

Feb., 1874

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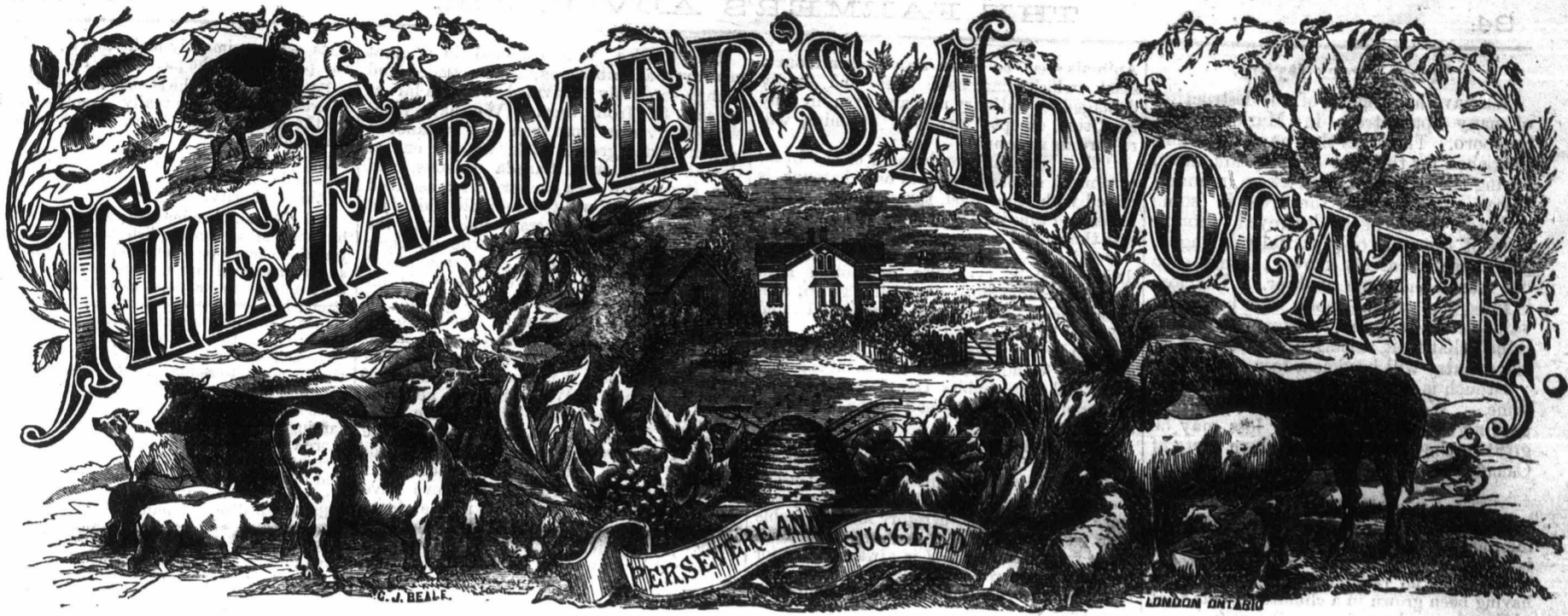
ROOM'S SEED CATALOGUE AND GUIDE for 1874.

FOR DELIVERY about All who are interested in culture are requested to and I will mail each a is. Address GEO. MOORE, 217

or Tomato!

of the public to extracts letters in my Catalogue and Gardeners in various few Tomatoes for the first letters are all emphatic Canada Victor Tomato; 2nd, for its excellent uniform solidity. I seed saved from selected per package and \$1.50 catalogue, FREE to all

RY, Marblehead, Mass. Feb & Mar



VOL. IX. { WILLIAM WELD, Editor & Proprietor. }

LONDON, ONT., MARCH, 1874.

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Prize Essay.

One of Vick's chromos is offered for the best article on the management of farm yard and stable manure. The article is to be in this office by the 15th of the present month.

Barley.

One of our subscribers has forwarded a sample of barley raised from seed brought from California. It is larger and coarser than our barley, and said to be far more prolific. We have shown the sample to our dealers here; they consider we should be doing an injury to introduce it, as it is so coarse. We therefore leave it alone.

The Rennie Pea.

Last season we disseminated a few of these peas. From all that procured them we have reports of their extra earliness; no pea we have yet sold or heard of surpasses this variety in earliness. Market gardeners make money by them. They sold in the Toronto market last summer at \$4 per bushel in the pod.

Spring Wheat.

We informed you previously that spring wheat in this part of the country was a poor crop last year, and that our wheat is shrunk; however, we have heard such complaints when we have sent purchased wheat out that we shall let those who require spring wheat have it, such as it is.

The Farrow wheat yielded the best with us, but is shrunk even more than the McCarling. We have had several highly satisfactory letters from the north and east in regard to both of these varieties, but to the south and west we are condemned for swindling because they have not done well.

We will only supply in quantities of one bag or less to any one; thus you cannot lose much, and if it answers well with you much may be gained. We will not commend either more than we have above stated.

Our enquiries have brought us more samples and accounts. F. W. Stone, of Guelph, the gentleman from whom the Government purchased the Model Farm, has honored us with a sample of the finest spring wheat we have ever seen; it is white, looks like fall wheat, and is very plump. After having seen the sample we determined to make strict enquiries regarding it, as we doubted its being a spring wheat. We went to Guelph and found out that Mr. Stone had procured this wheat from a person in Utah. Mr. Hood, of Guelph, and Mr. Stone were both well acquainted with the gentleman from whom it was procured, and both were fully satisfied that it was spring

wheat. Mr. Stone had only what quantity he intended to sow when we saw him, and it was with difficulty we managed to secure a small quantity, and that at such a price as would scare most farmers.

We intend to sow a little of it, if only four ounces, but will dispose of a few ounces to such of our friends as send us one new subscriber. Mr. Stone did not know the name of the wheat, therefore we have to give it some name, and will call it STONE'S WHITE WHEAT. It has yielded as high as 60 bushels per acre; it may be a most valuable variety for us, or it may not answer here. This is one of the chances of importing new seeds.

Dairymen's Association.

The annual meeting of the Canadian Dairymen's Association was held in Belleville, on the 11th and 12th of Feb'y. The meeting was an interesting one. Although the meeting was well attended, the number present was not so large as at Ingersoll last year. The ladies did not manifest the same interest as at Ingersoll, at least, there were not quarter as many in attendance.

The addresses of X. A. Willard and Mr. Arnold were of great interest. We may give them or extracts from them in future numbers.

There was an animated discussion on the coloring of cheese; some of the vendors or agents of the different anattos advocated the use of one kind, while others advocated that of a different stamp. Each had their votaries, and were well advertised.

Some dealers considered high coloring the best to suit the market. It was pretty clearly shown that the coloring in no way improved the quality, flavoring or keeping qualities of the cheese, and it was also shown not to be injurious in any way, but aided in covering the defects of inferior cheese. The white cheeses were shown to be quite equal in every respect to the colored. An inferior cheese could be more easily detected if no color were used, but consumers preferred the colored cheese, thus the necessity of using it, as Canada could not afford to be a teacher to the consumers in Europe. Some dealers could sell the white cheese as well as the colored. The question of color or no color must rest with purchasers. If the facts were really known by consumers that the white cheese was the best and most easily judged, and that coloring tended to conceal defect, perhaps the coloring of cheese might then be abandoned; or if any well known factory was to abandon coloring, and once establish a name for their celebrated white cheese, other factories would soon follow the same plan.—It costs some factories \$50 a year for

coloring. The coloring of cheese is something like the painting of ladies' cheeks, it may please the eye and entrap the unwary, but the painted lady is no better than one that does not paint.

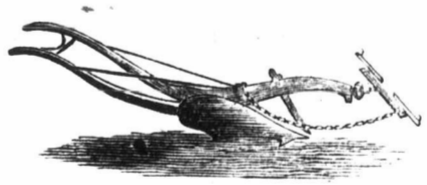
It was shown that Canada can become the greatest cheese exporting country in the world. Our climate will produce grasses more suitable for dairying than a greater portion of the States. Canadian cheese has been gaining a higher rank and better name this year than it did last year.

The question of marketing cheese being discussed, it was generally admitted that cheese should be sold early, one month from the time of making being the best time. Cheese degenerates by keeping it after becoming ripe.

It was shown to be advantageous to skim tainted milk, as the impurity would principally centre in the cream; otherwise skimming was objected to.

We were pleased to see so many friends there that took an interest in our undertaking.

Ploughing Under Green Crops.



Mr. Jos. H. Woolley, of Simcoe, sends us a sketch of a plough with his attachment for ploughing under green crops.—As it is not patented, as thousands of less useful plans are, we have had a cut made of it, and any of you can use it.

We think this the best plan we have yet seen. Below is Mr. Woolley's description and account of results. We think it deserving of your attention, when you can cover corn five feet high.

"Fasten one end of chain on furrow end of double tree, and let the chain lie down in the furrow; fasten the other end round the plough beam, as in cut, and give length of chain according to height of grass plowed under. Now, I think you will understand my plan of doing it. I plowed under Ohio corn this summer, about five feet high, and put it all out of sight, which would be impossible to do with a ball and chain. A cutter shear will work the best to plough under very long grass.

JOS. H. WOOLLEY, Simcoe."

Mushroom Growing.

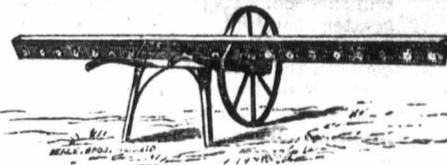
As there is a good demand for mushrooms in cities and towns, and the price asked for them being fabulous in comparison to the price of them in England, our farmers, gardeners and others might

probably make more by raising them than any other crop, where they have a suitable piece of land.

A subscriber at Wolfe Island sends us the following mode of production. It may be of profit to some of our readers that live within easy distance of a railroad station. He says:

"Take a piece of black muck and plough it several times, and harrow it; then apply a good coat of hen and hog manure, and turn under. Let it lie for some time and turn up again; then use the harrow again to mix the manure well with the muck; then turn under, drag the ground, and leave it level for the crop. The best time to fill in the ground is in July. I wish some experienced farmers would try this plan; I have tried it and it pays well."

First Prize Seed Sower.



Mr. James Goward, of this city, is now manufacturing a lot of these machines.—He has brought his plans from England, and made some improvements himself; he made a few machines last year, and from the accounts we hear of them, it appears they will be in demand by those who have seen them.

Mr. Tooley, M. P. for East Middlesex, among others, procured one last year, and appears highly satisfied with it. The advantages are that it sows more evenly and is operated more easily than other hand machines. It being near the ground the wind can have but little effect on the seed as it falls. There is nothing to prevent the seed from falling direct on the ground, as is the case with some hand sowing machines.

This machine took the First Prize at the last Provincial Exhibition, as the best grass seed sower, and Second Prize as turnip seed sower. It will also sow wheat and other grain, as the operator may choose, but its greatest utility is for sowing grass seeds.

It is worked by a series of revolving brushes inside the seed box; regulators are attached, so as to sow the required quantity per acre. The machine, when not in use, can be so placed on the barrow as to pass through a narrow gate. When at work it sows twelve feet or less at a time.

