but I am going to be his wife because by that means I can make Blanche happy."

"How?" I asked, not understanding her.

"I told uncle Robert I would accept Sir Jasper on conditions that he would recall Charlie Dale. I had a hard fight with him, but he gave in at last. I may do something for you too"

She laughed then, and looked me in the face while I blushed crimson.

"Sir Jasper Deleware has many livings in his gift."

"Oh Margerie," I cried, weeping now, "will you go to Sir Jasper as his wife, vowing to love, honor, and obey when in reality you are using him as a stepping-stone for the advancement of your family? It is not right—it is wicked."

Margerie blushed scarlet, but lifted her eyes bravely to mine.

"I told Sir Jasper every word I am telling you, and let him choose then if he would have me."

"And what did he say?"

"He said he loved me too well to give me up. Jean, he is a good man, and with heaven's help I will be a true and faithful wife to him."

* * * * * *

Sir Jasper's wooing was carried on in a very princely fashion; on not a day did he come without presenting some offering to his bride-elect. Amongst other things he brought Margerie her own diamond reset. Her cheeks burned when she saw it, and Sir Jasper's eyes grew tender as he said softly—

"Do not let the recollection of that night pain you, for it was in the jeweller's shop, with this diamond in your hand, that I determined you and no other should be my wife."

He was very fond of her, and showed it in every word and action, and in little thoughtful deeds of kindness which made Margerie's eyes fill with tears. I heard her say to him one day—

"You have given me so much, and I have nothing to give in return."

And he bent his tall figure over her and whispered his answer soft and low—an answer that made her eyes flash up shyly to his for a second, and then drop with the unshed tears hanging to her eye-lashes.

He seemed very confident of winning her love. He came to me one day, and, when we were talking, said, half sadly—

"Has Margerie ever been in love?"

"No," I answered quickly, for I guessed what his thoughts were "She likes you better than anyone else."

"She does not love me, he acknowledged, "and is too honest to pretend a feeling she does not hold; but I will win her heart yet, if it is to be won."

"I know you will," I said, looking up into the kind, manly face and deep-blue eyes.

He had a little flower in his hand, one Margerie had given him, and he was regarding it half wistfully and half tenderly; and then he put it carefully away in the leaves of a pocket-book.

* * * * * *

Blanche was very happy. Charlie had obtained leave, and they were to be married on the same day as Margerie. The time went on, and at last the wedding-day arrived. My sisters weddings were like all weddings—half sad, half rejoicing a gleem of white satin and orange blossom. Margerie's voice, clear and low, could be heard saying, "I will;" Blanche's whispered vows were scarcely distinguishable. She looked very small and fairylike by the tall young soldier, who was casting proud, fond glances at his trembling little bride and then came the confused breakfast, with much speech-making an drinking of healths.

(To be continued.)

The Golden Wedding.

(FROM A FORTHCOMING VOLUME OF FARM BALLADS BY WILL CARLETON.)

Wake up, wife!—the black cloak of night begins to fade,
And far in the east the morning his kitchen fire has made;
And he is heating red-hot his stove of iron gray,
And stars are winking and blinking before the light o' day.

Mind you what I was doin', just fifty years agone?
Brushin' my Sunday raiment, an' puttin' my best looks on;
Clothin' myself in courage, so none my fright would see,
An' my coward heart within the while was pounding to get free.

Ten mile wood an' bramble, an' three mile field an' dew,
In cold smile of morning I walked to marry you;
No horse had I but my wishes—no pilot but a star;
But my boyish heart it fancied it heard you from afar.

So through the woods I hurried, an' through the grass an' dew,
An' little I thought o' tiring, the whole of my journey through,
Things ne'er before nor after do so a man rejoice,
As on the day he marries the woman of his choice.

And then our country wedding brimful o' grief an' glee,
With every one a-pettin' an' jokin' you an' me,
The good cheer went and came, wife, as it sometimes has done
When clouds have chased each other across the summer sun.

There was good old father, dressed up in weddin' shape,
With all the homespun finery that he could rake an' scrape;
And your dear hearted mother, the sunlight of whose smile
Shone through the showers of tear-drops that stormed the face the while;

Also your sister an' brother, who hardly seemed to know
How they could scare up courage to let their sister go;
An' cousins an' schoolhouse comrades, dressed up in meetin' trim,
With one of them a-sulkin' because it wasn't him.

An' there was the good old parson, his neck all dressed in white,
A bunch o' texts in his left eye, a hymn-book in his right,
An' the parson's virgin daughter, plain an' severly pure,
Who hoped we should be happy, but wasn't exactly sure;

And there was the victuals, seasoned with kind regards an' love,
And holly wreaths with breastpins of rubies up above,
An' there was my head a-wonderin' as how such things could be;
An' there was the world before us, an' there was you and me.

Wake up, wife! that gold bird, the sun, has come in sight,
And on the tree top perches to take his daily flight,
He is not old and feeble, an' he will sail away,
As he has done so often since fifty years to-day.

You know there's company coming—our daughters an' our sons:
There's John, and James, and Lucy, an' all their little ones,
And Jennie, she will be here, who in her grave doth lie,
Provided company ever can come from out the sky.

And Sam—I am not certain as he will come or not,
They say he is a black sheep, the wildest of the lot,
Before a son's dishonor a father's love stands dumb;
But still, somehow or other, I hope that Sam will come.

The tree bends down its branches to its children from above—
The son is lord of the father, and rules him with his love;
And he will e'er be longed for, though far they be apart,
For the drop of blood he carries, that came from the father's heart.

Wake you, wife! the loud sun has roused the sweet daylight,
And she has dressed herself up in red and yellow and white;
She has dressed herself for us, wife—for our weddin' day once more—
And my soul to-day is younger than ever it was before.

Good Nature.

Of all the virtues and graces, there is none, perhaps, that wears better, that is more comforting and comfortable to live alongside of, to have in the house with one, than good nature

Beauty is pleasant to look upon, but fades in a few brief years; and sometimes, even in its full flush and glow, loses its attractiveness, becomes distasteful, if we discover it to be but a mask covering unlovely traits of character. Energy and thrift and faculty are commendable qualities, and, if not combined with a too shrewish or domineering disposition, render their possessor a useful member of society, and a desirable companion on the journey of life. Talent and genius we admire; and cultivated manners are pleasant to meet with; but good-nature, that cheerful and sunny disposition that takes the world at its best—that gives smiles for frowns, and gentle words for harsh and bitter ones—that overlooks wrongs and forgets injuries—who shall give it its full meed of praise?

I have in mind's eye, as I write, a little woman who possesses this virtue in an eminent degree—not that idle good-nature that is good-natured because it is too sluggish and easy to take the world in any other fashion; but that good-nature that is made up from a naturally kind disposition, combined with a temper disciplined and under control; a judgment enlarged and heart rendered charitable in the school of life; and a mind that has learned through observation and experience how far better it is to pass lightly over the ills and misfortunes and even the wrongs that we bear, than to dwell upon, enlarge and make much of them.

Such a person is Mrs. M——. Nor is she one of those who, being good themselves, feel themselves called upon to thrust other people's failings and short comings in their faces. And yet quite unassuming as her goodness is, one cannot but be better in her presence; as the example is so lovely and bears such excellent fruit, to pattern after it comes as a natural and spontaneous desire.

People go into her house and come away saying, "What an amiable lady!" "What sweet and pleasant ways she has!"—though they generally add (it is so hard to give absolute and unstinted praise, even when it is due), "but then it is easy enough for *her* to be good; such pleasant surroundings; such lovely and good tempered children; such a devoted husband!"

Yes, the children are indeed pleasant-mannered and amiable. They never see mamma in the sulks, or with an ugly frown upon her face, or scolding the cook or quarrelling with papa. And what wonder—since they think mamma perfection itself—they should follow in her footsteps and take upon themselves her pretty, gentle ways? Place them under a different guardianship for a few years, and see how they will come out, and whether or no they possess more than ordinary goodness or sweetness of disposition!

Her husband indeed is devoted, and knows that he has a precious jewel in his wife; yet he is far from being perfection, after all; and like many another masculine, when he has an attack of dyspepsia, or business cares weigh upon him, he is a little irritable and unreasonable; or if plain words are to be used, a trifle, and sometimes more than a trifle, cross.

"In the first years of our married life," said Mrs. M. to me one day, "Henry used to be much more fretful and unreasonable than he is now; and I was young, sensitive and inexperienced, and would cry my eyes nearly out over every cross word he said to me. I found this didn't mend matters; and when the children began to come, I said to myself, 'what a miserable household I shall have, and how unfitted I shall be to train up my little ones into the happy and cheerful men and women I desire them to be, if I keep on like this!' And I made a resolution that I would wear a smile and take things in a cheerful way, let come what would; that let Henry say what he liked to me, I would not mind in the least; that I would take every cross or fault-finding word as if it were not meant—would turn it off as a jest, or at least let it pass lightly as on it worth worrying over; and I have held to my resolution ever since. My husband at first scarcely knew what to make of it; but he soon found I was not to be fretted, saddened, or put out; and as there was neither opposition to his irritableness nor fuel furnished it, it burned out the sooner; and I think he grew ashamed of his one-sided disagreeableness, for he seldom speaks now in any but an amiable way; and I flatter myself we are about as cheerful and happy a family, take us all in all, as is to be found."

How much better this, than to make much of every hurt and wrong; to brood over and dwell upon it till a mote becomes a mountain!

Try, my little friend's practice, weary wife and mother, to whom life seems all up-hill work, with little recompense of love or gratitude, and see if her plan of "not minding," taking things in a light and cheerful way, does not pour oil upon the troubled waters, and make the sometimes rough and hard-going wheels of domestic machinery run in more easy and comfortable grooves.

How to Preserve Failing Eye Sight.

The *Magazine of Pharmacy* gives the following rules for the treatment of the eyes for those who find their sight beginning to fail:

"Sit in such a position as will allow the light to fall obliquely over the shoulder upon the page or sewing. Do not use the eyes for such purposes by any artificial light. Avoid the special use of the eyes in the morning before breakfast. Rest them a half a minute while reading or sewing, or looking at small objects, and by looking at things at a distance, or up to the sky; relief is immediately felt by so doing.

"Never pick any collected matter from the eyelashes or corner of the eyes with the finger-nails; rather moisten it with the saliva and rub it away with the ball of the finger. Frequently pass the ball of the finger over the closed eyelids towards the nose; this carries off any excess of water into the nose itself by means of the little canal which leads into the nostril from each inner corner of the eye.

"Keep the feet always dry and warm, so as to draw any excess of blood from the other end of the body. Use eye glasses at first carried in the vest pocket attached to a guard, for they are instantly adjusted to the eye with very little trouble; whereas, if common spectacles are used, such a process is required to get them ready that to save trouble the eyes are often strained to answer a purpose.

"Wash the eyes abundantly every morning. If cold water is used, let it be flapped against the closed eyes with the fingers, not striking hard against the balls of the eyes. The moment the eyes feel tired, the very moment you are conscious of an effort to read or sew, lay aside the book or needle, and take a walk for an hour, or employ yourself in some active exercise not requiring the close use of the eyes."

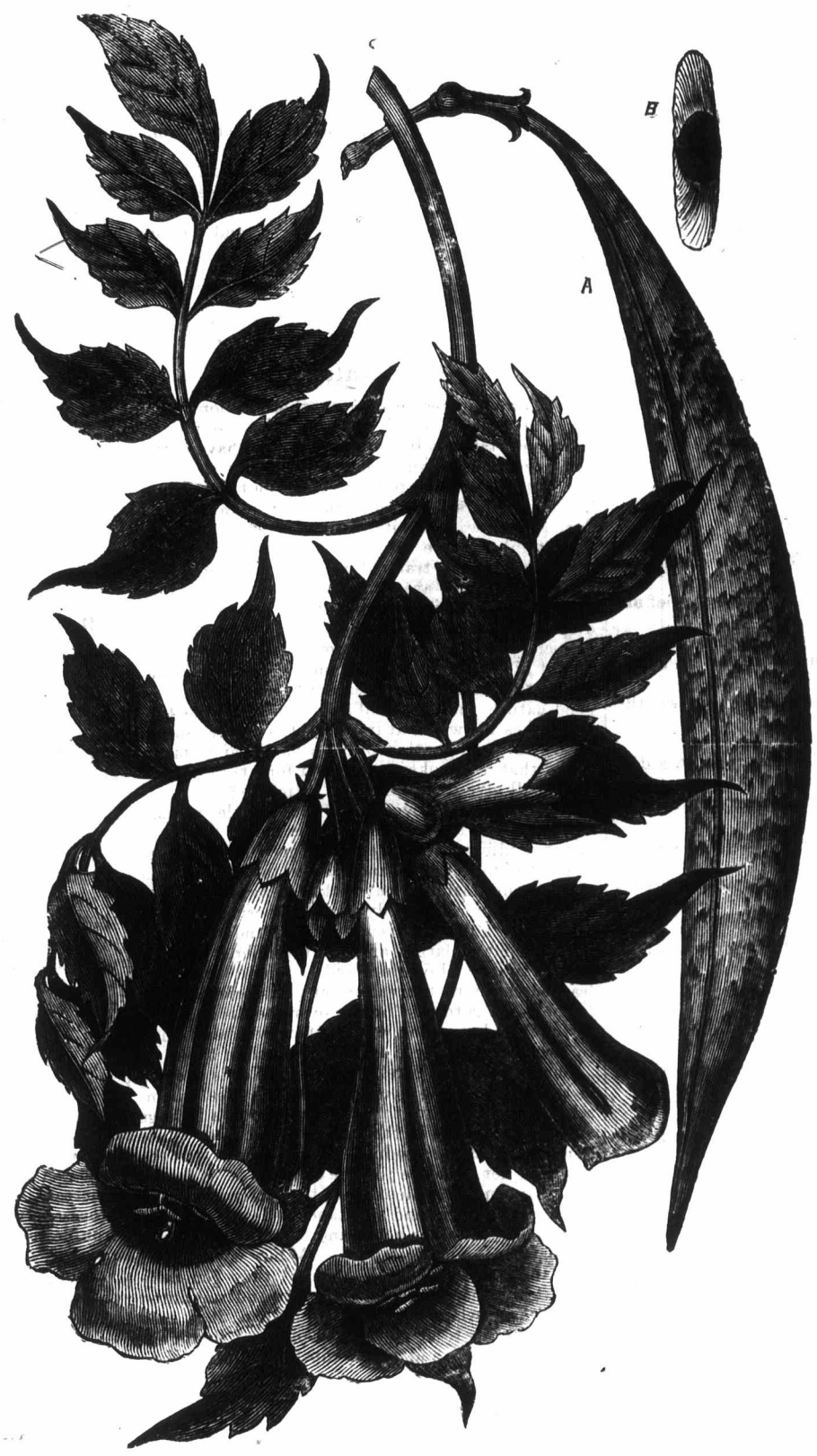
HINTS TO LOVERS OF FLOWERS. — A most beautiful and easily attained show of evergreens may be had by a very simple plan, which has been found to answer remarkably well on a small scale. If geranium branches, taken from luxuriant and healthy trees, be cut as for slips and immersed in soap-water, they will, after drooping for a few days, shed their leaves, put forth fresh ones, and continue in the finest vigor all the winter. By placing a number of bottles thus filled in a flower-basket, with moss to conceal the bottles, a show of evergreen is easily insured for the whole winter. All the different varieties of the plants being used, the various shapes and colors of the leaves blend into a beautiful effect. They require no fresh water.