The price of the machine is \$20. We have one at our warehouse, so that any one may see it. They can be shipped at a small cost, as the seed box lifts off the barrow. We can supply them to any parties wishing them.

make this declaration of... of Husbandsry:—

strong and faithful tie... ally resolve to labor

the motto, "In... essentials liberty; in

to advance our cause... the following ob-

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to hasten the good... our expenses, both in-

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to every American citizen to take a proper interest in all the politics of his country. On the contrary, it is right for every member to do all in his power legitimately to influence for good the action of any political party to which he belongs; it is his duty to do all he can in his own party to put down bribery, corruption and trickery, to see that none but competent, faithful and honest men, who will unflinchingly stand by our industrial interests, are nominated for all positions of trust, and to have carried out the principles which should always characterize every grange member, that the office should seek the man and not the man the office. We acknowledge the broad principle that difference of opinion is not crime, and hold that progress toward truth is made by difference of opinion, while the fault lies in the bitterness of controversy. We desire a proper equality, equity and fairness, protection of the weak, restraint upon the strong; in short, justly distributing burdens and justly distributing power. It is reserved by every patron as his right as a freeman to affiliate with any party that will best carry out its principles.

6th.—Ours being peculiarly a farmer's institution we cannot admit all to our ranks. Many are excluded by the nature of our organization; not because they are professional men, or artisans or laborers, but because they have not a sufficiently direct interest in tilling or pasturing the soil, or may have some interest in conflicting our purposes. But we appeal to all good citizens for their cordial co-operation to assist us in our efforts towards reform, that we may eventually remove from our midst the last vestige of tyranny and corruption. We hold the general desire for fraternal harmony, equitable compromise and earnest co-operation as an omen of our future success.

7th.—It shall be an abiding principle with us to relieve any of our oppressed and suffering brotherhood by any means at our command.

Last, but not least, we proclaim it among our purposes to inculcate a proper appreciation of the abilities and sphere of woman, as is indicated by admitting her to membership and position in our order. Implying the continued assistance of our Divine Master to guide us in our work, we here pledge ourselves to faithful and harmonious labor for all future time to return by our united efforts to the wisdom, justice, fraternity and political purity of our forefathers.

Crop Reports of 1874.

The Mark Lane Express speaks hopefully of the prospects of the coming harvest in England, while summing up the deficiencies of past seasons.

The result of the last three years of agricultural operations, as far as the returns of the winter crop, which is considered the crowning product of the course of cropping, are concerned, is almost to break the heart of the farmers. It is true the last crop of wheat was partial, some of the farmers having been favored with a full average yield; but upon the years 1871, 1872 and 1873 the crops have been far from profitable to the farmer, although the forage crops have generally proved fair and animal produce of all kinds has sold at high prices.

Nor is the case of the cereal crops—taken as a whole—so serious as that of the wheat alone would make it appear. The barley was on the whole a fair crop, which sold at a very high price; and this grain—of making quality—is likely to sell high in future, the supply being quite unequal to the demand.

With respect to the future the unusual mildness of the weather for winter has puzzled the weather-wise considerably. They do not know whether to draw a favorable or unfavorable inference from it. We remember one season in which, during the whole winter there was not one frosty night that produced ice strong enough to bear a duck. The harvest of that year was magnificent, and the wheat was chiefly housed in July in the forward countries. Let us therefore look forward with hopes, and at any rate let the farmer adopt for his motto the safe adage, "Let nothing be despaired of," for we see no reason to doubt the return of favorable seasons, having passed through much more discouraging scenes than the present position of our agriculture now presents.

Review of the British Corn Trade.

Abridged from the Mark Lane Express.

January, generally the sternest month in the year, has finished its course with scarcely any frost. Wild spring flowers and a general start in vegetation have attested the unusual temperature, and in the south of Inland the cattle without shelter have been maintained by herbage alone, almost for the first time on record. What our future fare is to be there is no indication but there are fears still on the Continent from the absence of snow. Such an open season has produced more dullness, and several markets have noted a decline of 1s., but still our arrivals are scarcely up to our supposed necessities; and unless we have har-

vest a month earlier than usual, we may feel the want of imports by the exhaustion of stocks. In France there has been the same heaviness, and Paris notes a decline of 1 franc in flour, though the offers of native wheat keep short, and the provinces in some instances also show a similar reduction, while Marseilles has become calm. English samples, however, do not increase in Mark Lane, and many holders of foreign are firm in the belief of a speedy reaction. The corn yet looks well upon the ground, for there have been no washing rains to weaken, or frosts to uproot it, and if we only get through the blooming time well there may be a good crop to make up for late years. In Belgium there has been variety, but decline predominates. In Holland there was no change. Dantzig prices have given way about 1s. per qr., but at Pesh there has been equal gain from the smallness of supplies. Italy keeps up a demand in Algeria, and hardens prices there as well as reduces stocks. In other places the changes of value have been trifling, and Rye keeps very dear. California makes no abatement in shipments thence, and the fluctuations in New York are small, and take their rise in English advices.

Since the date of the above, Feb. 2, there has been little change in the English markets; dullness has been their general characteristic feature. On Feb. 20 English reports showed a fall of 6d on flour, but the 1d lost on white wheat yesterday was reversed, and the market is described as firmer.

How they Farm in other Countries.

Do we fully comprehend the great straits of the people in some of the civilized countries of the Old World, from the narrow limits by which they are enclosed? Thus we can have some idea of the great inducements our Dominion holds out to those desirous to find room in a new world, for millions of courageous hearts and strong arms, for whom there is plenty of work and abundance of food. The undeveloped wealth of the country in her tens of thousands of leagues of land teeming with fertility and the incalculable wealth of her mineral resources is almost illimitable. But we do not gather from her stores anything approaching to what we might, even with our insufficient numbers. No urgent necessity compels us to turn to good account every rod of land, and to ransack earth and sea for fertilizers to force the soil to yield its heaviest crops as in Europe. The absence of such necessity makes us more careless of improvements in agriculture than we would be if less favourably situated; hence there is on our best cultivated farms a need of still further improvement.

We have from time to time spoken of the high farming in many parts of England; we now give from an address on agriculture in the Old World, a brief sketch of that

AGRICULTURE OF HOLLAND.

Holland, not including the Zuyder Zee, has an area of 3,287,463 hectares, or 8,193,696 acres with it, 3,818,639 hectares. It has a population of 3,500,000 constantly becoming denser, having increased eight per cent. in ten years. Of this number 218,115 men and 35,730 women are actually employed in agriculture. Nearly four-tenths of this area is occupied in pasturage and fodder production, showing the prominence of meat, butter, and cheese, in the farm economy of the country. The tilled area is about 25 per cent. of the total. The cereal production last reported was about 9,000,000 bushels of oats, nearly as much of rye, and 4,500,000 bushels of wheat. The cattle are the best meat producers of continental Europe, and in the flocks runs the best blood of English mutton breeds. In all the operations of the dairy, and of the farm as well, the extreme of neatness is the rule. The soil itself, originally was a waste of sand, has been reclaimed by patient labor, a part of it literally from the domain of Neptune, and kept in generous productiveness by a liberal application of fertilizers; and now it is proposed to drain the Zuyder Zee an area of 1,250,000 acres and transform its bed into fruitful fields, at an expense almost equal to the cost of construction of our completed Pacific Railroad line.

From this brief report we can see how much may be accomplished in agriculture—how much is actually done—what products are raised—how great an agricultural population is maintained in this, almost the least of the kingdoms of Europe. In Holland as in England, the greater profits to be realized from stock feeding is known and acted upon, and besides the market value of the products of their stock farms they know, stock and dairy farming makes the soil fat.

The estimate of the value of land, as the basis of national as well as individual wealth is exemplified by the vast undertaking now in progress to convert the 50,000 acres, till now a salt sea, into fertile fields soon to be rich with crops of golden grain and herds and flocks.

We give a succinct account of this great work:

HOW LAND IS MADE IN HOLLAND.

A map of the Province of North Holland, made 300 years ago, shows a bare network of marshy land, protected from the North Sea by a range of sand-hills, and enclosed within its meshes vast bodies of navigable waters. The mere outline of the country entirely unpromising for habitation, and afflicted with a most rigorous climate. This whole province is now a smiling fertile land, busy with every form of industry, and one of the great centres of the world's prosperous activity. In a few years, when the works now in hand shall be completed, there will remain no water in its wide boundaries, save in the embanked canals, where high above the level of the fields, the lifted waters flow to the sea and afford canals for the vast commerce of the country. Arrangements are already made for the drainage of the Zuyder Zee, a work which will cost over \$50,000,000, and which will take twenty years for its preparation alone. When the enormous dyke shall have been built and new canals shall have been made for the rivers which flow into it, it will take sixty-three enormous steam engines several years (working night and day) to pump out this water, which has an area of 50,000 acres and an average depth of about ten feet. A survey has been made of the whole bottom, and a plan of improvement includes the division of land and the construction of the canals (for drainage and for communication) which are to serve the future generations who are to inhabit it.



AGRICULTURAL.

POTASH AS A FERTILIZER.

The great problem for agriculture now is: How shall we replace substances which have been taken from the soil, and which the atmosphere does not furnish? It is power and a great one when the man knows how to compensate his land for the loss sustained in the last year's crops. If the compensation is imperfect the fertility of the field decreases; if more is given, than the loss sustained, its fertility increases. When soil produces 25 bushels of grain to the acre, and on an average from 2000 to 3000 pounds of straw, this produce will remove about 40 pounds of potash from the earth. Oats at 50 bushels to the acre remove about 13 pounds of potash. Barley and Rye about 30 pounds each. The potash is not returned to the land through the excrement of the animals.

Potash is found in great abundance in Germany, the deposits are immense, over 30,000 tons of the muriate of potash were supplied to consumers on both continents during the year 1872.—A. L. Palmer, in Western Farmer.

MODEL FARMING.

It is unfortunate that the Local, as well as the State, agricultural association almost altogether ignore the cultivation of the soil in their competition for premiums. As the success of agriculture depends in a much greater degree upon the excellence of cultivation of the farms than upon the size or beauty of the stock raised upon them, it would seem to be more conducive to the attainment of the ends for which these associations are supposed to have been instituted, that they should attract attention to this especial feature by offering premiums for the best plowed field, the best crops, and the best cultivated, best managed, and best kept farm, as well as for the best horse, cow, hog, or trio of poultry.

The description of the prize farm is one of the most valuable and interesting parts of the report of agricultural societies that come to us from Europe; and the plowing matches give rise to as much competition and produce as valuable results—if not more so, upon the whole—than the strifes between stock-breeders as to who shall produce the choicest animal.

Our plowing is something of which few farmers will make a special source of pride, and the general management of the farm, barn-yard, and stock-buildings cannot be accepted as at all approaching perfection. In fact, our farming is susceptible of much improvement as to its condition of efficiency, neatness and economy; and there is but little emulation among farmers in this respect while there is as to who shall have the fastest horse, the fattest hog or the best cow or sheep; the consequence is that the animals which take prizes at the fairs sometimes come from farms which are notable for ill-kept fences, poorly-plowed fields, light crops, and dilapidated barns, but which yet offer a conspicuously favourable contrast with those of their less enterprising neighbors.

There is nothing so "catching" as improvement, and while our agricultural associations have done an excellent work in creating and fostering a taste for good stock, and are yearly causing a vast improvement in the value of this class of agricultural productions, yet there is a wide field for improvement in our method of cultivation, our modes of feeding or ways of raising crops, our styles of buildings, our manner of dividing fields, fencing and in the general management of the farm, which might be occupied very advantageously.—N. Y. Times.

COST OF TRANSPORTATION AFFECTS BOTH PRODUCER AND CONSUMER.

It is an established law of political economy that every penny saved in transportation adds just as much to the value of corn, wheat, pork, beef, etc., where they are produced.—Dr. O. W. Wight, in Western Journal of Agriculture.

The cost of transit for a bushel of grain between the foot of lake transportation and the head of sea transportation may doubtless be reduced 75 per cent. [by the introduction of steam on the Erie Canal], and by so much the Western Farmer's pocket will be enriched.—American Agriculturist.

It is an established law of political economy that the cost of an article depends upon the cost of production and the cost of transportation. Many circumstances affect this law, but in the vast majority of cases it holds true. Wheat sells at a higher price in New York than in Chicago because it costs more to produce it there and costs money to get it transported. It sells for a higher price in Liverpool than in New York for the same reasons.

If any man or community can secure a special reduction in the cost of transporting their grain, this saving will add to its value where produced, just so much as is the saving effected.

THE DRY EARTH SYSTEM.

Abundant experience has shown that earth (not gravel or sand), when carefully dried so that it has lost all coherence or stickiness, and has become a powder, possesses the power of absorbing and reducing to an inodorous form the excretions of the human body, provided it be applied in quantities so as to completely cover and absorb all fluidity thereof. The mass may be removed at convenient times and seasons, and used immediately as a fertilizer for land, or it may be employed many times without giving off any offensive odour. Similarly, dry ash or hard anthracite may be used instead of earth. In densely populated cities and towns there are difficulties inherent in this system which will render its general use impracticable. It is, however, altogether different with country houses with land from which the earth may be taken, and to which it may be profitably returned. Here the wells will be protected from fouling, the stench of unsightly out-houses prevented, and the annoyance occasioned by frost obviated. In prisons and large establishments where labor is cheap and possible in boarding schools, the system may also be advantageously applied.—Ez.

KEROSENE OIL FOR HEN LICE.

Hen lice are among the greatest drawbacks to the pleasure and profit of the poultry yard. They are especially troublesome in small yards and coops where the fowls cannot have free access to green food and dry earth. We have tried various remedies, and have found kerosene oil to be a very effectual and safe one. It is applied with very little trouble:—Pour it from the can upon the perches where the fowls roost, and, when the hens are ready to brood, saturate the inside of the box before the clean hay or straw is put in with the eggs. It is very much less trouble to apply the oil than to use a wash of tobacco or to go through a process of white-washing once a month.—American Agriculturist.

THE POTATO DISEASE.

Last year Earl Cathcart, President of the Royal Agricultural Society of England, offered a prize of £100 for the best essay on the potato disease and its prevention. The committee appointed to award the prize, examined ninety-four essays, re-examining twenty-three of the number. They report that great pains have evidently been taken with the preparation of these essays, and that the theories most frequently advanced by the essayists, may be stated as follows:

Cause.

1. Degeneration of the tuber.
2. Fungus on the tuber.
3. Wet weather and generally superabundant moisture.

4. *Peronospora infestans* attacking the foliage.

5. Electricity.

6. Plethoric, or succulent, or diseased condition of the plant caused by the use of specific manures.

Among the 94 essays abundant evidence may be collected both in support and in contradiction of any of the foregoing theories, and it is especially noticeable that the essayists generally considered it sufficient to assign a cause and a mode of prevention of the potato disease, without giving any scientifically accurate theory of their proposed remedy, or sufficient experimental proof of the accuracy of their statements. The judges are therefore unable to admit that any essayist has established the truth of this theory, particularly as the first condition attached to the offer of the prize is that all information contained in prize essays shall be founded on experience or observation.

Like the theories of the cause of the disease, the practical suggestions made with a view to its prevention do not go beyond those with which agriculturists and horticulturists were previously familiar; and, as regard the botanical part of the subject, it must be confessed, that all the essayists appear to be ignorant of the present condition of scientific knowledge.

The Judges have therefore, but with much regret, come to the conclusion, that in accordance with one of the conditions on which the prize was offered, they must recommend the Council not to award it to the writer of any one of the essays that have come before them.

The committee also suggest that there are some points necessary to be studied closely before the disease can be prevented or even cured.

The natural history of the potato fungus, from the time it attacks the foliage until the potatoes are harvested, is now well known; but the history of the fungus from the potato harvest until its reappearance the following year, is at present entirely unknown, and therefore offers a suitable field for investigation.

The potato fungus does not usually attack the foliage of the potato until an advanced period in the growth of the plant; and it has been confidently asserted by several essayists, as well as previously in the public press, that certain sorts of potatoes are what may be termed 'disease proof,' on or other of the following grounds:—(a.) That the haulm dies out (and the potatoes arrive at maturity) before the period at which the potato fungus commonly makes its appearance: (b.) That certain late kinds also, as the result of experience, were believed capable of resisting the attacks of the potato fungus.

(c.) That certain new varieties are also able to resist the attack of fungus.

The judges therefore recommend: That a sum of money (say £100) be granted for the purpose of inducing a competent mycologist to undertake the investigation of the life history of the potato fungus (*Peronospora infestans*) in the interval between the injury to the potato plant and the reappearance of the fungus in the following year.

That valuable prizes be offered for—(a.) The best disease proof early potato. The judges appointed to award these prizes should be allowed three years to experiment with the competing potatoes, and with the produce of those kinds which may be found to resist disease in reference to their cropping, keeping and cooking qualities.

CULTIVATION OF BEET IN AMERICA.

The cultivation of the beet, says the *Irish Sportsman*, and manufacture of sugar from it, is largely extended in some parts of the American Continent. We understand that the most successful results as yet have been obtained in California, where two companies are in operation—one the California Beet Sugar Company, at Alverada, producing more than 1,000,000 pounds of sugar from one year's crop, and this only the second year in operation. From the report of the manager of the above company we extract the following:—With respect to the last varieties of beet yielding the most sugar I should name the white Silecian. For the manufacture of sugar the smaller beet, of which the root weighs from 1 to 3 lbs., are preferred. The seed is sown by a machine that we manufacture ourselves, which sows four rows at a time; the rows are 15 inches apart, and when the plant first comes up we hoe the rows to keep the weeds down, and then thin out the plants, so as to leave the plants 8 inches apart; they will then stand in the rows 8 inches by 15 inches. Though most countries and climates permit the culture of sugar beet, there is, of course, a choice of soil, if the highest development of saccharine qualities is desired. The root of sugar-beet penetrates deeply into the ground and always flourishes best in deep, rich, loose, mellow, warm, and fertile soil, free from saline and alkaline constituents, not sour, and of a nature little liable to suffer from drought. The yield per acre, on an average, has been about 15 tons, although in some cases it has been as high as 20 tons. The best sugar business in the United States is still in its infancy, and, with proper encouragement, there is no doubt it can be made one of the best industrial interests we have. At the present time we are feeding 350 head of cattle from the pulp of the San Francisco market."

SALT.

Salt gives relish to grass, hay, and other kinds of raw food, and it acts universally as a stimulus to digestion. It gives tone to the stomach when impaired by an excess of food or labor. Experienced herdsmen always found that it acts as a vermifuge, destroys intestinal parasites, and it is well known to be a powerful agent in tanning and overcoming the natural timidity of animals. It is also well known that it is an excellent abater of internal as well as outward inflammation; it improves the quality of excrement of animals for the purpose of manure. But in its internal uses, whether as a condiment or medicine, it should be administered in small doses. If animals are constantly allowed access to salt they will consume too much for their good but when it is given them at intervals of once or twice a week, a small handful is sufficient for a horse or cow. In fattening calves that are weaned fed upon gruel or other semi-liquid food, salt in small quantities should always be given, not only to prevent sickness but to enable the animal to relish the somewhat unnatural food. Salt also in moderate quantities promotes the health of hogs. A table-spoonful once in twenty-four hours mixed with the food of each hog, will not only aid in the thorough digestion of the food, but insure perfect health. We have not the least doubt of the efficiency of salt in preventing many of the diseases which have made such havoc among the swine in portions of the country during the past few years.—When the use of salt was first introduced into the piggeries of Ireland, it was claimed that the hogs fattened on about one half that was required without it, simply in consequence of improved or more thorough digestion. Were it necessary we might quote from hundreds of our greatest agricultural authorities to show

the benefits that may be derived from the free use of salt among our domestic animals. One of the best known means, both as a preventative and cure of foot-rot among sheep is the scattering of salt over the affected land.

Salt for destroying insects.—It has long been known that salt operates fatally upon all cold-blooded animals that live upon land or in fresh water. Sir John Sinclair many years ago, said in Scotland where the oat crop was destroyed by grubs, it had long been the practice to mix salt with the seed in the proportion of one to thirty-two, but sometimes one to sixteen. If we scatter salt upon the land infested with vermin, it destroys them, and their bodies become the food of plants. Great care should be taken in applying salt upon growing crops, as too much is sure to be injurious. One to five bushels per acre may be spread broadcast upon meadows in the spring or upon land at the time of sowing grain.

Salt for Fungoid Diseases.—Soaking seed wheat in urine or brine, to prevent smut or blight, has been practiced thousands of years, as we learn from the writers of Cato, Virgil, Pliny and Columella. Still it remained by our scientific men to positively determine its value in agriculture, and the results all tend to show that it is one of the most important mineral substances known. The use of salt upon sheep pastures has been observed in Spain and Germany from a very early period. Its efficacy against murrain or rot was known in England in the sixteenth century, and for fertilizing land it was extensively used in the seventeenth century. The long and almost obstinate indifference of our farmers in the use of salt is almost beyond comprehension but the time must come when it will be extensively employed as a manure. —*New York Sun.*

THE DECLINE OF GRAIN FARMING IN THE EAST.

A single firm in the Mystic Valley, Conn., imported and sold 30,000 bushels of corn in the year 1872, and this probably was not half the Western corn consumed in a population of 10,000, of which nearly one half are farmers. This corn went to the supply of families in the villages, livery stables, cart-horses, and a good deal of it to the horses and cattle upon farms as a substitute for hay, there being but a little difference between the price of hay and corn per pound. This fact indicates the great change that has come over the large part of the Massachusetts, Connecticut, and Rhode Island in the last thirty years. They do not raise their own breadstuffs or provender. Wheat ceased to be a remunerative crop long ago, and the sight of a wheat-field is exceedingly rare. Even rye is so scarce that the straw sells for \$20 to \$25 per ton, and is worth more per acre than the grain in ordinary crops. Oats are raised but in diminished quantities, and, as a rule are consumed upon the farms. Almost everywhere in the section indicated, the manufacturing interest thrives. Smart towns have sprung up in the valleys of all the streams, and there is comparatively little water power that is not utilized. The old homestead is frequently sold to the next neighbor at a sacrifice, because the farmer's interest is depressed and the demand for farmers is small. Many farms are sold every year at a price that would not more than pay for the original cost of the buildings. When men think they can make more money in manufacturing industry than upon the farm they will not cultivate the soil. Grain farming, which comes into competition with the prairies of the West necessarily declines. A new class of people, Germans and Irish, are coming in and cultivating the suburban farms. They have much more frugal habits than Americans, are eager to become land-holders, and in a few years own the farms. This decline in the grain products of New England has in its compensations. Fruits and vegetables take the place of the cereals, the cities are more cheaply fed and all classes are better paid for their labor. —*American Agriculturist.*

NEW AGRICULTURE MACHINE.