Trumpet Flower.

Many of our readers will recognize in the illustration given herewith an old, favorite climbing plant commonly known as the trumpet flower or trumpet creeper. It is, however, none the less beautiful because old and very common; in fact such plants should be valued more highly on account of the many pleasant associations which usually cluster around every plant that has, for any considerable time, been an occupant of our premises, either in the garden or the grove.

It is a native of America. This particular species (*T. radicans*) climbs freely by means of small rootlets which issue from the stems, clinging to bark of trees or even rough rocks, old logs or stumps. It is well adapted for covering walls or arbors in the open border, being perfectly hardy in southern Ontario, and a rapid grower. The flowers are produced in clusters from the end of small branches, late in summer, and these are succeeded by long pods (A) as shown in the illustration, filled with small, thin, winged seeds (B). The flowers are large, tubular and a brilliant orange.

Another species of this plant (*T. grandiflora*) is nearly allied to *T. radicans*, but has larger flowers, of a deeper shade of orange. These two species are commonly known among us as begonias. Some of the green house species are objects of great beauty, the flowers large and showy, produced in panicles, and of various colors, red, blue, white or yellow. As they flower in summer they are not as generally grown as they should be. All the species are propagated from cuttings of the roots or suckers. They should be grown in rich loam, in a sunny position, or they will not flower well. This genus of hardy, deciduous and greenhouse evergreen climbing shrubs consists of upward of fifty species, mostly South American plants.



THE TRUMPET FLOWER.

What do Novels Teach?

It has been claimed that one of the chief novelists of the day, we think Mr. Trollope, who certainly has a right to be heard on the subject, says that novels teach people, and especially young people, how to talk, and have had a distinct influence in shaping the stream not a very brilliant one—of English conversation. Perhaps this is rather a strong statement, and it would be more true to say that English novels influence English conversation as the *Times* leads popular opinion, by dividing and echoing it—occasionally with a clever semblance of forestalling and originating. It is curious, by the way, when we come to think of it, and by no means complimentary to the novelists, that they, as we have just said, do so little to guide or help those who may have complications of life to go through very similar to the complications which form the subjects of modern romance. This is a question which writers of fiction would do well to ponder. Who has been helped through one of these difficulties by the example of the last study of life which even the most potent of contemporary magicians has set before him? Perhaps the reason is that a scarcely appreciable portion of humanity are those who are troubled by the special problems which the novelist prefers to investigate and fathom. For example there are curiously few bigamists in good society, yet bigamy is perhaps more popular than any other subject with some novelists. And few of us, after all, very few, make eccentric wills, which are still more largely used. As for the one grand problem of which all the novels are full, which is how to get ourselves beloved and married, that, it is proverbial, is a question in which nobody will take any advice or profit by any example. Here human nature always feels its situation unique and its circumstances unexampled. If there ever was a silly maiden like Lydia Languish in real life, demanding to be woed fantastically and mysteriously, to be run away with and flattered by clandestine vows, in imitation of her favorite heroine, we are very sure there never was any who learned prudence and patience from the most exemplary of fictitious women. No doubt it pleases the young couple who have to wait for each other through a lingering engagement to read of others in the same circumstances; but we doubt if man or woman ever got a hint for the speedier termination of their embarrassments through those of their contemporaries in fiction. It is by no means to be desired that novelists should give up this subject which is sacred to them, but in which nobody will ever be guided by any experience save their own; yet it would be well for them in other points to consider this deficiency. They are the recognized exponents of social life; it is their task to exhibit men and women in the midst of all its complications, and it is a reproach to them that they do nothing to help their fellow-creature who may have similar trials to go through.

Talk at Home.

Endeavor always to talk your best before your children. They hunger perpetually for new ideas. They will learn with pleasure from the lips of parents what they will deem it a drudgery to study in books; and even if they have the misfortune to be deprived of many educational advantages, they will grow up intelligent if they enjoy in childhood the privilege of listening daily to the conversation of intelligent people. We sometimes see parents, who are the life of every company they enter, dull, silent and uninteresting at home among their children. If they have not mental activity and mental stores sufficient for both, let them first use what they have for their own households. A silent home is a dull place for young people, a place from which they will escape if they can. How much useful information, on the other hand, is often given in pleasant conversation, and what unconscious but mental training in lively social argument. Cultivate to the uttermost the grace of conversation.

THAT VACANT SEAT.—One morning a week or two back a nice young man got into a car on the Dayton Shore Line Railroad, and saw to his delight the only vacant seat was by the side of a young lady acquaintance. He reached for that seat with joyous strides, and her eyes answered his delighted looks. But just as he got there an elderly party from the other end of the car waltzed up the aisle and dropped into the coveted seat. The young man approached more slowly, and accosted the young lady:—"How is your brother?" he asked. "Is he able to get out?" "Oh, yes," she said. "Will he be very badly marked?" he continued, and the old gentleman grew suddenly interested. "Oh, no," said the fair deceiver; "with the exception of a few small pits on his forehead, you would never know he had ever had it." "Were you not afraid of taking it?" the young man went on, while the old gentleman broke out in a cold perspiration. "Not at all," she replied, "I have been vaccinated, you know." The seat was vacated instantly, two young hearts beat as half-a dozen, and the prattle of "nice talk" strewed that part of the car, while a gray-haired old man scowled upon them from the hard accommodation of the wood-box.

An old lady who has several unmarried daughters feeds them on fish diet, because it is rich in phosphorus, and phosphorus is the essential thing in making matches.

Minnie May's Department.

My Dear Nieces,—

You will soon be returning to your studies after having spent, I hope, a very jolly vacation. You may not have all had the opportunity of a trip equal to mine, so I will give you a brief account of my doings. Having chosen, we believe, one of the finest routes in Canada and America; we leave London on the 14th July, stop at Guelph, drive through the city, take a peep at the Model Farm, take the cars for Toronto, remain over night, take the boat for Montreal at 2 p. m., and wake up in the morning just before entering the Lake of a Thousand Islands. This Lake has become such a favorite resort for wealthy families and tourists, that the magnificence of the buildings, the numerous neat houses erected on the small islands, the large number of small pleasure steamers, row and sail boats to be seen, make this sight indescribably pleasing. The day is spent listlessly sitting on the deck of the steamer, and looking at the beautiful scenery of this charming river, the St. Lawrence. The numerous rapids and cascades are run. The raging, dashing, foaming waters look fearfully grand. Should any mishap take place at any of these rapids, no small boat and no swimmer could be saved. The mighty, rushing, and the roughness of the water appear as if they would dash the boats to atoms, but she has safely gone over these rapids for over thirty years without accident, thus inspiring confidence. At Montreal we remain for about four days, visit all the important places, including the mountain. The magnificent view to be obtained from this Mount Royal Park well repays one for the journey. It is one of the grandest sights to be see in North America. City, river, islands, rapids, Victoria bridge, Vermont mountains, British steamers coming up the river and rafts going down.

We leave Montreal via the Occidental Railway for Ottawa. The parliament buildings are models of artistic beauty and grandeur, the spacious grounds; the beautiful "Lover's Walk," the grand library, the senate chamber and the tower are visited. From the tower the view is a grand one, surpassed only by that from Mount Royal. The immense lumber mills, the sight of the Chaudiere Falls, and the soaked and dripping Frenchmen running the rafts and logs through it with the water rushing over them is one well worth witnessing. but the life of the raftsmen is not to be envied. After remaining one day we take the boat and sail down the Ottawa river; what a fine river at the junction of the Ottawa and St. Lawrence! The width is nine miles. What a sea of flowing water!

From Montreal we proceeded to visit the Au Sable Chasm in Essex Co., New York State, and is three miles inland from Port Kent; this is a deep chasm averaging 175 ft. high, with water flowing now over shallow places, and again through deep fissures trends it way for about a mile and a half at short distances; there are chasms crossing the large ones and also caves; there is Jacob's well, a devil's side, a fairy glen and such things, but apart from all these the place is really grand. Towards the end of this marvellous chasm there is a flat bottomed boat moored. The guide takes his place at the stern, and steers the party over some rapids to the end. Many tourists visit this place during the summer; there is a large hotel convenient (Lake View House), and in addition to the wonders of the chasm the country is hilly, the air bracing and the view of the lake is grand. From Au Sable Chasm we take the stage to the boat, and proceed down Lake Champlain, it looking beautiful as usual. Far on the left the forest ridges of the Green Mountains are heaved against the sky, and on the right are the Adirondacks, haunts of amateu sportsmen and adventurous beauty with sketch book and pencil. But I am afraid I will tire you, so will conclude next month.

Minnie May.

Answers to Enquirers.

J. A. G.—How should striped stockings be washed to prevent the color from running? Ans.—When striped stockings are washed, and are ready to hang up to dry, they should be turned the inside out; in drying the color will only run on the wrong side, leaving the right side all right.

Harold.—We cannot tell you the length of the tail of a comet. It may be millions of miles. In olden times comets were supposed to have a baneful effect on the earth, but during late years they are properly supposed to have a salubrious and beneficial effect. The prayer "God save us from the Devil, the Turk and the Comet," was added to the Ave Maria in 1456 when Halley's comet appeared, just as the Turks had bec me masters of Constantinople and threatened an advance into Europe.

Myrtle, Mich.—At the wedding repast where there is but one groomsman and bridesmaid, what place should they occupy? that is, at the side of the bride or groom, or opposite? 2nd. Should a bride visit at a neighbor's house, before the lady calls on her after her marriage? What place at the table does the bride's friends, the groom's friends, the minister and wife, and assistant minister occupy? Ans.—The bridesmaid and groom usually sit opposite. The father of the groom accompanies the bride's mother, and sits next the bride; the mother of the bride sits next the groom and his father; there are no other special places, usually, but where the young couple take the centre of the table, the minister takes the head of the table. A bride is not supposed to make any calls until she has been called on, but one need not make this a cast-iron rule in the case of near neighbors and old friends, and where society customs are not generally observed.

Miriam G.—1st. At what age are girls considered old enough to drive out, or go about with gentlemen? 2nd. When a lady receives presents from a gentleman whom she does not wish to marry, should she return or keep them? Ans.—1st. In good society girls never go about with gentlemen, and without a chaperon, until engaged, or so old that no one will be likely to make remarks about them. Nevertheless, in America and Canada country places it is quite customary to do so; and when the young man is well known and approved by the girl's parents it may not be much amiss to go for an occasional drive, or walk, but even then it would be in better taste that two young girls should go for a drive or walk with one or two gentlemen. The fashion of chaperons belongs to the higher classes, the custom of "keeping company" to the lower. A backwoods young lady when asked the meaning of chaperon replied, "A chap that takes a girl to parties and out driving."

W. R. G.—How often have attempts been made on Queen Victoria's life, with such particulars as you can give in the space you can spare to the subject? Ans.—The first attempt on the life of the Queen was made in 1837. As the Queen and Prince Albert were riding in an open carriage up Constitution Hill, two shots were fired at them but neither took effect. The culprit was barman of a public house. He was tried and acquitted on the ground of insanity. On the 30th of May, 1843, a young man fired at the Queen as she was returning to Buckingham palace accompanied by Prince Albert. The assassin received the capital sentence, which on the 2nd of July was commuted into transportation for life. On the 3rd of July a deformed youth presented a pistol at Her Majesty, but was seized by a bystander and prevented from firing it. On June 28th, 1860, an ex-Lieutenant attacked the Queen with a cane. The last attempt was made eight or ten years ago by a young Irish boy, who presented a petition in one hand and a pistol with the other. He was also found to be insane.