The *English Mechanic* says, Messrs. McDonnell and Leuchan, of Dublin, have invented a machine which performed the operation of rolling, sowing, and harrowing simultaneously. The roller is of wrought iron, riveted on cast iron wheels, forming a cylinder six feet in height by three feet in diameter. Immediately above the roller is a sowing apparatus, by which the seed is

rapidly delivered, a star wheel of four points keeping the conductors in constant motion. As the seed is strewed a harrow of four rows of oblique teeth set in a central axis turns up the earth over the seed. The harrow is kept in motion by an endless chain or belt which passes round the extreme end of a large cylinder, and fits the groove of a small wheel at the corresponding end of the harrow. Every time the large roller turns over, the circular harrow turns nearly five times, causing the teeth to tear up the soil about twenty times at each of the revolutions. Meanwhile the seed cultivator and distributor rises and falls twenty times during each of these revolutions, and there is a contrivance by which the quantity required to be sown can be regulated. A lever is also connected with the support of the harrow, and rest upon the fulcrum placed at a suitable part of the frame of the machine, by means of a lever the harrow portion of the machine can be raised off the ground and the roller only used; and the distributor or sower may be worked simultaneously by means of the chain-band, which can be closed and the flow of seed stopped. The machines can be easily made to suit either the purpose of sowing corn or grass for pasturage.

The Horse.

SAND-CRACK OR FISSURE IN THE HOOF.

One of the most prolonged and aggravating causes of lameness among horses is "sand-crack," or fissure in the hoof. Why it was named sand-crack is not generally known, some authorities asserting that horses of the desert and sandy soils generally were first affected; while others contend for the origin in the circumstance that the fissure affords lodgment for grit, sand, &c. So much, therefore for the name, which we estimate at little value as an indication of the disease in question. As to the nature of fissure, we may venture an opinion with greater confidence on mere mention of the word. It is an opening or splitting of the hoof, extending from the coronet or fleshy band at the top more or less towards the bottom. The widest part is at the upper end, and through this may be seen protruding not infrequently in bad cases, a strip of angry looking or inflamed flesh, which during motion is severely pressed, and the result is bleeding and lameness.

Fissure always becomes worse by work, and non-removal of the original cause.

Fissure is never present in strong, sound unutilized hoofs. The most common locality is the inner quarter of the fore foot (though sometimes the outer quarter is also liable), and the front of the toe of the hind foot. Those animals having thin, shelly, weak hoofs, more especially when in the shoeing much parting of the sole and rasping of the wall or outer part is practised, are the common subjects, and the liability becomes greater as the work is prosecuted on hard roads. Frequent losing of shoes, use of large nails driven high up, add materially to the occurrence of fissure as causes of destruction, and these need only be applied to sound, strong hoofs for a short time, when the origin of fissure will be demonstrated in its full force.

The immediate cause of fissure is unnatural strain, weight unequally diffused throughout the hoof, which insures pressure in opposite directions, and as a result, tearing open or separating the substance of hoof at a point mid-way from the extremities of other parts subjected to the action. In order to comprehend this more fully, we need to bear in mind that when fissure appears, the hoof is already reduced considerably in natural firmness and strength by the causes already enumerated, and the inevitable result of this is an irregular form of lower or ground surface. It is broken, split and weak, and pressure weight cannot always be equally distributed over a level iron shoe.

Too commonly however, the method pursued is that the very reverse of right, for the shoe is made level on the anvil for the crooked surface of the hoof, and when this is nailed upon it, the effect is of so many forces pulling in contrary directions, the ill-matched opposing surfaces of hoof and shoe constituting additional levers, and the whole during motion causing the hoof to give way at some portion of the upper margin where the least resistance is present. We must not omit also to name as an important evil in the category of causes, that of cutting the foot to suit the shoe. By this practice the hoof is materially weakened, and much judgment is required in fitting the shoes to it; but the smith often fails to see that he should fit the iron to the hoof and produce that equal distribution of weight which is best understood as giving the animal a level bearing. It is not, however, our intention now to enter upon the debatable question of "pro-

per shoeing," our purpose being to draw attention to the aching disease under consideration, and to detail the course of the disease, and the remarks on the adoption of the shoe will be given.

Fissure in the hoof. When a breach is once made in the hoof, it is bottom as the hoof grows to form sound hoof without interference. The effect of motion as wearily practised, is to prevent the breach and to prevent it by the formation of a new one.

Horses that are very young require rest, probably little cooling medicinal measures are being applied in treatment which is covered 3 or 4 times a day with dust or tan. Whether covered by a layer of oil, the object of providing such means is the shape of the under surface, thus produce, under the equal pressure on every desired amount of corn pain will be afforded, greater facilities will be afforded by means of cure.

Several plans are practised by the following are the most recent, slight, or, in some cases, the animal may be cured, and a cure effected, and be properly fitted, and a cord passed round the times. This will prevent the rest open, and supple the rest of the treatment over the coronet, immerse and the space of an inch or two, the breadth of ordinary blistering of a hickory nut. A blister may be repeated several times, until the downwards in a sound condition.

With regard to the it may be explained between it and the hoof, as that which is placed on a yielding dust, and for this purpose which the frog may that part beneath the hoof. The nails must be flat, and care must be taken to sound portions of hoof to be driven.

Added to this, the embrace the major Charlier, so far as the and the fitting of the horned, and by the called, will not only may be restored to sound condition. —

CHARCOAL

Nearly all animals proper eating. In digestion is wrong efficient and rapid a majority of cases. An example of its use in with the intelligent cows was very sickly posed the usual owner being ill and cow, concluded the over-eating, and or ized charcoal given placed in a junk yard, and the water downward. In five was visible and in was in the pasture. Another instance of with a heifer who eating green apples bloated was so severe most as hard as a —saleratus—was correcting the acid put it down always little good. Half charcoal was next the appearance of heifer was well.

Take white pine honey, one oz. each together over a slow fire so that the parts may also makes good a cuts, and sores of cattle.

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per shoeing," our purpose is served by drawing attention to the acknowledged causes of the disease under consideration; but as we proceed to detail the course of treatment, suitable remarks on the adopting of an iron defence will be given.

Fissure in the hoof never unites or closes.—When a breach is once made in the secreting part at the coronet, it continues towards the bottom as the hoof grows, and no disposition to form sound hoof at the top takes place without interference. On the contrary, the effect of motion as well as shoeing, as ordinarily practised, is to promote the widening of the breach and to prevent the desirable shoeing of it by the formation of material within.

Horses that are very lame from fissure will require rest, probably also fomentations and a little cooling medicine; and while such measures are being carried out, the best adjunct in treatment is a loose box, the floor of which is covered 3 or 4 inches thick with sawdust or tan. Whether this should be again covered by a layer of straw or chaff, the owner may decide; the object to be attained is that of providing such means that will conform to the shape of the under part of the hoof, and thus produce, under the weight of the animal, equal pressure on every part. In this way the desired amount of comfort and freedom from pain will be afforded, and, at the same time, greater facilities will be added to the usual means of cure.

Several plans are adopted by veterinary practitioners for the cure of fissure. We give the following as the most useful. If the crack is recent, slight, or causing no pain or lameness, the animal may probably be kept at work and a cure effected. To do this the shoe should be properly fitted, and a strong piece of tarcord passed round the hoof at the top several times. This will prevent the liability to spring or tear open, and support the hoof very much. The rest of the treatment consists of rubbing over the coronet, immediately above the crack and the space of an inch upon each side—upwards the breadth of two fingers—a portion of ordinary blistering ointment about the size of a hickory nut. At the end of ten days the blister may be repeated, and if required, several times, until the hoof is caused to grow downwards in a sound and stronger condition.

With regard to the application of the shoe, it may be explained that the same condition between it and the hoof should be established, as that which is produced when the foot is planted on a yielding surface of tan or sawdust, and for this purpose a bar shoe is best, by which the frog may take a share of weight, that part beneath the crack being entirely relieved. The nails used should be thin and flat, and care must be exercised in choosing sound portions of hoof through which they are to be driven.

Added to this, subsequent shoeing should embrace the major principles advocated by Charlier, so far as the treatment of the hoof and the fitting of the iron armature is concerned, and by these means sand-crack, so called, will not only disappear, but the hoofs may be restored to a properly strong and sound condition.—*The Farmer.*

CHARCOAL FOR SICK HORSES.

Nearly all animals become sick from improper eating. In nine cases out of ten the digestion is wrong. Charcoal is the most efficient and rapid corrective. It will cure a majority of cases if properly administered. An example of its use:—The hired man came in with the intelligence that one of the finest cows was very sick, and a kind neighbor proposed the usual drugs and poisons. The owner being ill and unable to examine the cow, concluded the trouble came from some over-eating, and ordered a teacup of pulverized charcoal given in water. It was mixed, placed in a junk bottle, the head held upward, and the water with its charcoal poured downward. In five minutes an improvement was visible and in a few hours the animal was in the pasture quietly eating grass. Another instance of equal success occurred with a heifer which was badly bloated by eating green apples after a high wind. The bloating was so severe that the sides were almost as hard as a barrel. The old remedy—saleratus—was tried for the purpose of correcting the acidity, but the attempt to put it down always caused coughing, and did little good. Half a teacupful of powdered charcoal was next given. In six hours all the appearance of bloat had gone, and the heifer was well.

SCRATCHES.

Take white pine pitch rosin, beeswax, and honey, one oz. each, fresh lard 1 lb., melt well together over a slow fire, stir till quite thick, so that the parts may not settle separate. This also makes good application for harness galls, cuts, and sores of all kinds, on horses and cattle.

THE USE OF ABSORBENTS IN STABLES.

J Wilson writes to the *Practical Farmer* condemning the use of absorbents in stables. We copy the substance of the article:—

I have never used sand as an absorbent in stables, though I have used a great variety of other substances for that purpose, but not by guess, neither as to the economy of the use of absorbents as bedding for animals, in ministering to their comfort and health, nor in augmenting the stock of fertilizing materials on the farm in their use; for I kept a careful account of the cost, also carefully observed the effect on animals, and I long since arrived at the conclusion that their use as absorbents in stables as bedding was a filthy, barbarous, and uneconomical practice.

With this conviction well established I set about with diligence and determination to so construct the floors of the stables that the liquid excrement would be removed from the stables by drainage, as effectually and as rapidly as possible. In this, I am happy to say I succeeded, so that I am now able to keep both horses and cattle in the stables without the use of bedding or absorbents of any kind; and the animals are more cleanly, more healthy, more comfortable than they would be with any amount of any kind of absorbing bedding. A clean, dry, plank floor, without any bedding, is infinitely more comfortable than a bed of straw or any other material saturated with urine. The purity of the air of a stable in which no absorbents or bedding are used, is a delightful contrast with that of one under the old system.

The animal heat of the bodies of animals in contact with bedding charged with liquid excrement, eliminates the putrid gases with such rapidity that a close stable is soon filled with it and the air in it is rendered utterly unfit for respiration. Not one of all those having in use any improved system of stable drainage, could be induced to use absorbents to retain the urine in the bedding.

The great economy in dispensing with the use of bedding, the great purity of the air of the stable, and the dry and comfortable condition of the animals, compared with the old system, only needs to be practically tested to effectually remove the prejudice in favour of the use of absorbent bedding, which universal custom has become so firmly rooted in the minds of all who plod on in the practical affairs of life, without thinking.

The practice of those who use bedding or absorbents in stables, is usually to cast the straw, or other materials thus used, out into an open yard, where the heap is exposed to the leeching effects of rain, by which a large portion of the liquid excrement is lost.

By my improved stable arrangement the urine of both cattle and horses pass directly, through openings provided for it in the floor, into cemented gutters, from whence it is conducted through glazed terra cotta pipes to a urine cistern or tank, from which it may be taken and all be utilized; either by applying it to the land in the liquid form, or by using it to saturate substances to be composted, of which the solid excrement from the stables is generally the most valuable. When the urine of animals is thus used, the compost heap should always be under cover otherwise the liquid portion, the most valuable, is liable to be dissipated.

AMATEUR HORSE-BREEDING

The subject of horse breeding is at the present time absorbing much interest, not alone from people of agricultural pursuits as a matter of business, but largely from the wealthier class engaged in mercantile and professional employments, many of whom also indulge their fancy in amateur farming. The study is so fascinating that its votaries frequently become absorbed in it to that extent, that they are accused of being possessed of a mania, and in truth the term is oft-times well applied.

The incentive of this intense devotion to the subject with some is, the profit which responds so bountifully to the most successful endeavors; with others, it is glory of the achievement; and with still certain others, the quiet congratulation of watching the results of well-considered selections and carefully-directed crosses, in varifying or disproving acquired theories. There are all grades of minds engaged in manipulating it, and corresponding results variously follow; but so much is the element of chance or fortune interwoven with an unquestionable degree of science, in solving the breeding problems which present themselves to each individual breeder, that frequently the more careful student is outdone by a mere haphazard adventurer. No breeder of intelligence in these days pretend that the production of trotters or race-horses is a mere matter of chance. All experience goes to prove the contrary. On the other hand, when certain well-known conditions have been complied with in the choice of breeding animals, and the care of the stud, there is beyond that an unexplained

variation in results, that for want of better according is a scribed to chance, and this variation acts so important a part in the general experience of breeding as to throw just sufficient uncertainty into the scale as to lend a charm and excitement to the occupation.

In common experience it is safe to say, that of the colts annually bred for trotting and racing purposes by amateurs, not one in twenty ever return a profit to his breeder if retained until maturity; and yet from year to year the number bred is constantly on the increase, and likely so to continue for years to come. The general result of this constant strife for pre-eminence is to greatly improve the standard of blood and value of the common stock of the country, a matter of vast importance as a question bearing upon political economy; and therefore, while the labor of the amateur horse-breeder is but a "labor of love" in a majority of cases, so far as personal profit is concerned, it is not in a broader sense altogether a fruitless one.

While we speak thus discouragingly of the useful financial results of breeding as pursued by the average amateur, we are not blind to the fact that individuals among them arrive at very different and more satisfactory results. This, too, appears to us to be in some measure the legitimate fruits of well-laid plans, carefully conceived and carried out. The subject taken in all its bearings, is too extensive for full discussion here, inasmuch as the usual mode of barely stating theories, without citing facts and instances in abundance to sustain them, is a ground that has already been too thoroughly tramped over by enthusiastic writers for us to think of adding a few merely theoretical footprints to the common store. What the thoughtful breeders of the present day require more than anything else for their enlightenment is a full and concise statement of the results of past experience in coupling, rearing, breaking and handling.—*Spirit of the Times.*

MANAGEMENT OF A REFRACTORY HORSE.

A beautiful and high-spirited horse would never allow a shoe to be put on his foot or allow any person to handle his feet. In an attempt to shoe such a horse recently he resisted all efforts, kicked aside everything but the anvil, and came near killing himself against that, and finally was brought back to the stable unshod. The defect was just on the eve of consigning him to the plow, where he might work barefoot, when an officer in our service, lately returned from Mexico, took a cord about the size of a common belcord, like a bit, and tied it tightly on the animal's head, passing its left ear under the string, not painfully tight, but tight enough to keep the ear down and the cord in its place. This done he patted the horse gently on the side of the head and commanded him to follow; and instantly the horse obeyed, perfectly subdued, and as gentle and obedient as a well trained dog, suffering his feet to be lifted with impunity, acting in all respects like an old stager. The gentleman who thus furnished this exceedingly simple means of subduing a very dangerous propensity intimated that it is practiced in Mexico and South America in the management of wild horses.—*N. Y. Commercial Advertiser.*

CARE OF HORSES.

All horses must not be fed in the same proportion, without regard to their ages, their constitution or their work—the impropriety of such a practice is self-evident. Yet it is constantly done, and is the basis of disease of every kind.

Never use bad hay on account of its cheapness, because there is no proper nourishment in it.

Damaged corn is exceedingly injurious, because it brings on inflammation of the bowels and skin diseases.

Chaff is better for old horses than hay, because they can chew and digest it better.

Hay or grass alone will not support a horse under hard work, because there is not sufficient nutritive body in either.

When a horse is worked hard his food should be chiefly oats—if not worked hard its food should be chiefly hay, because oats supply more nourishment and flesh-making material than any other food—hay not so much.

Mix chaff with corn or beans, and do not give the latter alone, because it makes the horse chew his food more and digest it better.

For a saddle or coach horse half a peck of sound oats and eighteen pounds of good hay are sufficient. If the hay is not good add a

quarter of a peck more oats. A horse which works harder may have rather more of each; one that works less should have less.

Rack feeding is wasteful. The better plan is to feed with chopped hay from a manger, because the food is not then thrown about, and is more easily chewed and digested.

Sprinkle the hay with water that has salt dissolved in it, because it is pleasing to the animal's taste, and is more easily digested. A tablespoonful of salt in a bucket of water.

Oats should be bruised for an old horse, but not for a young one, because the former, through age and defective teeth, cannot chew them properly, the young horse can do so, and they are thus properly mixed with saliva and turned into wholesome nutriment.

CURE FOR SCRATCHES.

Editors *Western Rural*:—Will you give me a remedy for scratches through your columns.
—Omaha, Neb. T. E.

—One of the simplest remedies for what is called scratches, but which is really incipient grease, is gunpowder mixed with sufficient glycerine to form an ointment that will stick when rubbed in. This is for cracked heels, which may or may not run into grease.

A better remedy, however, when it can be obtained, is half a pint of animal glycerine; two drams of chloride of zinc, and one pint of a strong solution of oak bark. If the animal seems feverish, and out of condition, a drink composed of half an ounce of liquor arsenalis, one ounce tincture of muriate of iron, and half a pint of water, should be given every night for three or four days.

THE FOOT OF A HORSE.

The human hand has often been taken to illustrate Divine wisdom, and well so. But have you ever examined your horse's hoof? It is hardly less curious in its way. Its parts are somewhat complicated, yet their design is simple and obvious. The hoof is not, as it appears to the careless eye, a mere lump of insensible bone fastened to the leg by a joint. It is made up of a series of thin layers or leaves of horn, about 500 in number, and nicely fitted to each other, and forming a lining to the foot itself. Then there are as many more layers belonging to what is called the 'coffin bone,' and fitted into this. These are elastic. Take a quire of paper and insert the leaves one by one into those of another quire and you will get some idea of the arrangement of several layers. Now the weight of the horse rests on as many elastic springs as there are layers in his four feet—about 4,000—and all this is contrived, not only for the convenience of his own body, but for whatever burden may be laid on him.—*Rural Home.*

EFFECTS OF VEGETABLE PERFUMERY ON HEALTH

An Italian professor has made some very agreeable medical researches, resulting in the discovery that vegetable perfumes exercise a positively healthy influence on the atmosphere, converting its oxygen into ozone, and thus increasing its oxidizing influence. The essences found to develop the largest quantity of ozone are those of cherry, laurel, cloves, lavender, mint, juniper, lemon, fennel, and bergamot; those that give it in small quantities are anise, nutmeg, and thyme. The flowers of the narcissus, hyacinth, mignonette, heliotrope, and lily of the valley, develop ozone in close vessels. Flowers destitute of perfume do not develop it, and those which have but slight perfume develop it only in small quantities. Reasoning from these facts the professor recommended the cultivation of flowers in marshy districts, and in all places infested with animal emanations, on account of the powerful oxidizing influence of ozone. The inhabitants of such regions should, he says surround their houses with beds of the most odorous flowers.

The traffic receipts on the G. T. Railway for the week ending Jan. 11th, amounted to £40,600, against £27,600 in the corresponding week of the last year, showing an increase of £13,000.

In cleaning tea-trays, bread-pans, candlesticks and other articles made of Japan-ware, hot water should not be used, as it will produce fractures and cracks; lukewarm water is the best to use.



STOCK & DAIRY

N. Dickey Ed.

MAKING GOOD PORK.

The Utica N.Y. Herald thus discourses upon the making of good pork:—

There are many families that raise their own pork; yet what a miserable article do we too often find—flabby, greasy, running to oil when cooked, and frequently rank, sometimes hinting of the sty, and sometimes of worst things. Now and then you meet with sweet, white, solid pork, that will bear frying, and is perfect cooked in any way, reminding you of Elia's inimitable roast pig crackling. And such pork is healthy as well as relishable. Besides, it costs no more to make than the flabby, wretched, rank stuff.

Why this difference? Why should we use a poor article when a good may be had at the same cost? It is because people are careless and ignorant. Any breed (or no breed,) that comes into their possession by trade or otherwise they use; and such feed as they may have, often refused by the poorest, they give without regard to cleanliness or comfort. And thus the one kind of pork is made, or rather makes itself. A large use of whey or milk has much the same effect, making soft, flabby pork. A little of this may be used as drink, or part of drink. The rest should be mainly grain, and corn at that, old corn best. The other grains may be fed as adjuncts, giving variety, which, when well-timed, will promote appetite. But experience has long ago demonstrated that there is nothing so good as sound old corn to make solid, sweet pork, regularly given, never too much at a feed, if the appetite would be retained; clean pens, cosy, well aired, warm in cold weather, cool in hot. A hog, though he will wallow in the mire (for the want of something to cool him) has yet a sense of the neat, and will seek for a choice in a clean place. He thrives under good management.—Cold hurts him—he will make manifest by unmistakable squalls, and activity, and an access of heat will make him suffer. These are to be avoided. Filth in a pen is transferred to the table into pork.

COWS AND CLOVER.

Norman Sparr, in an address before the Canadian Dairymen's Association, at their late convention at Ingersoll, gave the following twelve reasons for sowing the large clover:—

Every cow is a manufacturing establishment, producing quantity and quality of milk in exact proportions to the quantity and quality of food and water she consumes, varied by the amount of labor she has to perform to obtain her living, the suffering she has to endure from excessive heat, cold, hunger, thirst or cruelty, from whatever source it comes. Her taste craves a variety of food of suitable qualities to produce a good quality of milk. While she may be forced, in order to sustain dear life, to eat and drink food and water so filthy and unsuited to her nature and wants as to produce disease in her whole system, her milk feeling it as quick as anything else, it is believed, if left to choice, she never would learn from habit to drink impure, unhealthy water, nor eat wild leaves, bush or weeds of any description, or rotten, mouldy fodder, or decayed apples, pumpkins or roots of any kind, while she could get all she desires of those articles in a perfectly healthy state of preservation.

Now, let it be understood that every wild leaf she eats, every vile weed in her pasture vitiates her taste and lessens the quantity and impairs the quality of milk. This being my experience with an extensive acquaintance with cows and milk, I have no doubt of the utility of the largest kind of clover on which to lay the foundation of the best pasture for dairy stock.

1st. Because it takes full possession of the soil and leaves no chance for weeds to grow to any extent, to impair the quality of milk.

2nd. Because it furnishes the largest quantity of good, nourishing food for summer or winter use of any of the grasses the soil can produce, when the operator fully understands the trade of managing it properly.