A. O. I., Cole's Island, N. B. writes: About three years ago warts began to come out all over the fingers and back of both my hands; they are spreading yet. They are big, rough, and very disagreeable looking, some call them seed warts. I am greatly alarmed, as some of my fingers are covered closely by them. Is there any cure or remedy? I am 25 years of age and unmarried. Please answer in your paper, and greatly oblige a subscriber.

A. O. I. has stated his case very fully, and we are only sorry that we cannot suggest any certain remedy. There are many so called cures and charms, but there are none which have been so effectual in our own experience as the old fashioned caustic application. Wet the warts and rub them with caustic, which may be procured in small sticks. This will gradually eat away the wart, at the same time turning them black on the surface. By repeating this treatment occasionally, and paring them, the warts will usually disappear.

Recipes.

NEW CARROTS WITH CREAM.

Trim a quantity of the smallest new carrots that can be obtained and boil them in salted water; when done drain off the water. Melt one ounce of butter in a sauce pan, add to it a dessertspoonful of flour, pepper, salt, grated nutmeg, a pinch of powdered sugar and a little cream. Put in the carrots, simmer gently a few minutes and serve.

BRANDY PEACHES.

Choose large, firm, white cling-stone peaches. Pour over them boiling water; let them stand five minutes, then take them one by one and rub all the fuz off with a coarse crash towel, then stick them in a dozen places with a needle; put them in a glass jar, covering each layer of peaches with a layer of lump sugar, allowing a half pound of sugar to every pound of peaches; cover with white brandy. Cover tightly and keep for a month before using.

TOMATO SOUP.

Take a shin-bone, have it broken, and put in a soup-kettle with five quarts of cold water; allow it to boil steadily, and skim; in an hour put in two dozen good-sized tomatoes; do not skin them; boil until your soup is reduced to one-half; take a potato masher and crush the tomatoes; pass through a strainer; return to kettle, and remove beef before serving; season with salt and pepper. This is a plain country tomato soup.

PRESERVED QUINCES.

Weigh your quinces after washing them and cutting out any imperfections. Take a pint of water to every pound of fruit; let the quinces boil in this water until they can be easily pierced with a fork, then drop them in cold water; as soon as cool enough to handle peel carefully, cut in two, cut out the cores, put the skins and one fourth the seeds back in the water the quinces were boiled in, and let them boil rapidly for half an hour, then strain through a jelly bag. Take half a pint of this water to a pound of lump sugar, and a pound of fruit; let it all boil slowly together until the quinces are a bright pink, semi-transparent and perfectly tender; take each piece out carefully, put on a platter, and keep them in the sun while the syrup boils a quarter of an hour longer; pour the hot syrup over the quinces and let them stand uncovered till quite cold; put in jars, and over each one put a piece of letter-paper dipped in whisky; cork tightly and keep in a cool place.

G. G. W., Decatur, Tenn.—"Please give a recipe for making a good head wash for children, also for adults."——Borax dissolved in water makes a good wash for the hair and cleanses the scalp from dandruff. Use enough borax to render the water very soft, say a full half ounce of borax to one quart of water. To prevent the hair from falling out the following is efficacious: Steep ten or fourteen minutes in soft water three ounces of pulverized sage; strain off the liquor and add a teaspoonful each of pulverized borax and salt. Keep this in a tightly corked bottle. Apply daily with a sponge, rubbing it gently over the head; then brush the hair.

CUCUMBER PICKLES.

Make a brine strong enough to bear the weight of an egg. Into this put the cucumbers as they are freshly gathered from the garden. Place a platter with a weight on top over them to insure their being always covered with the brine, and they will keep indefinitely. From this keg or jar whenever pickles are wanted take out as many as are desired and let them soak in fresh water for two days, changing the water once at least. This done, line a kettle with grapevine leaves, place therein the cucumbers and cover with a layer of leaves. Pour over these the best cider vinegar, allowing two quarts to about fifty cucumbers, or enough to cover them. For every two quarts of vinegar used add one ounce of whole pepper, half an ounce of mustard-seed, one ounce of ginger sliced, half an ounce of mace, a small stalk of horseradish cut in pieces, a bit of alum the size of a large pea and half a teacup of sugar, Tie up the

spices in little muslin bags and distribute among the cucumbers. Place the kettle at the back of the stove or range where the cucubers will slowly scald through without coming up to the boiling point. When there has been time to effect this cut a pickle open, and if it is no longer white inside it is ready to be taken from the fire. To insure the pickles from spoiling they must always be well covered with the vinegar. Should a white scum appear on the surface remove it, drain it off the vinegar and scald it before returning it to the pickles. The recipe here given produces pickles rather highly flavored, hence if such are not desired a little less seasoning can be used. Never, however, omit the horseradish, as this prevents the formation of scum on the vinegar.

Trust the Little Ones.

BY A MATRON.

I call to mind two families that have grown up within my knowledge—two homes presided over by parents who were anxious to do right, and to rear their children to do right. In one of those homes the lock and key were put upon every door behind which cake, tart and sweetmeats were stored, and upon every drawer containing curiosities or trinkets. The good mother and the sternly just father meant well—they meant to remove temptation from the path of their children—but what was the result? As the children came to the age of reflection, they were forcibly reminded of the fact that they were not trusted. If they were not trusted by their own parents who knew them well, of course they were not worthy of trust. They naturally accepted the situation; and, just as naturally, their wits found work in circumventing the keepers of the hidden treasures. Fruit or pastry, accidentally left exposed, was sure to disappear. If the culprit was found, he was punished. By and by, the elder of the children found false keys to fit the locks of the closet doors; and so it came to pass that systematic thieving became the order of the day.

In the other home, with the same number of children, nothing that could possibly excite the normal desire of a child was ever locked up or hidden. From cellar to garret, all storing-places of fruit, pastry, and sweetmeats, were open and free. One of the very first ideas impressed upon the minds of the children was, that they were worthy of trust. And they were trusted. No false desires or appetities were created by concealing from them good and pleasant things. And so, being trusted, they grew up trustworthy; and the good mother of that household would as soon have thought of finding her child cutting its own fingers off as finding it using those fingers in stealing.

And who shall say how much of this early education is carried into the after-life, for weal or woe? Far more, I believe, than is generally considered.

There is a vast difference between needlessly setting temptation before the little ones, and a generous hearty trusting of them. And, again, there are exceptions to nearly all rules. I know a child with eyes so weak, and lungs so painfully sensitive, that he cannot bear the sunlight or the fresh air. Yet we believe sunlight and fresh air to be generally healthy for children. Kleptomania is not the normal condition of our little ones. If, perchance, an unlucky urchin is discovered to be absolutely afflicted with that pilfering disease, let the remedy of restraint be applied; but, in the name of love and mercy, do not administer the medicine to the dear child that is healthful,—it may be as dangerous as it is unjust. The first duty of a parent is to give and accept perfect trustfulness on the part of the children. It establishes self-respect, begets that proper sense of responsibility which carries with it perfect honesty in life. Trust is like faith; it awakens sincerity, and produces inward promptings which are but the reflection of an upright conscience.

CUTTING GLASS.—Any hard steel tool will cut glass with great facility when freely wet with camphor dissolved in turpentine. A drill bow may be easily enlarged by a round file. The ragged edges of glass vessels may also be easily smoothed thus with a flat file. Flat window glass can be readily sawed with a watch-spring saw by the aik of this solution. In short, the most brittle glass can be wrought almost ao easily as brass by the use of cutting tools kept constantly moist with with camphorized oil of turpentine.

Boys and girls—Read our premium list on first page of this issue.

Dead August.

Died last night at twelve o'clock
The richest month of all the year,
The belted grain in sheaf and shock,
Like gold encampments far and near.
The rose tree mourns in spider's crape,
At half mast stands the hollyhock;
The rock that five leaved ivies drape
Has dared to rob some prince of Tyre,
And wear his purple robe of fire.

The lively locust's rattling watch
Is always busy running down,
The cricket sings his breathless catch,
And sunflower's lift the yellow crown,
As if a fairy graveyard lent
Its slender bonds to dance a match;
Cicadæ's knees and elbows bent,
In flurries whirl, a crazy set,
To click the Moorish castanet.

Unto this August time has told
Down thirty perfect days in rhyme,
Unsullied hours a minute old,
A minute from some celestial clime,
With two full moons to shine the while.
Twelve hours were silver, twelve were gold,
Five Sabbath mornings' peaceful smile
To light the radiant weeks along,
With flush of leaf and flight of song.

Oh, queen of months, a splendid dower
Was thine, and yet thou couldst not wait
For all this wealth one little hour,
But met inevitable fate!
Broad leaves have hid all summer long
A precious thing beside my gate;
One after one each floral throng
Had perished, but those leaves still kept
Their secret, as if something slept.

A hand has put those leaves aside;
Lo, August lilies light the day!
So fair, as if some angel died
And took this monumental way;
So pure, as if some singer sweet
Had touched it with her lips and sighed,
Because those chaliced lives so fleet,
Those dear, gay lilies only last
While each swift day is going past,
And yet, why not? Why tarry here
Till dark and drear November comes
To play the dead march on its drums
Of sleet, and freeze the falling tear?

—Benj. F. Taylor.

The Power of Music.

Thalberg, while on his travels, stopped at a temperance hotel, and on ordering some champagne, was greatly astonished to see the eyes of the waiter open with wonder. "I want some champagne, please," mildly reiterated the great instrumentalist. "Champagne are you asking for?" stammered forth the waiter. "Certainly." "Then you can't have it." "And why?" inquired Thalberg, in increased astonishment. "The likes of it, including whiskey-punch, is not to be had in this hotel." For a few moments the thirsty musician looked aghast. "What can I have, then?" "Water, tea, and coffee." "Go and send me the proprietor," said Thalberg; "I will speak with him." "You may speak till the day of doom, but you'll find it of no use," was the waiter's observation as he quitted the room. In a few moments the landlord entered the apartment. His lips were closely set together, and a frown was on his brow. He was evidently astonished that a foreigner should persist in his wish to contravene the rules of the establishment. Meanwhile Thalberg had occupied himself in opening a piano that stood in the room. It was not of the newest style, but was tolerably in tune. As the proprietor of the temperance hotel entered he began to play. First the frown gradually vanished from the brows of the landlord, and then his lips unclosed, and finally relaxed into a smile. When the artist had concluded, he waited for a word, but none came. Without turning sround, Thalberg thought, "The man is obstinate; I must try something else," He accordingly began to play his "Tarantella." Ere it was half finished he heard the rattling of bottles and glasses on the table, and at once wheeled round. The waiter had re-entered the apartment with bottles of champagne. "I thought it was not allowed?" queried Thalberg. "Oh," was the reply, "the master will give you a dozen if you like it. He says a man who can knock music out of a piano like you do may have champagne every night if he chooses."

Thought and Feeling.

As thought indicates the activity of the mind, so does feeling that of the heart. The one is read in the penetrating glance of the eye, the other felt in the strong influence of the smile and the tear. The former can be associated with ice-bound brooks, forbidding storm-clouds, and the solemn leaves of autumn. The other, full of tenderness and sympathy, seeks expression in sunshine, as well as in shadow; in moonlight, rather than starlight, in meadows carpeted with flowers; in spray-tossing fountains and gaily-plumed birds. It is wooed by the gentle breezes of summer into an intensity of joy, or repelled by the cruel blasts of winter into tears of sorrow. Thought is active, independent, philosophical; feeling is passive, sensitive, retiring. While men boast a superiority in power of thought, women command a full meed of praise for depth of feeling.

Thought carries the sword, drawn for conquest, ambitious and progressive, cutting its way to fame, exploring new territory, achieving results, widening the field of intellectual research.

Correct Speaking

We would advise all young people to acquire, in early life, the habit of correct speaking and writing; and to abandon, as far as possible, any use of slang words and phrases. The longer you live the more difficult correct language will be: and if the golden age of youth, the proper season for the acquisition of language, be passed in its abuse, the unfortunate victim, if neglected, is very properly doomed to talk slang for life. Money is not necessary to procure this education. Every man has it in his power. He has merely to use the language which he reads, instead of the slang which he hears; to form his taste from the best speakers and poets in the country; to treasure up choice phrases in his memory, and habituate himself to their use, avoiding at the same time that pedantic decision and bombast which show the weakness of vain ambition rather than the polish of an educated man.

A Contented Mind.

"A contented mind" is something more than "a continual feast;" it is also a marvellous preservative of youthful beauty.

Worry and anxiety of mind, with just a dash of ill-temper (a very rare affliction in the fair sex, it is freely admitted), are the most infallible precursors of

"the dejected 'havior of the visage,"

which is so undesirable. The disciples of Æsculapius tell us that both the contented mind and the judicious feast are very important aids in the process of keeping up "good looks." Indiscretion at the banquet is a failing that can never in its ordinary sense be attributed to ladies; but even the most discreet lady will occasionally partake of a tempting but unsuitable, because indigestible, dish, and the result may be seen in a highly objectionable red tinge imparted to the nose. Another exciting cause of this latter unenviable condition is the still too-prevalent practice of tight lacing. Let no one "turn up the nose" at these apparently simple matters, for they are really more important in their results than ladies in general are disposed to admit.

Having thus alluded to the nose, it may be mentioned that there is one trouble to which this important member is liable—little black spots or "grubs," which occasionally make their appearance to the discomfiture of the individual. The only way to remove these disfigurements is by firmly pressing the skin between the finger-nails, and so forcing out the grub, which is really nothing but the collected exudations of the skin—the dust which accumulates in its pores. A perfectly handsome nose, it has often been remarked, is exceedingly rare, and great diversity of opinion prevails as to what is the standard of excellence in the form of this useful as well as ornamental feature. Useful the nose unquestionably is, in its power of expressing the feelings. In delineating modesty we look "straight down the nose," if that be practicable, and this is a gesture also expressive of "sheepishness" in men. For conveying contempt or disgust the nose is turned up; and in anger the nostrils are distended. Impatience of contradiction or irritability of temper are unmistakably indicated by a whole gamut of "snorts," while "sniffs" are the unfailing precursors of a flood of tears induced by vexation and passion.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—

Once more I have the pleasure of writing to you, but you could not for one moment guess where I am; but I will keep you in doubt no longer, and let you into the secret at once. Camping at Rice Lake. This is a beautiful spot, except for black snakes and mud, which I have been trying to scrape off my pants with a barrel hoop. My two companions killed a snake this afternoon four feet long. We cut it open, and found in it a pike weighing three pounds, which Old John, our guide, is frying for supper. I must tell you something about Old John. To look at him I should say he is about 45, rather short, but his muscles are as strong as iron. He carried our canoe, guns, fishing rods and tent on his shoulder for over three miles, and only let it down once, and that was to fight the mosquitoes. They are very large in this neighborhood, and bite us through our clothes; but John is going to set a trap for them to-night, by hanging up the snake outside the tent, because he says they like snake blood better than anything else—and he ought to know, for he has slept in a tent summer and winter for over fifteen years. A flock of wild ducks have just lit out in the bay, and John is just going to shoot at the largest one with his rifle. He has it to his shoulder, with his finger on the trigger; now he has taken sight—bang! Why, he has knocked the head clean off the body. "That's a good shot!" we all said in a breath. John told us, while loading his gun, that one time he took a bet he could kill a deer at 200 yards without making a hole in its skin. "And did you win?" we asked. "I rather think I did, for the ball passed clean through the two eyes, and never cut a lash." "You don't mean it, John?" With that he drew out a copy of the FARMER'S ADVOCATE, dated November, 1871, and remarked, "Read that;" and sure enough there was a full account of the wonderful shot in black and white, written by the man who lost the bet. "Your own papa used to enjoy a fortnight away from the office out in the backwoods. I remember once he asked to be left on a large log in the middle of Lake Scugog, to shoot muskrats, while the rest of the party went further up the river. He fired at a muskrat, but the shock from the gun knocked him backwards into the water. He could swim very little, but managed to climb up on the log, and as the weather was very cold ice began to form over his clothes. He shouted for us, but we did not hear him, and he must have been in that condition an hour before we returned. At any rate, he said it seemed a lifetime."

Old John has just told me, if I want to eat the pike while it is good and hot, I had better put away my bark, for I must tell you I am writing this letter on a piece of birch bark, as there is no paper here. UNCLE TOM.

PUZZLES.

140—WORD SQUARE.

My first is a town in England.
My second, a surface.
My third, something we often drop but never pick up.
My fourth, a swift-footed animal.
J. S. S., New Kincardine, N.B.

141—GEOGRAPHICAL ACROSTIC.

1. A county in Ontario.
2. A river in Siberia.
3. A county in Scotland.
4. A lake in Ontario.
5. An island off the coast of Asia Minor.
6. A town in the State of Maine.
7. A river in Italy.
8. A city in Ontario.

My initials and finals, read downwards, give the names of two Canadian cities. J. S. S.

142—ENIGMA.

My first is in man, but not in boy;
My second is in play, but not in toy;
My third is in small, but not in big;
My fourth is in cutter, but not in gig;
My fifth is in laugh, but not in smile;
My whole is the name of a British isle.
ARCHIE.

143—DROP-LETTER PUZZLE.

1. O-p-s-t-o-i-t-e-i-e-f-r-d.
2. B-g-n-o-h-n-w-t-o-t-o-s-d-r-n-w-a-t-e-n m y e.
3. -e-r-t-l-b-r-n-t-w-i.
4. M-n-y-s-g-o-s-r-a-t-u-a-a-m-s-e-.
5. K-o-l-d-e-a-e-h-m-l. I-n-r-n-e-a-e-p-o-d.

144—ILLUSTRATED REBUS.

Answers to August Puzzles.

135—Proverbs Transposed:
1. Prevention is better than cure.
2. Still waters run deep.
3. It never rains but it pours.
4. The early bird finds the worms.

136—Hidden Fruits: 1, Date; 2, Grape; 3, Orange; 4, Apple; 5, Pear.

137—Diamond:

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          G
        e L b
      b r A v e
    s h a D o w s
  G L A D S T O N E
    p a r T i n g
      c h O r d
        e N d
          E
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138—Enigma: Bar.

139—Illustrated Rebus: The darkest hour is just before the day.

Names of Those who have Sent Correct Answers to August Puzzles.

Wm. Howell, Grace Munro, Geo. Johnson, Minnie Gibson, J. G. Taylor, Ellen Dagliesh, Andrew Orton, Mary Purse, Jessie M. Cooke, Willie Garden, Alice M. Murray, Josephine Collett, Gus Gordon, Tom Sinclair, Martha Rowland, Hattie Ellis, Freddie Green, J. G. Harris.

A big, fat, colored woman went to the Galveston Chief of Police and told him that her stepson had run away and she wanted to know where he was. "It bodders me to know why he left. He had everything he needed to make him cumfable. I done all I could for him," she observed. "Has he any marks by which he may be recognized?" "Well, I don't reckon all the marks I made on him with a bed-slat, while de old man was holdin' him, has faded out yit."—[Texas Siftings.

The Chaplain of the church at Ascension Island being sorely troubled by the determination of so many of his congregation to occupy front seats, put up a notice to the effect that this privilage would be granted according to age. His greatest difficulty now is to get any of the ladies to sit in the front part of the house.

Too Uttaly Utta.

I'm called an æsthetic young man,
And wude people say I am silly;
I carway a wose and a fan,
And dine on the scent of a lily;
I'm touched with the bwic-a bwac cwaze,
A plaque sets my heart in a flutta,
I'm sweet and wefined in my ways—
In fact I'm decidedly utta,
Yes, utta,
In fact I'm decidedly utta.

I dwess in a pictuwesque style,
My costume is simple and soulful;
My face weahs an æsthetic smile
That's half idiotic, half-doleful;
I've nothing in common with those
Wude people who spwing from the gutta;
But that's too abswurd to suppose—
I'm quite too decidedly utta,
Yes, utta,
I'm quite too decidedly utta.

On wishing I pwactise a while
In fwont of my miwow each mawning
To catch the expwession and smile
That ignowant people are scawning.
And when through the city I pass
I set the gurls' hearts in a flutta;
Though some of them call me an ass,
What mattahs it while I am utta?
Yes, utta,
What mattahs it while I am utta?

Mary's Little Lamb.

As an instance of the absurdity and merriment which can be extracted from a very simple subject, we give that well-known poem about Mary's little lamb. Listen to an Irishman blessed with a rich brogue reading the Hibernian version, and if you don't laugh we pronounce you a hopeless dyspeptic. The original we believe runs thus:—

Mary had a little lamb
With wool as white as snow,
And everywhere that Mary went
This little lamb would go!

The first is the heathen Chinese version:—

Was gall called Mally had lamb
Flea all samee white snow,
Elvy place Moll gal walkee,
Ba ba hoppee long too.

A Frenchman quotes thus:—

I a petite Marie had le jeune muttong
Zee wool elait blanche as zee snow,
Et everywhere la belle Marie went,
Le jeune muttong vas zure to go.

A German next tries thus:—

Dat Mary haf got ein leedle schaf,
Mit hair yust like some snow,
Und all der place dot girl did vent,
Das schaf so like ein goe.

But the Irishman caps all with:—

Begorrah! Mary had a little shape,
An' the wool of it was whoite intoirely;
And whenever Mary wud stir he stumps
The young shape wud f iller her complately!

You have been to school many years. You may think you are a good reader. It would not be amiss if your schoolmaster or father were to give a prize to the best reader of the above four verses. Practice them and you might repeat them and give fun to others.

Deficiency in the Irish character—want of parental feeling.

"Ye pays no more attention," said Patrick, "than if I was a dumb baste talking to yez."

An Austin boy came home from school very much excited and told his father that he believed all human beings were descended from apes, which made the old man so mad that he replied, angerly: "That may be the case with you, but it ain't with me; I can tell you that, now."—[Texas Siftings

A gentleman in New York met an "uncertain" acquaintance the other day, when the latter said, "I'm a little short, and should like to ask you a conundrum in mental arithmetic,"—"Proceed," returned the gentleman,—"Well," said the "short" man, "suppose you had ten dollars in your pocket, and I should ask you for five dollars, how much would remain?"—"Ten dollars," was the prompt answer.

Lawyer Brough and the Colored Witness.

Another anecdote from Judge Carter's book, showing how Lawyer John Brough—a very able man in his day—was beaten by a darkey witness. A mulatto was on trial for murder. Among the State's witnesses was an old darkey who answered to the name of George Washington. His evidence was strong against the prisoner, and Mr. Brough desired to weaken it by throwing ridicule on the old negro.

Lawyer B.—"So your name is George Washington?"

Witness—"Yes, sah, dat be my 'pellation."

Lawyer—"Where did you get that 'pellation?"

Witness—"'Way down in ole Virginny, sah."

Lawyer—"From whom did you get it?"

Witness—"Well, now you hab me, boss. Dunno."

Lawyer—"Are you a son of General George Washington, the father of his country?"

Witness—"Well, I s'pec' I be. If he was de fodder of all dis country, he must hab ben de fodder ob de black folks as well as de fodder ob de wite folks, and as I be one ob dem black folks, he must hab ben my fodder as well as de rest."

Lawyer—"Don't you know that the great George Washington never told a lie?"

Witness—"Dat's what um say, and in dis 'ticular I much 'sembles him, fo' I nebber tole no lies in de whole curse ob my bressed life, sah."

Lawyer—"And you have told no lie about this case?"

Witness—"Why, bress de Lord! no, honey, no; I's tole nuffin but de whole truf e."

Lawyer—"Couldn't you have made some *mistakes* in your testimony?"

Witness—"Dunno 'bout dat. We all be po' sinners here below, and I's one ob dem fellows here below, shuah; an' I's a sinner, shuah."

Lawyer—"You are a good witness for the State, Mr. George Washington, and I want to call your attention to the facts.

Witness—"T'ank you, sah, fo' de compliment; but you can't fool dis niggah. I's great on de fac's; I knows dem all fust rate, sah."

Lawyer—"Please state how long a time elapsed between the act of Bill Perkins' throwing the knife over the table at the body of the deceased, and the deceased's calling Bill Perkins a scoundrel and a liar. Be particular about this"

Witness—"Well, boss, I didn't hab no watch—I's not able to carry one. An' if I had one at such a 'larmin' time, I shouldn't looked at it to count de minutes an' de seconds; but if my memory be jes so, it be my 'pinion dere was s'ficient time 'tween times fo' dat murderin' Bill Perkins to *demediate* and *preliberate;* dere was plenty time, in my 'pinion, fo' murder in de fust degree to be hatched out."

Mr. Brough saw he was not el citing anything favorable from the darkey, who seemed in his pecu iar way to be posted in the law, so he said:—

"We don't desire your legal opinion, Mr. George Washington. You're no lawyer. You may leave the stand."

Witness—"Bress de Lord, I'm not one ob de perfession. I wouldn't tell as many lies as dey do for de whole world. T'ank you, sah; I be glad to gib up *my* place to de *next gemman.*"

Thanks to Mr. Brough's eloquence, Mr. William Perkins was convicted of murder in the second degree, and therefore escaped the hanging so much desiderated by the good colored G. Washington.

Not So Easily Cheated.

A dealer advertised eye-glasses, by the aid of which a person could easily read the finest print.

A well-dressed man called at the counter one day to be fitted to a pair of spectacles. As he remarked that he had never worn any, some were handed to him that magnified very little. He looked hard through them upon the book set before him, but declared he could make out nothing. Another pair, of stronger power, were saddled upon his nose, but unsuccessfuly as before. Further trials were made, until at length the almost discouraged dealer passed to him a pair which magnified more than all the rest in his stock. The customer, quite as impatient as the merchant at having to try so many, put on the last pair, and glowered through them at the printed page with all his might.

"Can you read that printing now?" inquired the dealer, pretty certain that he had hit it right this time, at any rate.

"Sure, not a bit," was the reply.

"Can you read at all?" asked the merchant, unable to conceal his vexation any longer.

"Rade at all, is it!" cried the customer; "there's not a single word among them that I can identify the features uv."

"I say, do you know how to read?" exclaimed the dealer, impatiently.

"Out wid ye!" shouted the Irishman, throwing down the spectacles in a huff. "If I could rade, what 'ud I be afther buying a pair uv spectacles for? Ye chate paple with the idea that yer glasses 'ud help 'em to rade print aisy; but it's a big lie, it 'em. Ah, ye blackguard, ye thought I'd buy without tryin' 'em!"