3rd. Because clover is the only fertilizing crop the farmer ever raises, and the larger

the kind he raises the faster he fertilizes each acre thus appropriated.

4th. Because every crop that is to follow after the land is plowed again is decidedly heavier and better than it is on equally as good soil where the smaller clover has been raised, and a very long distance ahead of any of the other grasses ever raised.

5th. Because the land is so much easier cultivated where large crops of clover have but recently been fed off or removed from the soil in any other manner.

6th. Because, when raised with timothy, as is usually done, both are ready to be pastured or cut for hay at the same time, which removes a very great objection to the medium and small kinds of clover.

7th. Because it lives about three times as long as any other red clover, and will grow with proper care on the poorest land that will grow any of the other grasses or grain enough to half pay for cultivating the soil.

8th. Because it gives the best yield of seed for any term of years, furnishes the best and largest amount of pasture and hay when the seasons are unusually dry, its roots penetrating the soil so deep that a drought disturbs it as little as it does the trees of a forest.

9th. Because, as the seed is generally sold, we can put the same number of seeds on an acre at less cost for seed than of the medium or small kinds of clover, the seed being so much smaller that the price has always been the lowest when estimated by numbers of seeds instead of by weight.

10th. Because the crop is so little affected by dry seasons that the cows are sure to have a good supply of good feed in summer and good, nutritious fodder in winter, the fibre of the stalk being so much less woody to masticate than the same size stalk of any of the other kinds of clover or other grasses.

11th. Because on any soil it branches from the main stalks five times as much as either of the other kinds of red clover, giving on rich lands an almost incredible number of branches and heads on every stalk the root sends forth, and never dries up by being fed off, as the medium clover does, but keeps right on branching and growing from the main old stock till late in the season unless they are cut off near the roots.

12th. Because clover is the richest food of all the grasses for stock of any description, is the most like grain of any, is the only kind of grass cultivated which makes cattle bloat in consequence of eating too much at a time, thus slowing that proper care is just as necessary in using clover as in using corn.

THE ADVANTAGE OF THE DAIRY BUSINESS TO THE FARM.

Extract from the report of a discussion on the advantages of dairy farming.

J. O. Beal said that in the discussion of this question he had an axe to grind (being interested in a cheese factory.) But, if people could not go into the dairy business of their own good will to please themselves, perhaps they had better keep out of it. Most people, however, will engage in any laudable business if they can see plenty of money in it. We have often heard it remarked that the poor man's cow half supported his family. If that is so, then he had better keep two cows, and his family would be wholly supported. That would be the logical conclusion. But we would not base the claims of the dairy on such shallow premises as that. For any class of people, whether rich or poor, there is probably no cheaper food than milk if it can be obtained at first cost. The dairy farmer does not need to ruin his land. He can keep a herd of cows on his land for fifty years, and his land will grow richer and richer. This is one of the greatest of arguments in favor of the dairy business. My cows—twelve in number, some young and some old—are not extra fine nor very well kept, but, during the past year, we have sent to the cheese factory forty-one thousand three hundred pounds of milk, for which I expect to get about four hundred dollars. We have made about nine hundred pounds of butter, which we have sold at an average price of twenty-six and one-half cents per pound; making in all over fifty-three dollars from each cow during the year. When we keep ten or more cows and make dairying a business then it is not neglected, and we can easily make a

much better quality of butter, and there is nothing which we sell that varies so much in price and quality as butter. In our large cities it varies from ten to seventy-five cents or even one dollar per pound. Gilt-edge butter most always commands a remunerative price—it would not pay to make a poor article. In the vicinity of cheese factories, where there are large quantities of butter made, a demand springs up for it, large dealers in cities know that such butter is better, and they are looking around for it. Adrian is one of the best butter markets in the State. It has improved within a few years. This is probably the result of so many dairies being kept in the country. The quality of the butter brought into market is very much better; or, in other words, there is more of the first-class article. There is yet too little difference between the price of the good and the poor. Many dealers make but little if any difference. The good must sell the poor. Think it takes about three acres to keep a cow one year—two for the summer and one for the winter. He is in hopes of keeping a cow upon the produce of two acres in a short time. Allowing three acres for the keeping of his cows during the past year, it would give a return of eighteen dollars per acre. There is no grain crop except wheat and corn that will compare at all with the profits of a dairy. Wheat is a very uncertain crop. We frequently hear of crops that are not worth harvesting, also 4 bushels per acre. Have had it yield from five to ten, fifteen and sometimes twenty-five bushels per acre. A good crop of wheat pays, but it is very uncertain. Think fourteen bushels per acre as much as it will average one year with another.—From the Michigan Farmer.

THE PRICES OF DAIRY STOCK IN NEW YORK

The present winter is a hard one on New York dairymen. Fed was short last season, and the hay crop light. Hay is worth \$25 per ton, loose, at the barn, and the opinion is given that it will advance. Corn is being fed largely, believing it to be cheaper than hay at the going prices. Mr. Willard advances the opinion that the product from 700 cows was 40,000 pounds less during last season than the usual average. Good young cows, in every way desirable, were sold in Herkimer and adjoining countries, in November, at \$15, and old cows at \$5 to \$8. The prices paid last spring for these cows were \$50 to 60 per head. Considerable losses have no doubt occurred from the transactions of the year.—Western Farmer.

WESTERN N.Y. BUTTER MARKETS.

At a meeting at Jamestown, N.Y., several dairymen agreed that 150 pounds of butter per cow per year was about the average product of dairies generally. The largest yield reported by any one present was 900 pounds from three cows selected from 15, and 200 pounds per cow for his dairy. One with a dairy of 29 cows had the following average for the past four years: 175, 160, 156, 146 pounds. Another of 17 cows had this year given more than 200 pounds each.

LAST YEAR'S CHEESE TRADE.

John Conderoy and Son, cheese mongers, London, write as follows to the Mark Lane Express:

"The year 1873 has been marked by a very large importation of cheese to this country. The arrivals from the 1st of January to the 1st of December, were 1,736,495 boxes while during the year 1872 they were 1,228,184 boxes; showing an increase for the year 1873, of 508,311 boxes. But with all this additional supply, the stocks in London and Liverpool are not excessive. The consumption has been promoted by prices having been throughout the chief part of the year on a moderate scale, the best qualities being so much cheaper than cheese of a similar character produced in this country. It may also be remarked that in our manufacturing districts employment has been general and wages good, which may partly account for the large demand for American cheese. The quantity of cheese made in this country in the past year is considered to be less than in the year 1872; the difference, probably, is not great on the whole, but is decidedly marked in Cheshire. Prices, especially for the superior descriptions, have ruled high—in some instances considerably exceeding those of 1872. With regard to the quality and character of cheese in general, we do not think any material advance has been shown in comparison with former years. It may be stated that in some respect Canada has improved in her manufacture, and some of her factory dairies are nearly equal to the finest of the States. Some English districts exhibit no falling off whatever in the character of the cheese made

in the past year, there are yet many dairy farms which show no improvement in their make, but have apparently taken a retrograde movement, and some of these may be found in the ancient county Chester. In Scotch Cheddar there has been no special variation compared with former years. The quantity produced is considered to have been less than usual, the weather not proving favourable. Prices have been a little higher than last year; but still a limited quantity has reached this market, as better prices have prevailed in the North. We venture on no prediction as to the future; but there is no doubt that the demand for cheese will be in a great degree governed by the quality, the consumers being prepared to pay fair prices if they can only secure excellence in exchange. In this market buyers are, as a rule, more careful than ever in their selections as regards quality, color, flavor, and firmness and soundness of condition. Soft, damaged, or inferior cheese are less saleable even at reduced prices than they were a few days ago."

DIRECTIONS FOR PACKING ROLL BUTTER.

We have received the following circular from a produce merchant in Montreal, and as the directions are valuable we reprint it:—

The season having arrived for roll butter, I beg to offer the following directions to my friends, which, if fully complied with, will enable them to realize the highest market quotations for their butter, instead of the lowest, as is most generally the case, which is not the fault of the consignee. There is nothing so unsaleable as badly packed roll butter; but on the contrary, if packed nicely, it sells readily, and generally from two to five cents more per pound than the same quality packed solid in firkins.

Use none but the very best new barrels, and be sure they are not burnt or dirty inside. The end you intend for the head you should turn down; then take out the bottom head and cut a piece of fine white muslin, the size of the head, and place it on the bottom of the head of the barrel (which will be the head when opened). Commence to pack your finest and smallest rolls first, being sure to pack each roll on its smallest end. Be careful and select rolls that will pack snug, so that there will be no space for the rolls to shake about. Continue packing in this way until the barrel is almost full, then shake the barrel well (to settle the rolls), and then fill it as snug as possible. In packing the last layer, pack the rolls on their ends if possible, but if there is not room, it will not matter if they are packed on their sides, if they will pack snug and fill the barrel full. The great object is to have the rolls packed close and tight, so that they will not shake about and break.

Each roll must be wrapped in a piece of white muslin or cheese capping; be sure and have it large enough to cover the roll entirely. The muslin should be soaked in strong brine before using, and put on the roll wet. It is impossible to sell rolls to market in good order without wrapping them in muslin, and no matter what the muslin may cost, it will more than pay the cost of the increased prices the rolls, thus packed, will bring.

Before heading the barrel up, pour on two quarts of strong pickle. Cover the last layer with a piece of muslin the same as you do on your head.

Nail up the barrel well, being sure to drive three nails in each hoop. Then turn the barrel over two or three times, so as to let the brine you have poured work in between the rolls.

Mark the top in plain letters "roll butter," also the gross weight, fare of the barrel, and address of the party to whom you send it, and the initials of the shipper.

Rolls should be made in an oblong shape, and not weigh over two to four pounds.

I have a little experiment I have tried on ten ewes. The reason, my doing so, I have often been told by men that should be farmers, that sheep did not pay. Some time ago I purchased in the fall of the year ten useful ewes partly of the Lincoln breed and also a Lincoln ram lamb which you will find in my Dr. and Cr. account.

I turned the ram to the ewes 1st. of Oct. They had nothing but what they got running about the place and plenty of pea-straw until the first of February, when I gave them three quarts of grain (barley and oats mixed) and 1/2 bushel turnips daily at the cost of grain 40 cents and the turnips 10 cents per bush. for the month of February. Then for the next five weeks I gave them 4 quarts grain and one bushel of turnips with a little clover hay daily. They had now lambed, having sixteen lambs (although one was a crooked

necked) I no longer over a few in with spring on four acres when I weaned the ewes into allowance of first of Decem a few small to just to learn t came to their the first of D

The daily c hay, (at the r grain and two this until the sheared the same day, h sale at the l meat being v them on the being 1,275 l 1,665 lbs., an at this rate e each per day. The n Dollars I hav the food wa going to mar

Cost of ewes Ram lamb... Extra feed... Maugh... Ditto extra pasture... —Rent of pas four quarts of July... Grain to lam Hay... Turnips... Grain... Expense of s Interest for s

By ram lam "crooked n Wool from s Sold ewes a Mutton fro 6 cents pe Fat from fat 15 pelts at Wool from cents per

LOSSES

*He says sheep-mast which at fir but with ex much forgo the farmer on his farm supplies, ar his just pro loss. The illustration are starved land nor pas laiter muc his profi

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"All th making th At night t their new time, form diet, and l initiated, of their ri Again a and purch

many dairy... necked) I now turned them to grass, running over a few fields we were going to put in with spring crop afterwards. I put them on four acres of first years' clover, giving them 4 quarts of grain until the first of July; when I weaned the lambs. I now turned the ewes into the bush, and continued the allowance of grain to the lambs until the first of December, giving them occasionally a few small turnips, or a few cabbage leaves just to learn them to eat turnips when they came to their winter quarters, which was on the first of December.