THE FARMER'S ADVOCATE PRIZE

—OF—

$100.00

To be given annually by

WM. WELD, OF LONDON, ONT.

will be awarded for 1881, to "The Best Herd of Fat Cattle for Export."

This Prize will be offered at the Provincial Exhibition, to be held at London, Ont., commencing the 21st September, 1881.

CONDITIONS.

1.—The herd to consist of three animals, four years old or under, and must be at the time of exhibition, and for the previous six months, the bona-fide property of the exhibitor.

2. The herd may consist of animals of either sex or of both sexes.

3.—Pure-breds or Grades of any class may compete.

4.—Animals which may compete in any other class may compete for this prize.

5.—A statement of the breeding, mode of feeding, and weight of animals at the time of exhibition, must be given to the chairman of the judging committee before the animals can enter the show ring. An accurate account is desired, but if from any sufficient cause such cannot be given, an approximate estimate may be received by the judges. These statements will be the property of the FARMER'S ADVOCATE, and must be as full and concise as possible to be accepted.

6.—Special judges will be appointed by the Council of the Association to award this prize.

7.—The rules of the Association to govern all points, except as above noted. Entries can be made with the Secretary of the Association, up to Wednesday, the 21st of Sept.

Being desirous of encouraging the further development of our greatest resources, we offer the above prize, and hope to see strong competition for it, as it is one of the best ever offered at our Provincial for which the general farmer could compete. We have also introduced a new feature to Canadian agricultural exhibitions, viz., that embraced in condition "5." This need not debar any from exhibiting: any one who is capable of managing a farm successfully, is quite capable of fulfilling the above requirements, and if he has never made such subjects a source of study before, he will find them of much benefit. The winner of this prize may have, if he prefers, a SILVER CUP of equal value.

Next year we purpose to give a similar prize for the best herd of dairy cows, irrespective of breed, particulars of which will be given in due time.

Commissioners Inspecting the Pictou County Difficulty.

Halifax, N. S., Aug. 26.—The Dominion Government have commissioned Dr. W. M. McEchran, of Montreal, and Prof. Geo. Lawson, of Halifax, to make a systematic enquiry into the nature, extent, and cause of the peculiar disease affecting cattle which has prevailed for the last thirty years in a certain district in Pictou county, with a view to ascertaining what course may be pursued for its eradication. Drs. McEchran and Lawson met at Pictou yesterday, and visited several farms where the disease has prevailed, collecting specimens of the herbage, soil, water, etc., which will be analyzed. Dr. McEchran will remain in the county for a few weeks to collect statistics as to the past history and present extent of the disease.

ADDITIONAL CORRESPONDENCE.

SIR,—Do you know anything about a new variety of wheat called "Finlay?" I see that it is mentioned in a Toronto paper, and recommended to farmers as a good winter wheat. Where can I get it, and price per bushel? My Democrat turned out 41 bushels to the acres, and my entire wheat crop averaged 36 bushels per acre.

W. J., Delaware P.O., Ont.

[On enquiring of Messrs. J. S. Pearce & Co., seed and commission merchants, of this city, they say that the *Finlay* and *Fultz* wheat are one and the same variety. Some people claim the Finlay to be an earlier variety than the Fultz, but from careful observations we have come to the conclusion that they are the same. Either variety can be procured from the above firm at $1.50 per bushel.]

SIR,—What quantity of wheat would you recommend to sow per acre on a moderately rich, well-prepared clay loam? Is drilling north and south preferable to east and west, on account of letting the sun shine in better? Do you recommend harrowing after drilling, or not? In this neighborhood there is a variety called Boyer wheat very extensively sown, which I have never seen spoken of in the ADVOCATE. By the majority of the farmers it is thought to be a surer crop than any other raised in this section. We harvested a piece this year. It looked hardly as promising before it was cut as the Clawson. We have not threshed, and the result may prove different. The Boyer is a heavily-bearded red wheat, weighs heavy, and makes excellent flour. Perhaps Boyer is not the correct name for it, but it is the only name known in this section.

J. A. M, Mt. Elgin P.O., Oxford Co., Ont.

[The quantity of wheat which may be most profitably sown per acre has been the subject of much dispute and many experiments, without coming to any definite conclusion. We have found it to depend very much on the variety, the condition of the soil, the locality, and how sown. When the variety sown stools out well, the soil rich and the locality favorable, less seed is required per acre. Less is also required when sown with a drill than if put in broadcast. Under usual conditions about two bushels are sown broadcast, and from 1¼ to 1½ when a drill is used. (Fall wheat should always be sown with a drill.) On suitable land let your drill run north and south. Harrow with a light pair of harrows after sowing. Especially should this be done if the season is wet, or the ground not well drained. We never heard of a variety called Boyer, and from the sample sent could not say what the proper name is. In different localities the same variety of wheat frequently presentsvery different appearances.]

SIR,—Last fall I bought of the Agricultural Emporium, of London, Ont., one-half bushel of Democrat wheat, which I put in the hands of Wm. Wallace, a neighboring farmer, he having a piece of ground ready to sow at the time. He told me that he had over 18 bushels of good grain from less than half an acre. He took neither the beginning nor the last when threshing, to be sure of keeping the grain pure. It did not rust at all. The yield can be put at 38 bushels per acre at the least, which is a splendid yield for this season in this locality. We intend to sow all we have.

H. R P., Dover East, Ont.

SIR,—Please find enclosed my subscription for one year. I could not think of giving up the ADVOCATE, for it gives the best of information on every subject, and as I am a woman farmer it is of intrinsic value.

M. H., Summerside, P.E.I., Aug. 23.

Farmers who are endeavoring to eradicate quack grass may be pleased to learn that a good word may be said for it. The trouble with quack is only in the pertinacity of its growth. Considered as a pasture grass it is entitled to high rank, so far as quality is concerned. Cattle eat it greedily. It starts early in the spring, and when closely grazed it is very quick to send up new growth with the first favorable condition; but its roots pervade the soil, and have almost unquenchable life, so that ground once occupied by them can be freed for other uses only at the expense of great labor and watchful care.

Stock Notes.

A general meeting of Shorthorn breeders is to be held in the Agricultural Hall, Toronto, on Wednesday, September 14th, at 7.30 p.m., to organize an association, adopt a constitution and elect officers.

E. Dillon & Co., of Bloomington, Ill., write :— "We sailed from Havre, France, the 31st of July, on steamer City of London, with 100 head of as fine Normans as were ever brought to America. It is the largest importation of Norman horses ever brought to this country. We arrived in New York on the morning of the 13th of August; shipped direct to Bloomington, Ill., over Pennsylvania Central Railroad, on special train of twenty-four cars, and arrived in Bloomington the morning of the 17th of August. Our stock is doing very well. It is in fair condition, considering the journey of over 4,000 miles made in so short a time They are mostly dark dapple greys, some blacks and two bays; all young, mostly three and four years old."

Capt. J. W. Wilmot, of Sackville, New Brunswick, who has decided to give up ploughing the raging main for farming on a large scale, on the last trip of the bark "Onaway" from England brought out some fine sheep and pigs. The three pigs are valued at nearly $200. One is a pure Yorkshire sow, about five months old, for which Captain Wilmot paid $60 before it was three months old. The second one is a pure Royal Irish Grazer, now nearly seven months old. The third is a pure bred Lincolnshire boar, three months old. There are seven sheep and lambs, comprising Leicester and other breeds. One yearling ram cut 18½ lbs. of wool and the ewes 15 lbs. each.

The now celebrated cattle car invented by Mr. William S. Hunter, of Belleville, Ont., has been completed at Cobourg, at the Crossen Car Factory, and will be put into immediate requisition. It is a model car, and is the first of a train of fifteen which will be constructed as speedily as the facilities of the factory will allow. So great is the confidence which is felt in the claims which are put forward in favor of the car, that the Hunter Cattle Car Company, which will be organized in Boston for the United States, will insure shippers against all loss incurred through the transportation of cattle in the Hunter car.

Mr. H. H. Spencer, of Dorset Farm, Brooklin P. O. Ont., has sold all his Long-wools, and intends hereafter to give his undivided attention to his fine flock of South-downs and Shropshires. With this object in view Mr S recently visited some of the best Down flocks in England, and succeeded in selecting over 40 very choice South-downs and Shropshires. Several of his importations have been very successful show animals in England.

D. H. Craig, one of the buyers of the North Middlesex Cattle Market, has purchased, this season, 2,500 head of cattle of the heaviest and choicest description. The cattle market has been the scene of many extensive operations lately, but none exceed this. At the average of eighteen head to the car, it will require one hundred and forty cars to ship the stock.

Mr. Harold Sorby, of Alton Hall, near Guelph, has recently imported from England the following pure bred live stock, which arrived in Guelph on Saturday:—15 Cotswold sheep comprising 1 shearling ram, 1 ram lamb, and 12 shearling ewes. Three Berkshire pigs, made up of one boar and two sows. Several of the above were prize winners in England.

Six head of cattle lately imported for the Ontario Agricultural College, arrived at the College Farm August 16th; all were in good condition. The importation consists of a Durham Bull and Heifer both pure Booths, a pair of Polled Angus, a Hereford and an Ayrshire Bull. All the animals are young and promising.

John Snell's Sons, Edmonton, have added to the "Willow Lodge" herds and flocks a fresh importations of Cotswolds and Berkshires. The importation includes several prize winners at the late Royal Show. All the stock arrived in good health and condition, and are going on well. See their adv. in this number.

Henry Arkell, of Arkell, Ont., has sold 3 pure bred Cotswold ewes to Wm. Previtt, of Greensburg, Ind., U. S. A.; to Thomas Arkell, of Arkell, Ont., 2 Cotswold ewes, and to J.C. Snell, Edmonton, Ont., 6 yearling rams, ram lamb, and 4 yearling Cotswold ewes.

The Glasgow Clydesdale Horse-breeding and Export Company have made fourteen entries for the Provincial Exhibition. Mr. Wm. Sadler, an Ontario horse-breeder, has entered two imported horses, now on their way from the Old Country.

M. Boyd, of Bobcaygeon, Ont., recently purchased from F. W. Stone, of Guelph, the Hereford cow, "Bonnie Lass 16," and Hereford heifer, "Peeress 3rd," and has just received from quarantine three Aberdeen or Polled Angus heifers.

The Inman line steamship "City of Limerick" sailed by special charter from Havre, France on the 6th inst with 200 Percheron Horses for M. W. Dunham whose advertisement appears in this issue.

At the Chicago Fair Association, $50,000 is offered in prizes. The list is well arranged; a large number of very valuable prizes are given in all classes of live stock and farm product.

The annual sale of live stock at the Experimental Farm, Guelph, will take place on 8th of September.

Commercial.

THE FARMER'S ADVOCATE OFFICE,
London, Ont., Aug. 29, 1881.

A month of fine, hot, dry weather has enabled farmers to wind up their harvest in good time and in fine condition. The country now wants rain very badly, and until rain does come sowing fall wheat will be of very little use.

WHEAT.

The wheat dealers and speculators have had a very exciting time the past two or three weeks. Prices have been climbing up and up till they are now, we think, quite high enough for the safety of the dealer and shipper. Wheat is now 25 to 30 cents per bushel higher than it was this time last year in Canada, and about 44 cents higher in Chicago. Of course Chicago prices are a long way above export value. It is very hard to say what course the market will take, and the only way will be to wait and watch results. Reports from all sources confirm the opinion that America will not have the surplus she had last year. France is said to be less than last year. In Austria and Hungary the crops are good all round. In the Turkish provinces on the Danube the wheat crop is medium. Swiss crops are good. In Spain the crops are all poor. In Belgium the wheat crop is medium, Holland good, and in Great Britain wheat is estimated to be ten per cent. below the average; while Russia is said to have the largest crop ever grown in that empire. With all these facts before us we can see no cause for alarm or any reason to suppose we are going to see famine prices. Farmers through a large section of Ontario have a fine crop of wheat, and they will do well to market it when the time and opportunity comes for so doing.

BARLEY.

There is so much uncertainty about the article and so much depends on the disposition of the American malsters, that it is difficult to say how the market will rule. The sample will be very fine in some sections.

PEAS

Are said to be good, but we have seen no samples. Those whom we have conversed with say there are not many bugs.

CORN.

This is now becoming an important crop in some sections of Ontario. From what we have seen it will be light, perhaps not half a crop. It is now suffering from the severe dry weather which prevails all through the corn sections. The corn crop in the States is said to be totally ruined in some parts with the dry weather.

BEANS

Are also said to be almost ruined from the same cause. This crop is largely grown in the county of Kent.

WOOL.

Canadian wool seems to be in bad repute, and there seems to be only one conclusion to be arrived at, and that is that farmers will have to give more attention to finer wools. The class of goods which have been largely manufactured from Canadian wools have gone out of fashion; besides, dealers say that nearly all the wool offering is too coarse even for blankets. Manufacturers are paying 30 to 40 cents per pound for English, Scotch, Cape and Australian wools, from which they are making Canadian woolen goods. Let Canadians turn to and grow the kind of wool that Canadian mills want, and they will find a ready market at a greatly improved price.

APPLES.

The crop of apples will be much less than last year, and we question if the quality will be as fine. American apples are poor this year, and are said to be snarly and scabby. European advices say that though it was generally believed at first that the yield would be very large, it is now admitted that their crop is also short and will not affect the export trade to any extent. Those who have a good crop of good, sound apples may look for a good paying price either in their orchards or by shipping them through to Great Britain.

PORK.

The price of this article is high for the time of year, and if the injury to the corn crop from the drouth is as serious as reported, we may look for steady prices the coming season. In fact, the present price of corn in the west must curtail the very extensive feeding to hogs. As corn and hogs in the west are closely allied the one with the other, if corn advances hogs must of necessity follow.

CHEESE.

The market for this article has been fluctuating a good deal this season, and one does not know what to make of it. Many of the dealers have been puzzled, and some say that the market has been manipulated by some of the heavy Liverpool dealers. One thing is certain—dairymen have no reason to complain of the price paid for cheese this season. As we write the market is very dull and quiet, the cable having declined from 58 shillings to 56 shillings and 6 pence, and private cables quoting 55 shillings. Our markets had developed a good deal of strength the past ten days, but with a drooping cable we fear that strength will be somewhat lost. However, the dry weather is seriously affecting the make, and unless we get rain very soon the fall make will be very short. The factories in Wisconsin are said to be suffering from the same cause, together with the ravages of the white grub in the pastures. They are so bad that in some parts the factories are only working half their usual capacity from this cause. The make in York State is also said to be rapidly falling off from the effects of the dry weather.

BUTTER

Keeps very steady and the demand is fairly active. Buyers are cautious, and as much of the butter now offering is hot weather make, it will have to go forward promptly and into consumption. All low and medium grades have to come in competition with butterine, and so will have to be sold cheap. Finest creamery is selling at 24 to 27 cents; western dairy packed at 16 to 17 cents.

FARMERS' MARKETS.

LONDON, ONT., 29th August, 1881.

	Per 100 lbs		
Wheat, Winter	$1 95 to $2 02	Flax Meal	$3 50 to $3 75
" Red	1 95 to 2 02	Rye	90 to 1 00
" Spring	1 70 to 1 75	Barley	1 06 to 1 10
Oats	1 10 to 1 20	Timothy seed	2 50 to 3 00
Peas	1 0. to 1 20	Butter, dairy	26 to 30
Beans, white	1 06	" tub	20 to 23
Corn	1 20 to 1 20	" crock	16 to 18
Hay old, per ton	9 50 to 10 00	Eggs	12 to 14
" new	10 50 to 11 00	Hops, 100 lbs.	21 00 to 30 00
Linseed Cake	2 00 to 2 25		

TORONTO, ONT., 27th Aug.

Flour, sup'r extra	$5 90	Potatoes, bush.	50 to 55
" ex choice	5 80	Apples, brl	1 75 to 2 25
Oatmeal, fine	3 00 to 0 00	Butter, lb. rolls	22 to 24
Cornmeal	2 00 to 0 00	" dairy	17 to 20
Wheat fall	1 30 to 1 32	Eggs, fresh	14 to 16
" spring	1 30 to 1 34	Wool, per lb	23 to 24
Oats	42 to 42	Hay	11 00 to 13 50
Hogs, 100 lbs	8 00 to 8 50	Straw	8 00 to 9 00

GRAIN AND PROVISIONS

MONTREAL, Aug, 27th.

Wheat—		Morrisburg	19 to 21½
Can spring, No 2	$1 42 to	Western	18 to 19
Flour—		Creamery	22¾ to 24
Superior ex	6 35 to	Eggs	15 to 16
Superfine	5 40 to	Mess Pork	21 50 to 22 00
Strong bak.	6 25 to 7 00	Lard	15 to 15½
Ont oatmeal	4 75 to 4 90	Hams	13 to 14
Cornmeal	3 30 to 3 40	Bacon	12 to 13
Butter—		Cheese, fine August	11 to 11¼
East'n Tp's.	20 to 22		

HALIFAX, N.S., Aug. 27.

Flour—			Extra State	$6 30	to $6 40
Sup'rior extra choice	$7 00	to $7 25	Cornmeal—		
Spring extra,	6 40	to 6 60	Yellow k.d.	3 40	to 3 55
Str'ng bak'rs'	7 00	to 7 25	Fresh ground	3 30	to 3 40
			Oatmeal, Can'da	5 25	to 5 30

NEW YORK, Aug. 28th.

Flour—			Rye	$1 05	to $1 10
No 2	$4 00	to $5 00	Hay	50 00	to 55 00
Common	6 00	to 6 50	Potatoes	1 75	to 2 00
Good	6 60	to 7 75	Eggs—State	20½	to 21
West'n ex.	6 75	to 8 00	Pork—		
Wheat—			New mess.	18 50	to 18 75
No 2 red	1 44½	to 1 44¾	Cut meat—		
No 2 white.	1 42½	to	P'kl'd hams	10¼	to 10¾
Corn—No 2	71¼	to	Long clear.	9⅝	to 10⅛
" yellow.	73	to	Short	10¼	to
Oats—			Lard	12 30	to
Mix'd white	41	to 43	Butter	11	to 23½
White	44	to 49	Cheese	8	to 11¼

BOSTON, MASS., August 24, 1881.

Flour—			Hops, crop 1881	$ 26	to
Choice winter	6 75	to 8 00	Butter—		
Spring	7 25	to 8 50	Creamery	26	to 27
Corn meal	3 00	to 3 10	Dairy	20	to 22
Oatmeal	5 75	to 6 25	Common	12	to 14
Oats, No. 1	60	to 62	Cheese—		
Wool—			Best factory.	11	to 11½
Western fine.	39	to 40	Farm dairy	10½	to 11
Pulled extra.	30	to 45	Eggs	19	to 00
Canada pul'd	30	to 42	Beans, pr bu.—		
Combing	38	to 40	Hand picked.	3 00	to 3 10
Hay—			Mediums	2 55	to 2 60
Choice, p ton	19 00	to	Common	2 10	to
Fine	13 00	to 15 00	Potatoes, per bbl	2 25	to
Hops, 1880	19	to			

LIVERPOOL, ENG., Aug. 27th.

	s d	s d		s d
Flour, per c	10 06	to 13 09	Barley, per c	5 03 to
Spring	10 03	to 10 06	Peas, per c	7 05 to
Red Winter	10 09	to 11 00	Pork	74 00 to
White	10 06	to 10 09	Lard	57 03 to
Club	11 00	to 11 05	Bacon	45 00 to 47 00
Corn	6 02	to	Beef, new	92 06 to
Oats, per c	6 04	to	Tallow	36 00 to

CHEESE MARKETS.

Liverpool, Eng., Aug. 29.

Per cable, 55s 6d.

Little Falls, N.Y., U.S.A., Aug. 22.

Receipts, 10,273; sales, 10½c. to 11½c.

London, Ont., Aug. 29.

Receipts, 3,388; 11½c, offered and refused.

Ingersoll, Ont., Aug. 23.

Receipts, 2,080; no sales reported

THE BRITISH CATTLE MARKETS.

London, Eng.—Best beef, 7¾d. to 8¼d. per lb. inferior and secondary, 6d. to 7½d. per lb. Best mutton, 9d. to 9½d. per lb.; inferior and secondary, 7½d. to 9d. per lb. The cattle trade, without being active, was firmer in tone. Supplies were not large. On the foreign side of the market there was a good show of beasts; about 400 Americans were offered. The trade was quiet at full prices. The sheep pens were but scantily filled. The trade was better and prices were well maintained.

Liverpool—Best beef, 6d. to 8¼d. per lb.; best mutton, 8d. to 9¾d. per lb. The supply of stock was much larger than on last Monday; the demand fair for all kinds of stock; without material change in value of the best quality of cattle and sheep; all other qualities lower.

Glasgow—Best beef, 7½d. to 7¾d. per lb.; inferior and secondary, 5½d. to 7½d. per lb.; best mutton, 9d. per lb.; inferior and secondary, 6½d. to 8¼d. per lb. The number of cattle at market to-day was similar to last week's and the quality of a middling kind. Top sorts in demand, with advance in prices. Of sheep there was a fair supply and generally of middling quality; goods sorts in demand at last week's prices.

At a late meeting of the Cincinnati Horticultural Society a member stated that when potato vines began to wither it is an indication that potatoes have matured and should be at once dug; that every moment after ripening they continue to grow, performing their mission; and lying so long in the ground as they usually do the forces of nature are materially weakened and in reality the following year potatoes are planted in a half decayed condition; another individual said that in England it is customary to dig potatoes before maturity and to put them in open sheds to dry, which brings them next year two weeks earlier.

Potash is an excellent fertelizer for the grape vine. Fork in and around the roots a few pecks of weod ashes. Cow dung contains a large portion of potash and but a comparatively small amount of nitrogen; consequently, it is a better fertilizer than horse manure for the grape vine.

Erratum.

An error occurred in part of this issue in the article entitled "Butter Making," page 212 third column, in which the writer was made to say "one ounce of salt to one *ounce* of butter." It should read "one ounce of salt to one *pound* of butter."

Plows.

The demand for chilled plows is so great that some of our best plow makers are not able to manufacture fast enough to supply orders. Mr. Seegmiller, of Goderich, Ont., has had such an unprecedented rush for his plows that he is fairly beset with telegrams and letters containing orders from farmers and agents. All available space about his premises is devoted to plows exclusively; he is about to enlarge his premises. Some of his patrons must have patience or take an inferior plow. There are some manufacturers or agents who will sell goods by saying they are just as good, and some agents do not scruple to say that the goods they represent are the best, while at the same time they know perfectly well that they are only selling inferior implements. We do not pretend to say that Mr. Seegmiller is the only good plow maker in Canada, but we do not believe any plow maker has so many orders from so many people and from such a wide range of country, as he has, nor a more satisfactory lot of letters regarding the work done by his plow.

Our subscribers and agents will oblige us if they will send the name or a list of names of good farmers that are not taking the ADVOCATE, and who might be induced to subscribe for it. We will send them a copy of the October number free, as we strike off sixty thousand next month, and will have plenty to spare. We give handsome prizes to subscribers that send in one or more new paid subscribers. This may help you and us also.

Wm. Howitt, of Guelph Grange, Guelph, writes:—"My stock is not able to stand the drain brought to bear upon it, resulting from my card appearing in the ADVOCATE, and the demand by post, which I am now unable to supply, is becoming a positive nuisance, and must be stopped. Please leave out my card. It is unnecessary to say that when my stock can stand it my card shall reappear."

London, Ont., has done away with all market fees, even to granting the free use of the public scales and the services of the Weigh Clerk. In January next all tolls on roads in the county of Middlesex will be abolished, with the exception of one road which belongs to a company. The progressive spirit of this county is worthy of emulation.

The attention of our readers interested in fruit drying is called to a letter from a correspondent in the usual columns, and to the advertisement of Messrs. Richard Bros., of Toronto, Ont., who are manufacturing the Zimmerman Fruit Dryer.

Threshers and farmers generally should be careful and examine White's Improved Farm Engine at the Provincial Exhibition. Farmers say that it is lighter, stronger, and does more work where used, than any other engine.

The millers of St. Thomas, Ont, report that the Fultz variety of wheat is full of smut this season, and caution farmers against sowing it the coming fall. They say the defect is more marked this year than ever before.

Steers weighing 1,200 to 1,700 are most suitable for the English markets. The butchers find that they can be cut up more economically for their customers, and the size of the pieces are more acceptable.

The South Bend Chilled Plows are now for sale at A. Westman's, London, Ont. The reports of the trials and recommendations shown by him fully assure all of their great reputation. See adv.

The Ontario Agricultural College will commence for matriculation examinations on the 1st, and for lectures on the 4th October next. Farmers' sons please notice.

Agricultural Exhibitions of 1881.

CANADIAN.

Quebec Provincial—Montreal, Q	Sept. 14 to 23
Ontario " —London, Ont	Sept. 21 to 30
Dominion—Halifax, N. S	Sept. 21 to 30
Great Central Fair—Hamilton, Ont	Oct. 4 to 7
Provincial Agricultural and Industrial Society of Manitoba—Winnipeg	Oct. 4 to 6
Prince County, P.E.I.—Summerside	Oct. 6

AMERICAN STATE EXHIBITIONS.

American Institute—New York	Sept. 14 to Nov. 26
" Pomological—Boston	Sept. 14 to 16
Chicago Fair Association—Chicago	Sept. 12 to 17
Cincinnati Industrial—Cincinnati	Sept. 7 to Oct. 8
Illinois—Peoria	Sept. 26 to Oct. 1
Indiana—Indianapolis	Sept. 26 to Oct. 1
Michigan—Jackson	Sept. 19 to 23
New York Dairymen's—Rome	Sept. 19 to 23
St. Louis—St. Louis, Mo	Oct. 3 to 8

"The Best in the World."

This is a term often used by unscrupulous persons to dispose of goods, but when we see it used, as in the advertising columns of this journal, by the firm of L. D. Sawyer & Co., of Hamilton, Ont., when speaking of their clover thresher, we think it deserving of remark, as we know of no agricultural implement manufacturers in Canada who have a higher reputation for the quality and efficiency of implements produced, nor a more honorable firm to deal with. Mr. Waterous, sr., of Brantford, Ont., uses the same term in regard to his saw-mills. We have never seen this statement confuted, and from what we hear about his mills, we think Mr. Waterous as reliable as the above-mentioned firm. He is full of work, and is sending mills to Germany, Chili, Austria, &c., &c., and to all parts of this Dominion.