The daily consumption was 9 lbs. clover hay, (at the rate of \$10 per ton) one bushel grain and two bushels turnips. I continued this until the first week in March. when I sheared them and slaughtered them the same day, having sold the mutton wholesale at the low price of six cents per pound meat being very low that spring. I weighed them on the first of Jan. the live weight being 1,275 lbs., on the first of February 1,665 lbs., and on the first of March 2,070 lbs. at this rate they nearly gained one pound each per day at a cost of about 4 1/2 cents per day. The manure and extra charge of five Dollars I have made will repay my labor, as the food was consumed at home without going to market

Table with columns: Dr., \$ cts., Cr., \$ cts. Items include Cost of ewes, Ram lamb, Extra feed to ewes, etc.

Table with columns: Dr., \$ cts., Cr., \$ cts. Items include By ram lamb sold, crooked neck sold, Wool from ewes, etc.

Table with columns: Dr., \$ cts., Cr., \$ cts. Items include Deduct, Profit, M. M.

LOSSES BY LIVE STOCK PREVENTABLE.

"He says: 'I will beg the attention of the sheep-master to some precautionary rules, which at first sight may appear commonplace, but with experience daily tells me are too much forgotten in practice. The object of the farmer ought to be to grow as many sheep on his farm as is consistent with the feed it supplies, and if he exceeds or falls short of his just proportion, he will either way be a loser. This is too obvious to require much illustration. In the former case, the sheep are starved, and will neither do justice to the land nor pay when sold to the butcher; in the latter much valuable food is wasted, and his profit, as a matter of course, diminished. Another point of consideration is, the sudden change of food to which some subject their flocks. The majority of the diseases proceed from the sudden change from a scanty to a luxurious diet. It is no uncommon occurrence to see a flock or herd, which has been nearly starved during the winter, suddenly by turning out abundant pasturage on the approach of spring; or others, which during summer or autumn have received but little attention and been hardly folded abruptly put in collseed or turnips. Diseases arising from indigestion and repletion soon follow, and the farmer is astonished at the extent and rapidity of his losses.

"All this might have been avoided by making the transaction a little more gradual. At night the sheep should be removed from their new feed, good sweet hay should, for a time, form a considerable portion of their diet, and by slow degrees, the flock might be initiated, as it were, into the full enjoyment of their rich, succulent provender. Again a farmer sometimes attends a fair, and purchases a lot of sheep that have been

driven a long distance, and for several days have had little better grazing than they could pick up by the side of the driftway. When he gets them home he immediately turns them into his best grass, and by this imprudent act introduces fever or dysentery into his flock. Had he, on the contrary, placed them on a short cool pasture for a few days, their condition would have improved, and the tone of their stomachs and bowels have gradually risen to the due strength for the reception of rich food.

The farmer, on purchasing his stock would do well to inquire into the description of the soil to which his lot had been accustomed, and also into their previous habits, as whether they had been folded, etc. If the sheep had been bred on land much superior to his own, he would be wise to reject them, for they were unlikely to thrive on inferior pasturage. If they have come from inferior soils he must be very careful in preparing them by gradual indulgence for the richer feed to which they are about to be transferred. I will add but one more observation. A wise farmer will never confide his flock to the exclusive and unwatched care of his shepherd, however clever or trustworthy that servant may be."

INOCULATION FOR THE PREVENTION OF PLEURO-PNEUMONIA.

The following is from the North British Agriculturist of October 16: I have waited to see if Mr. Bruce's letter on pleuro-pneumonia, contained in your impression on the 3rd ult., produced any article or comment. Having sustained much loss from this cause, I consider the subject of vital importance, and hope if Mr. Bruce has not left the country, he will publish any further conclusion he may arrive at on the point. I would also like some detailed explanation on the proper manner of taking and using the sort of virus, and properly conduct the process of inoculation, for, whilst forcibly dwelling on the ill effects of improperly performing the operation, Mr. Bruce leaves us without much information as to what is the real experience the colonists have so painfully acquired."

[Mr. Bruce will doubtless publish the results of the investigations regarding inoculation for the mitigation and prevention of the contagious pleuro-pneumonia of cattle. A good Many of the London dairymen have for years pursued the plan of inoculation on every fresh acquisition to their stock, and can afford interesting facts and figures respecting it. The growing favor in which the practice is regarded by intelligent dairymen, and the more extended adoption even in the country, afford practical evidence of its value. On the Continent, the operation has always been more approved of than in this country, where it was distinguished by Professor Simmonds, and also by late Professor Dick and Mr John Barlow. There is not much difficulty in securing suitable matter for inoculation. The lymphic fluid or exudate should be taken from the lungs of animals in the second stage of pleuro; blood and pus, and especially in malignant cases, should be avoided. For immediate use of lymph may be taken direct from the diseased lung on the point of the lancet, or some threads of cotton saturated with it can be used as a seton. For keeping for future use it may be stored in tubes, or between flat pieces of glass, like vaccine lymph. Ten or twelve inches below the arch of the tail is the spot usually selected for operation; a scratch is made through the skin without drawing blood, and the lymph gently rubbing into the absorbing connective tissue; or a seton soaked in the exudant is drawn underneath the skin. If the inoculation takes, the wound usually swells up a little. For a few days the animal is feverish, but soon gets all right. Occasionally, considerable local inflammation occurs, sometimes terminating in sloughing the end of the tail. It is the risk of such degenerate inflammation extending into vital parts that justifies the tail being selected for inoculation."

Stock Sale.

The sales of Mr. J. R. Craig, of Edmonton and of Simon Beattie, of Bongar, have been well attended. The stock in both cases was in high order; nearly the whole of the stock went to the Sta. e. The prices brought were highly satisfactory. Donald Dinnie, the fine Henry draught stallion, that was exhibited at the last Provincial exhibition, brought \$5,000.

J. R. CRAIG'S SALE OF COWS AND HEIFERS.

Table listing various cows and heifers with their prices, including Dairymaid, Finetta, Fidelity, etc.

MR. BEATTIE'S SALE OF COWS AND HEIFERS.

Table listing various cows and heifers with their prices, including Maid of Honor, Geo. Murray, Lady Gunter, etc.

FOOD, AND THE MODE OF ADMINISTERING IT.

Irregularity in feeding acts injuriously on stock. Like ourselves, animals (not on pasture) look for their food at the appointed periods. We know practically that the omission of a meal at the usual time causes flatulence, dyspepsia and uncomfortable feelings. An inattentive and irregular stockman should be got rid of without delay. The proper qualities, quantities and admixture of food have much to do with the health and progress of animals. The carbonaceous and nitrogenous should bear due proportion to each other. Science has enlightened us in this matter, thanks to our agricultural chemists. Food may be too rich, too nitrogenous, too glutinous, too laxative, or too astringent. Dressed wheat will kill a horse, but if he eats it as it is grown, with the chaff and straw, no damage ensues. A neighbor lost five horses which ate freely of

dressed wheat in a barn. Rank, young, rapidly-grown grass will often kill animals; so will too much bean meal, unaccompanied by more carbonaceous, succulent or oleaginous food. A certain plain farmer fed his cattle on bean meal mixed with linseed made into balls in addition to other oil, food. He was a philosopher. The oil was carbonaceous, and laxative, the bean meal nitrogenous and astringent. His beans were a picture.

I dare not fold my limbs on your Italian rye grass forced by dressing of Peruvian guano washing in by our jet, but can safely do so when the grass is produced by the bullock manure from under the sparred floor, washing in by hose and jet. The Peruvian guano was disproportionately nitrogenous.

I seldom loose a ewe or lamb in parturition, for they are fed mixed food principally, and I have carefully avoided giving them mangel before lambing, and only a very small quantity of turnips; but I much prefer cabbage, both before and after lambing. I often hear of very heavy losses of ewes and lambs at lambing time, when they are fed entirely on turnips, especially if those turnips have been forced to a luxuriant growth by superphosphate of lime guano. As turnips contain ninety per cent. of water, they are clearly unsuited (as a sole food) to form in the breeding animal a well developed lamb, calf or pig.

WEIGHT OF CATTLE OF SEVERAL BREEDS.

We have before us a statement of the weight of some of the prize and prominent fat cattle of the great Smithfield show. There is as usual much criticism to the awards. The champion beast, as to the best of all the cattle shown, was a Short-horn heifer. The prize sweepstakes ox was also a Short-horn this year. The weight of all the cattle showed is given in a table published in the Mark Lane Express, as follows:

Table listing weights of various cattle breeds and prizes, including Hereford, Short-horn, Devon, etc.

It will be seen that the weight of the Herefords, the Short-horns, the polled and the Scotch cattle approximate, while the Devons differ very much. Another journal, commenting on these weights, says: "The first prize Devon steer, three years old weighed 1,549 lbs. Last year the same animal at 2 years old took a prize, then weighing 1,287 lbs; gain 262. Another prize Devon steer of the same age weighed 1,632 lbs; last year, 1,516—gain 116 lbs. The first prize Hereford ox, age not given, weighed 2,338 lbs, last year 1,958—gain 380. A Hereford steer, 3 years old, weighed 2,168; last year, at two years old, 1708—gain 460. A Short-horn steer, four years old, weighed 2,491; last year 2,107—gain 384. A Short-horn heifer, same age, weighed 2,217; last year 1,985—gain 232. All those mentioned were prize animals at Smithfield or Birmingham last year, and all at Smithfield this year. It will be noticed that the greatest gain was made by a Hereford and the least by a Devon. One fact is very prominently brought out by these figures. It is that at present prices for beef neither in this country nor in England, does it pay to keep an animal after it is well fattened;

Some of the cattle not awarded premiums were even heavier than the prize takers. We notice in the list a Hereford ox that weighed 2,538 lbs, and the Devon ox that weighed 2,255 lbs. But these weights really mean nothing. Each animal had been fed for the show from one to two years all it could be made to consume. The greatest question was left entirely untouched—it is not referred to in any way. That question is, which of the several breeds put on the most meat at the least expense? Which of the animals made the best return for the amount of food consumed? That is the only test. Of what service is it to see a great ox, loaded down with fat and flesh, if every pound of meat on him has cost twice what

it will bring in the market when it is put on the block. Here, for instance, are the Devons of which it is admitted the show was a very fine one. The oxen of this breed, with a single exception, ranged from 14 to 16 cwt; what was the cost of making this weight? Was it less or more than the cost of making the 21 or 22 cwt., which was the range of the Short-horns, Herefords, and Polled cattle? Here is the point, and smith-field don't attempt to settle it. When we compare the three year old Devon with the three year old Hereford, we find the Hereford made 21 lbs to the hundred during the year. The Devon made at the rate of 20 lbs. Now, who can tell the difference in cost of making these weights. It will be seen that there is hardly any difference, yet we think it is possible the Devon cost less than the Hereford.

Mr. Joseph Eddy, of Granton, informs us he has tried several of the different kinds of cattle feeds, and says there is none to compare with the Yorkshire Cattle Feeder. He can see an improvement in his stock in three or four days from the time he begins to use it.