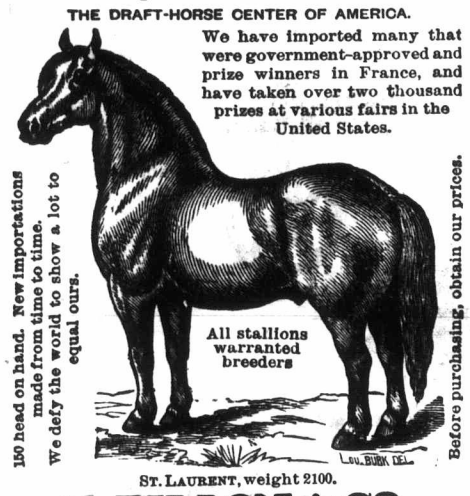
A Bench Show of Dogs will be held in London during the Provincial Exhibition. One thousand dollars will be offered in prizes. Among other premiums, $15 will be awarded for the best Collie dog. Entries will be received by J. Puddicombe, Secretary, London, up to September 12th.

The time in which entries may be made at the Ontario Provincial has been extended to September 3rd for all classes which were to close August 20th.

NEW ADVERTISEMENTS.

Go to Headquarters for Norman Horses.

THE DRAFT-HORSE CENTER OF AMERICA.



We have imported many that were government-approved and prize winners in France, and have taken over two thousand prizes at various fairs in the United States.

ST. LAURENT, weight 2100.

E. DILLON & CO.,

Importers and Breeders of

NORMAN FRENCH HORSES

BLOOMINGTON, ILLINOIS.

100 Head of Normans arrived in August, 1881, —the finest lot of stallions ever imported in one lot to America. Come and see them. 189-g

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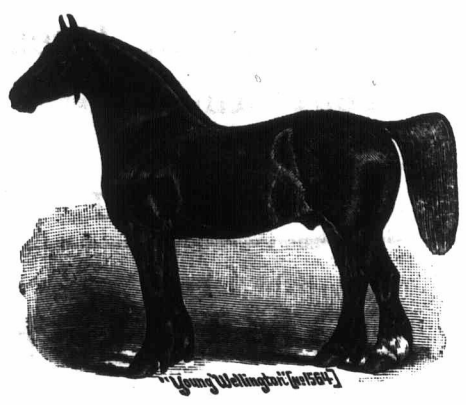

The People have proclaimed

THE CLYDESDALE

THE KING OF DRAFT HORSES.

Seven Importations for 1881 already received, another on the way, and another ready to leave Scotland, and still others to follow from time to time. The largest and finest collection ever seen on the American Continent, of the best and most popular strains including the get and descendants of the greatest prize-winners of Scotland, and among them the only horse that ever crossed the Atlantic that ever won and held the Great Challenge Cup.

POWELL BROS.

Springboro, Crawford Co., Pa.,

The Most Extensive Importers of Clydesdales in America.

Also extensive breeders of Hambletonians and other desirable strains of **trotting stock,** and importers and breeders of **Holstein and Devon Cattle.** They feel fully justified in saying that their experience, their facilities, and the extent of their business enable them to offer inducements to any wishing to purchase EITHER CLASS of stock, NOT SURPASSED BY ANY FIRM IN AMERICA. Prices low. Terms easy.

☞ Correspondence solicited Catalogue sent free. Address as above. Say you saw this in ADVOCATE. 187-l

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NORTHERN PACIFIC

RAILROAD LANDS.

FORTUNES FOR FARMERS!!

50,000 Farms. 6,000,000 Acres.

Best Wheat Land, Rich Meadow Choice Timber. Farming, Stock Raising Dairying. Fuel and Water in Abundance.

$2 50 per acre and upward. One-sixth cash and five annual payments. Reduced Fare and Freight to settlers. Write for "Publications No 70"

GEO. DEW, Trav. Agent, 72 Yonge Street, Toronto.
R. M NEWPORT, Gen. Land Agent, St. Paul, Minn.
T C. LIVINGSTON, Special Land Ag't for Hamilton, Ont.

MINNESOTA.

NORTH DAKOTA — MONTANA

FOR PURE BRED PEDIGREED BERKSHIRE PIGS AND COTSWOLD SHEEP

JOHN SNELL'S SONS, EDMONTON, ONT. CANADA.

THE "WILLOW LODGE"

Cotswolds and Berkshires.

Our Cotswolds at the Provincial Fair at Toronto, 1878, won the flock prize and the grand sweepstakes prize of $100 for best ram and 9 ewes.

At the Dominion Exhibition, 1879, we won the Gold Medal for the best flock of Cotswolds. The flock has been kept up to the highest standard by fresh importations every year

Our Berkshires have won the herd prize at the Provincial Fair for nine years in the last ten; also the grand sweepstakes of $100 at Toronto, 1878, and the gold medal at the Dominion Exhibition, 1879 for best herd, competing against much-vaunted and "world-renowned" herds.

Our importations for 1881 includes the 1st and 2nd prize Boars and the 1st and 2nd prize Sows at the Royal Show at Derby in July last.

This gives us (with "Royal Carlisle," winner of 1st prize at the Royal Show, 1880,) three Royal winning Boars at the head of the herd, a stronger combination, we venture to say, than can be found in any other herd in America.

Selections from our herd of Berkshires will be exhibited at the leading shows in Canada this fall.

Shearling rams, ram lambs, and young boars and sows for sale.

JOHN SNELL'S SONS, Edmonton, Ont.

189

E. P. ROE supplies country homes with choice Small Fruit, Plants and Grapevines. All the new and standard varieties in large quantity and at reasonable rates. Bidwell and Manchester Strawberry and Cuthbert Raspberry specialties, and with them the most liberal offers ever made to the public. Send stamp for large descriptive catalogue.

Address—

E. P. ROE, Cornwall-on-Hudson, N. Y.

189

—THE—

DOMINION EXHIBITION

of 1881

WILL be held at the CITY of HALIFAX, Nova Scotia, in the ROYAL EXHIBITION BUILDING and GROUNDS, from

21st to 30th SEPTEMBER

When Cash Prizes to the amount of **$15,000.00** will be awarded for Horses, Cattle and other Live Stock, Machinery of all kinds, General Manufactures, Mining, Agricultural, Forest Fishery and Dairy Products, Fruits, Plants and Flowers

No charge for entry of exhibits.

Prize lists, entry papers, and all necessary information may be obtained on application.

Manager—PROF. GEO. LAWSON, LL.D.

WILLIAM McKERRON, Secretary.

Halifax, June 6th, 1881. 189

1881. 1881.

SOUTHERN COUNTIES FAIR!

The Second Annual Exhibition of the Southern Counties Fair will be held on the Exhibition Grounds, at the

CITY OF ST. THOMAS,

4th, 5th, 6th & 7th of October

$10,000 IN PRIZES

will be offered for Live Stock, Poultry, Agricultural, Horticultural and Dairy Products, Machinery, all descriptions of Manufactures, Fine Arts, Ladies' Work, &c.

Special Attraction on Wednesday, the 5th of Oct., when the Lieut.-Governor of Ontario, the City Council of the City of Toronto, and Credit Valley Railroad Officials, will be present and a formal opening of the Credit Valley Railroad will take place

Special feature on Thursday, the 6th October, when prizes will be offered for Caledonian Games, &c., &c.

Friday, the 7th—Grand trial of speed, races, bicycle races, &c.

Special Arrangements

have been made with all the Railways for low passenger rates, &c., &c.

For further information, Prize Lists, Entry Forms, &c., apply to

J. H. STILL, Sec.

179

— GRAND —

Provincial Exhibition

To be held on the

Exhibition Grounds,

Mount Royal Avenue, Montreal.

Arranged in three departments,

AGRICULTURAL, HORTICULTURAL AND INDUSTRIAL.

OPENS WEDNESDAY SEPT. 14

Excepting Horses, Cattle, Sheep and Swine, which arrive two days later, viz,

FRIDAY, SEPT. 16th.

Closes Friday, September 23rd.

$25,000 Offered in Premiums.

Entries in all departments must be made with the Secretaries in Montreal, on or before **Thursday, September 1st.**

Prize Lists and Forms of Entry, with any other information required, can be obtained on application to

GEO. LECLERC,
Sec Council of Agriculture.

S. C. STEVENSON,
Sec. Council of Arts and Manufactures.

187-c

36th Provincial Exhibition

—OF THE—

AGRICULTURAL & ARTS ASS'N

OF ONTARIO,

To be Held at LONDON,

FROM

21st to the 30th Sept., 1881.

$18,000 Offered in Premiums.

Entries must be made with the Secretary at Toronto, on or before the undermentioned dates, viz:

Horses, Cattle, Sheep Swine, Poultry, Agricultural Implements, on or before Saturday, August 20th.

Grain, Field Roots, and other Farm Products, Machinery, and Manufactures generally, on or before Saturday, August 27th.

Horticultural Products, Ladies' Work, Fine Arts, etc., on or before Saturday, September 3rd.

Prize Lists and Blank Forms for making the entries upon, can be obtained of the Secretaries of all Agricultural and Horticultural Societies and Mechanics' Institutes throughout the Province.

HENRY WADE, Secretary,
Toronto, Ont.

J. B. AYLESWORTH, President,
Newburgh, Ont.

179 B

Moreton Lodge Herds & Flocks

14th ANNUAL SALE. 14th

By Public Auction, without reserve, on

WEDNESDAY, 7th September, 1881,

At GUELPH, ONTARIO,

Consisting of 60 Shorthorn Cattle, Bulls, Cows and Heifers; 150 Cotswold Sheep, 75 Southdown Sheep—rams and ewes.

The Moreton Lodge Herds and Flocks were founded in 1853, from the leading English breeders of that day, and have been kept up to a high standard of excellence by importations from the best sources. Catalogues ready 15th August.

179-b FRED WM STONE.

The Ontario Experimental Farm

PUBLIC SALE OF LIVE STOCK

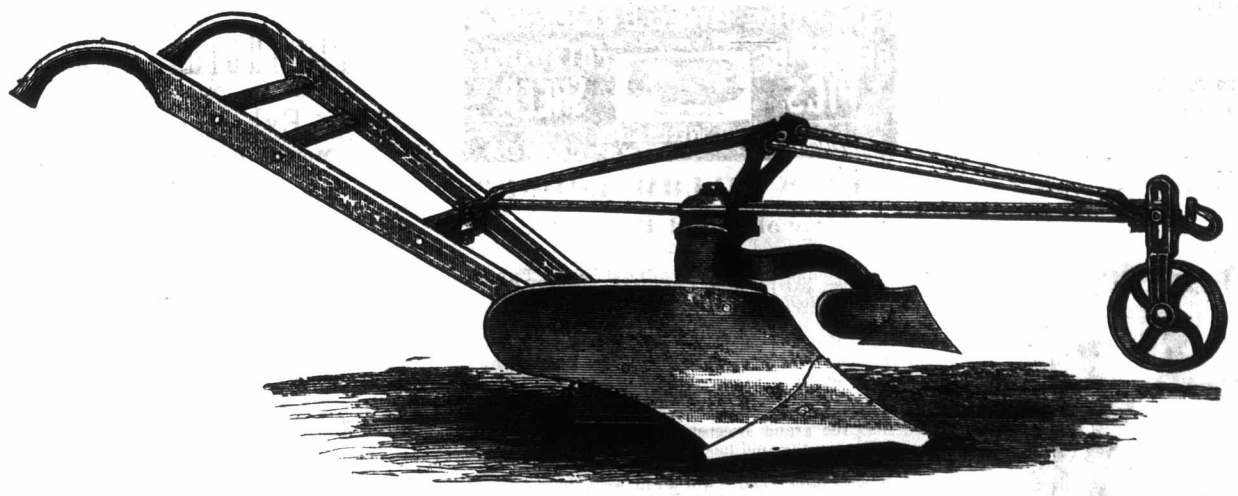
—ON—

Thursday. 8th September, 1881

IN ADDITION TO THE SURPLUS STOCK of over Ninety Head of pure-bred Leicester, Cotswold, South Down, Oxford Down and Shropshire Down Rams and Ewes of various ages—and of Shorthorn, Hereford Devon, Ayrshire and Aberdeen Polled Bull and Heifer Calves there will be offered all the present stock of Bulls and Rams of these breeds, which are being replaced by new importations. Particular attention is invited to this year's sale, as regards high individual merit and health. No reserve whatever, and easy terms. Catalogue after 1st August.

WM BROWN.

Guelph, Ontario, 28th July, 1881. 178 B



THE "SEEGMILLER"

TRUSS BEAM PLOW!

Flexible Wheel, Universal Standard Joint, and Jointer Attachment.

Will be exhibited at Industrial Exhibition, Provincial Exhibition, Great Central at Hamilton, Quebec Provincial at Montreal, and Dominion at Halifax.

SEE IT! 179 **SEE IT!**

PUBLIC SALE
—OF—
THE ENTIRE JARDINE HERD
—OF—
AYRSHIRE CATTLE
—AT THE—
Crystal Palace Grounds, Hamilton, Ont.
Friday, Sept. 9th, 1881,
Commencing at 1 o'clock p.m.

Selections from this herd have carried off the herd prize at the Provincial Fair in Canada for the past ten years, competing against all the principal herds in Canada; and two years in succession at the New York State Fair, the only two occasions they were placed on exhibition in the States.

Breeders of Ayrshire Cattle are reminded that this sale affords them an opportunity for the selection of stock never before offered on this continent, and may never occur again.

Catalogues furnished on application.

JARDINE & SONS. Hamilton P. O., Ont

189

FIRST PRIZE AWARDED THE

"LYMAN"

FOUR-BARB STEEL WIRE FENCING

At the Dominion Exhibition, Montreal, 1880; Provincial Exhibition, Hamilton 1880 for excellence and superiority over all competitors

When buying barbed wire see that "Lyman Barb" is stenciled on each reel. Buy no other. Send for circular.

DOMINION BARB WIRE FENCE CO.

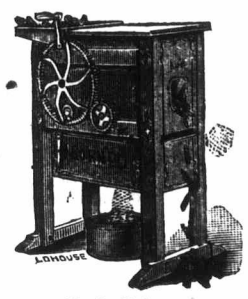
42 & 44 Foundling Street,
Montreal.

185-e

$5 TO $20 per day at home. Samples worth $5 free.
Address STINSON & Co., Portland, Maine

Cornell's Patent Double and Single Tube Corn Sheller,

FOR HAND OR POWER.



Will shell more corn in the same space than any other.

The best Corn Sheller in the market.

No. 1. Single Tube, - - - - - $10.00
" 2. " " with Fan (30 bush. per hour, - - - - - - - - 15.00
" 3. Double Tube, with Fan (50 bush. per hour) hand or power, - - 24. 0

Circulars on application. First prize three years in succession at the Western Fair, London, against all competition.

THE FARMER'S FRIEND CIDER MILL!

FOR POWER OR HAND USE.

For light running and fast crushing and pressing it has no equal. For simplicity, strength and durability it is unequalled.

No. 1. F F—A Family Mill, - - - $25.00
" 2. Farmer's Favorite, - - - 35.00
" 3 F F Mill and Press combined, hand or power, - - - - - 65 0

Circulars on application.

Address — THE AGRICULTURAL EMPORIUM OF ONTARIO. JOHN S. PEARCE & Co., Managers, London, Ont.

CARDS, 10 Lilly & imported Glass, 10 Transparent, 20 Motto. Scroll & engraved (in colors) in case, & 1 Love letter, name on a l, 15c West & Co, Westville, Ct. **40 Cards**, all Chromo. Glass and Motto, in case, name in gold and jet, 10c. West & Co, Westville, Ct. 179-c

---

JOHN CAMPBELL,

KING STREET, - - LONDON, ONT.

Manufacturer of

CARRIAGES, BUGGIES, CUTTERS, SLEIGHS, &c.,

Modelled from the Newest Designs; which, for Elegance, Durability and Workmanship, cannot be surpassed in the Dominion. dc-12

J. N. ANDERSON M. D. M. C. P. S., Ont.—Eye and Ear Surgeon. 34 James St., Hamilton, Ont.

Dr. Anderson gives exclusive attention to the treatment of the various diseases of the **EYE AND EAR**

Cross Eyes Straightened. 183-tf

DR. W. E. WAUGH. Office—The late Dr. Anderson's, Ridout Street, London, Ont. 169-tf

---

MOLSONS BANK

THOS WORKMAN, President,
F W THOMAS, Gen'l Manager.

Paid-up Capital, - - - - - - - $2,000 000
Rest, - - - - - - - - - - 540,000
Continuent Fund, - - - - - - - 10,169

The London Branch of Molsons Bank, Dundas Street, one door west of the New Arcade,

ISSUES DRAFTS ON LONDON, ENG.
NEW YORK, U S
ST JOHN, N B.

and all the principal Cities and Towns in Ontario and Quebec.

Offers unusual facilities to those engaged in the produce business.

Deals liberally with merchants and manufacturers.

Discounts for the Farming community.

Buys and sells Sterling Exchange, New York xchange, Greenbacks, etc. at very close rates.

Makes advances on United States Currency and Securities on reasonable terms.

SAVINGS BANK DEPARTMENT

ffords opportunity for safe and remunerative investments or accumulative savings.

JOSEPH JEFFERY,
Manager.

London, January, 1880. 169-12

$66 a week in your own town. Terms and $5 outfit free.
Address H. HALLETT & Co., Portland, Maine.

THE
DOMINION
SAVINGS AND INVESTMENT SOCIETY.

FARMERS

Wishing to borrow money will find it to their interests to apply to this institution before going elsewhere.

We are now making Straight Loans at 6½ and 7 per cent., according to length of time money is required for. Interest only payable yearly, with privilege to borrower to pay back a portion of the principal each year, if he should desire to do so. Interest to cease on all sums paid on account of principal from date of payment.

SAVINGS BANK BRANCH.

Highest rates of interest allowed on deposits.

OFFICE—Hunt's Block, Richmond-St. London.

183-tf F. B. LEYS, Manager.

ONTARIO AGRICULTURAL COLLEGE

The next session of the Ontario Agricultural College will commence on the 1st Oct.

Matriculation Examinations: 9 a.m. Saturday, 1st Oct.

Lectures: 9 a.m. Tuesday, 4th Oct.

Candidates for admission from Ontario will oblige by sending their names at once.

For circulars apply to
JAMES MILLS, M.A., President.

Guelph, Aug. 16, 1881. 189

NEW ADVERTISEMENTS

Clover Mills!

Under-Shot Open Iron Cylinder.

STEEL SHAFT.

THE BEST IN THE WORLD!

Can furnish Over-Shot Birdsall's Pattern, if preferred.

"Grain-Saver" Threshers

MOUNTED AND DOWN POWERS.

Address us for Catalogue of Threshers, Clover Mills, Horse Powers, Reapers and Mowers.

L. D. SAWYER & CO.,

HAMILTON, ONT.,

CANADA.

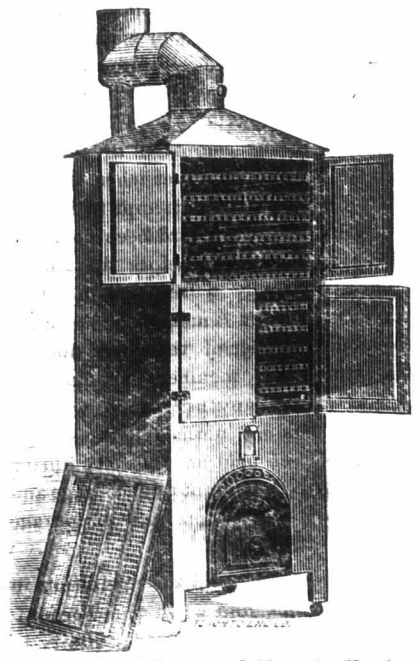
173-1 w

SAVE YOUR FRUIT!

BY USING THE

ZIMMMERMAN

Portable Combined Fruit Dryer and Bake Oven.



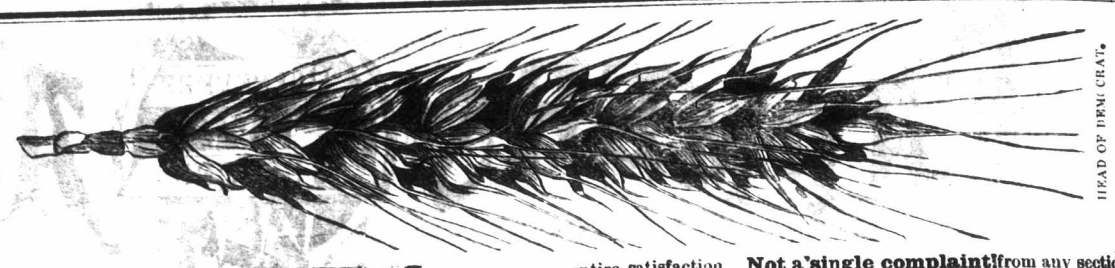
Over Ten Thousand Now in Use!

Manufactured by,

RICHARDS BROS.

494 & 496 Yonge St., Toronto.

189-tf W. EARLE, Agent.

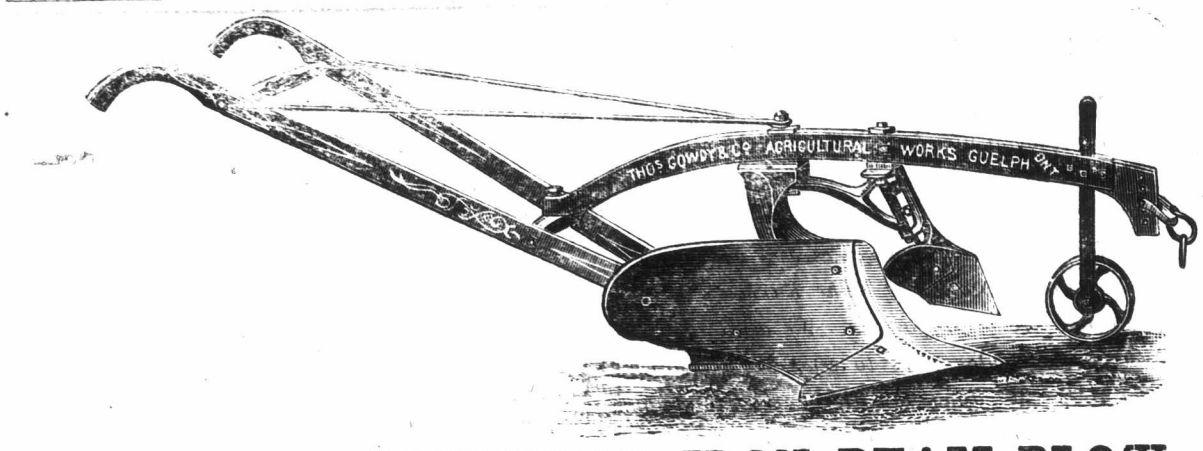


THE DEMOCRAT WHEAT, introduced by us last season, has given entire satisfaction. **Not a single complaint** from any section; in all cases proving to be the best grown in the neighborhood. Choice seed, pure and good, best imported and home-grown, $3 per bush.; 2nd best quality, $2.50 per bush. Special quotations for quantities. **Order early.**

Other varieties at following prices:—**Egyptian Wheat,** at $2 per bush; **Fultz, or Finlay,** at $1.50 per bush; **Arnold's Victor** at $1.75 per bush. Scott, Clawson, &c., small advance on market price. **Bags extra, 25c. each.** Timothy seed, choice, $3.50 per bush. Just arrived, choice lot Orchard Grass, Kentucky Blue Grass and Red Top, for permanent pastures, from best growers. Address,

THE AGRICULTURAL EMPORIUM OF ONTARIO.

189-tf JOHN S. PEARCE & CO., Managers, Seed and Commission Merchants, LONDON, ONT.



PATENT SECTIONAL IRON BEAM PLOW,

The Most Perfect Jointer Plow in the Market. Manufactured by

THOS. GOWDY & CO., GUELPH, ONT.,

Manufacturers of all kinds of Agricultural Implements.

GUTTA PERCHA PAINT

BEST IN THE WORLD.

Stands the Climate of the Provinces better than any Paint made.

Mixed Ready for Use.

All Shades and Colors.

This Paint is not an experiment. It has been thoroughly tried, tested, and proved to be the Cheapest and Best, the finest finished and most enduring Paint ever produced. It is impervious to water! Atmospheric changes do not affect it! Send for book of testimonials, prices, or any information desired. Address,

The Agricultural Emporium of Ontario, 360 Richmond Street,

187-tf LONDON, ONTARIO.

TORONTO

5th to 17th September.

We will Exhibit In Operation at the Exhibition to be held at each of these Cities,

Portable Saw Mill and Shingle Mill,—in operation at each Exhibition.

MONTREAL

14th to 23rd September.

Portable Grist Mill and Chopper, and Cranson's Improved Buckwheat-Huller, } In operation at each Exhibition.

If interested don't neglect to call.

Waterous Engine Works Co.

BRANTFORD, CANADA.

HALIFAX

21st to 30th September.

40 Best Chromo Cards ever sold, mottos, birds, &c., with name, 10c. Agents wanted! Send 3c for the best samples and terms ever offered. J. B. HUSTED,

189-b Nassau, N. Y.

50 All Gold, Chromo and Lithograph Cards (no 2 alike), with name, 10c. 35 Flirtation Cards, 10c. Game of Authors, 15c. Autograph Album, 20c. All 50c. Clinton Bros., Clintonville, Conn. 178-L

COOK'S FRIEND TRADE MARK. BAKING POWDER

25 Years' experience of a CONSTANTLY INCREASING DEMAND for the

Cook's Friend Baking Powder

shows that the WANTS of the CONSUMER have been WELL STUDIED.

THE COOK'S FRIEND

is PURE, HEALTHY and RELIABLE. It will always be found equal to any duty claimed for it. Retailed everywhere.

ASK FOR McLAREN'S COOK'S FRIEND.

RICE'S FINE SALT

Manufactured by the

NORTH AMERICAN CHEMICAL CO. of Montreal and Goderich.

Put up for Dairy use in white sacks, - 224 lbs.
" " " " qr. " - 56 lbs.
" " Family use in brls. containing 32 bags each.
Put up for family use (extra table) in cases, 4 doz. bags in each.

Ask for Rice's Fine Salt.

AGENTS:

A. M. Smith	London
Steele Bros. & Co.	Toronto
A. Gunn & Co.	Kingston
Harold Lambe	Hamilton
Geo. Wait	Montreal

189

R. A. BROWN

Cherry Grove, Ont.

Has 20 varieties of Land and Water Fowls

Young stock for sale now.

Get your chicks early and secure the best.

187-tf Send for circular.