Benjamin Reid, of Durham Township, Province of Quebec, has a pair of grade Durhams steers four year old the 30th day of June last, weighing six hundred pounds and girthing eight feet four inches.—*N.E. Farmer.*

It is estimated there were 53,680,752 sheep in Australia in 1872 or nearly thirty times as many sheep as men, women and children. The total wool export for that year—nearly all to England—is placed at 182,477,710 pounds.

Ram Palmer.

Palmer, the Cotswold Ram, shown in the accompanying illustration, was imported by Jno. Snell & Sons, of Edmonton. Remarks regarding his appearance would be unnecessary; he gained the 1st prize at our last Provincial Exhibition as the Best Shearling Ram. We almost regret to call the attention of our readers to the Executor's Sale of Messrs. Snell & Son's fine herd of Cattle, as it took Mr. Snell, Sr., the matured part of his lifetime to establish such a name, and fill his yard with such stock; he was one of the most successful breeders and prize takers in Canada. This fine herd is now to be disposed of, and the high reputation which he has gained, will, doubtless, ensure a great demand. We hope that some of these fine animals may be retained in our own country, for the Americans appear to think that we have no right to any first-class stock, as they come over and clean a man out if stock is up to the mark. We are glad that Canadians will have an opportunity of purchasing. See add. in another page.

The Spring Care of Cows.

Written for the FARMER'S ADVOCATE.
By Prof. L. B. Arnold, Secretary of American Dairymen's Association.

A watchful attention should be bestowed upon his cows at all times by the dairy farmer, but the spring time demands his special care. I never saw the time that anything could be gained by pinching and neglecting a milk cow; but if she must be pinched at some time in the year, that time should not come in the spring, especially if she is to come in at that season. The extra demand upon her strength required to bring forth her young in safety, calls for extra feed to derive it from. Some farmers are in the habit of waiting till the cow has come in before beginning to increase her feed. This is usually a little too late. A cow that is fed with all the well cured, early cut hay and good water she wants will do well, if she is allowed comfortable quarters. She will be able to hold her flesh and strength under ordinary circumstances. But if cows are fed in part or wholly on coarse fodder, as many farmers at times feel compelled to feed their cows, or upon late cut hay, it will be a matter of economy to feed extra and to

begin before the cows begin to give milk. It often happens with those who are not especially watchful of their herds, that the cows get thin and weak, and that they do not do well when come in—the after birth adheres and remains till it rots away, sickening and weakening the sufferers with pain, and wasting their flesh with a frightful rapidity. Often the hair is seen staring and the blood stagnating in the extremities, and the horns, the feet, and the end of the tail becomes cold, advertising as plainly as could be done in capital letters that they are not receiving the supply of food the waste of their bodies demands, and that they are really perishing with starvation. Such cases so often occur that the phrase "spring poor" has become a common and significant expression. Indeed a large waste of flesh in the spring is so common that projecting bones at that season of the year are almost considered as a matter of course. This is all wrong and unprofitable. All the flesh that is wasted in the winter or spring must be made up in the summer. It will be taken out of what would otherwise have gone to milk. The milk of a cow thin in flesh is poor and watery. The quantity will not vary so much as the quality on account of her being poor. Its richness will constantly be below par till the loss of flesh is made up. A farmer cannot increase his yield of butter or cheese in any way more effectually than by feeding, to keep up the strength, health, and flesh of his cows in the winter and spring. One of the worst practices a farmer can well fall into is to allow his cows to be falling away in flesh before and at the time

important that they should be "holding their own," and, if possible, gaining.

It is well, therefore, if the previous rations would not effect this to begin extra feeding a while before hand so as to keep the animals up and thriving. If this can be done the period of labor will be passed over smoothly and without danger of a retention of the after birth or other troubles, and the extra zest and labor will be amply rewarded by the more liberal yield of milk that will follow.

The feeding should be nutritious rather than heating—oats or barley meal rather than corn. Roots and other green food comes in then with good effect. They go to far toward promoting a healthful condition of the cows.

Garden, Orchard & Forest

TIMBER AND HEALTH.

Mr. T. C. Duncan, of Chicago, sends us a valuable article concerning the physical degeneracy of our country, the causes conducting thereto and his suggestions for a remedy. The paper was read before the American Association for the Advancement of Science.

The decay and increasing barrenness of portions of our country is a subject that national pride might lead us to overlook; but as the degeneracy of a country is closely related to, and largely responsible for, the physical degeneracy of its people, it is apparent that scientific minds should grapple with this question, and, if possible, suggest a rem-

edy, so as to enable us to escape the fate of other once flourishing but now barren and depopulated countries.

The effect of this drying up of the face of the country upon the health and longevity of the people which inhabit it has not received sufficient attention. We are apt to look for the solution of the causes in many ways foreign to this view of the subject. The physical degeneracy of our unprolific American people is also attributed to many and diverse causes. From a careful study of this subject, in all of its branches, I am convinced that this important factor has been entirely overlooked. For a few moments I desire to direct your attention to the increasing physical degeneracy of our continent, and the consequent physical (not mental nor moral) degeneracy of our people, and, if possible, to suggest a feasible and available remedy.

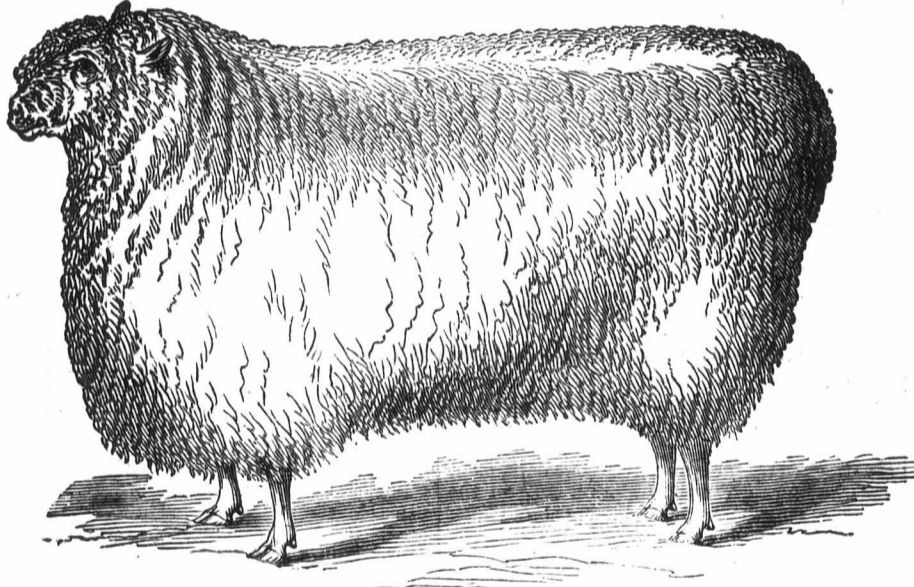
It is perhaps unnecessary before this body of scientists to dwell long upon the fact of the drying up of the whole of the country, the disappearance of springs and brooks, the low state of the wells and the sinking of streams, rivers, and lakes. Nor is it perhaps necessary to recall the fact that the older settled portions of the American continent grow more dry and barren, and consequently less productive, year after year. The effect of all this change is, in the nature of the case, to give a less general and a greater local humidity over streams, lakes, and low-lying portions of the country. As a result there must also be a less general precipitation, and the storms are more severe. There may be the same amount of rainfall, but it is not re-

tained by the surface soil; it runs away, is absorbed by the dry strata below, and is more readily and rapidly evaporated into the dry atmosphere. The vicissitudes of the season are and must become more marked. The lands are less productive, for the necessary surface moisture is not present, and there is not so much carbonic acid generated and retained within the reach of vegetation. The products are markedly effected by this change. As a rule, the grains are less plump than formerly, and the fruits less succulent, except during a very wet season, when they are sodden and go easy to decay.

The effect of this great growing change of the face of the country, and its climatic and meteorological condition upon our people, industries, etc., is worthy of the attention and study of men of science. The humidity of the atmosphere has a marked influence upon the vigor and fruitfulness of both animals and plants. Either extreme changes the whole flora and fauna of a country. For permanency we all recognize a golden mean. The effect of too much moisture upon health and vitality has been ably pointed out by Dr. Nathan Allen, of Lowell, Mass., as tending to increase the amount of consumption. The other extreme is equally deleterious and more wide-spread. The great infant mortality in this country leads us to inquire into the causes, and chief among these I would suggest this one of the growing dryness of our country. Here I think is a ready explanation of the steady decrease of the per cent. of children for each decade in the older States, as demonstrated by Dr. Toner, of Washington, from the census reports.

The greatest mortality in children is when they are taken from milk and put to the table and given the dry food of our adult people. If they survive they grow rapidly, tall and thin, and mature early and prematurely. Is it any wonder, therefore, that families in America diminish in size and finally die out? We place the chief cause of all this upon the climatic surroundings of our people, and thus surround a stigma that some writers have attempted to fasten to our people. The American disease, dyspepsia, is I am convinced, not as much due to our manner of eating as to our climate and dietary. The body does not receive nor absorb the necessary fluidity to supply a sufficiency of gastric and intestinal juices; indigestion, constipation, and emaciation are the results. The great prevalence of biliousness in the West finds, I think, its most ready explanations in this drying up of the body. This constant and great abstraction of moisture from the body produces a nervous restlessness of mind and body that is markedly an American trait of character. The farther West we go and the dryer the climate, the more marked it becomes. The absence of a proper humidity in the air must and does effect the respiratory organs giving rise to irritation, cough and, finally disease. Miliary tubercle is the form of lung disease produced, and is the opposite form of consumption arising from local dampness.

The remedy for this growing dryness of our country is evidently to increase the average humidity of the atmosphere over the whole country. This might be accomplished in a degree, as is being done in France, Switzerland, and Egypt, by planting trees and shrubbery upon the dry, exposed highlands. The cultivation of grass and the regular seeding down of more land by our agriculturists would give the same result. Instead of the ground being left dry and exposed after the wheat and other grains are harvested, there might be a protecting cover, as of clover, etc. The government should encourage the growth of timber in barren regions, and also prevent the clearing off of whole belts of timber where the face of the country would be materially affected thereby. The importance of sinking artesian wells to irrigate the driest regions, and the formation of lakes, ponds, and other reservoirs to increase the humidity, deserves the study of scientists and the action of the government. The rainfall may perhaps be still sufficient if this moisture was only retained. That these means would have the effect to maintain greater average humidity, and thus influence the productiveness of the whole country, and also the better health of the people, is self-evident. The more equable in all regards the atmosphere can be maintained, the better the health of plants and animals.



COTSWOLD RAM PALMER, THE PROPERTY OF JOHN SNELL & SONS.

of their coming in. It is doubly unfortunate at such a time, for they suffer not only from the loss of flesh which is afterwards to be made up at the expense of the milk, but they are unfitted for the approaching labor. For ease and safety in labor nature requires the softening and expansion of the parts concerned in the expulsion of the fetus. There is a natural determination of blood to those parts, and an increased vital energy centers there to induce the increased activity in the tissues necessary to accomplish the requisite preparation. To meet this demand the animal requires an increase of strength and blood. If the food happens at such a time to be so lacking in nutriment that there is not enough to support the daily waste of the body without drawing on the flesh, the full preparation for labor will not be made, rendering that event both difficult and dangerous. Cows that are then running down will be pretty sure to have a retention of the after birth. That unfortunate occurrence is pretty sure to happen in such a case. Indeed a falling away at this crisis is the usual cause of its retention. It is not enough that a cow has, at the time, a fair amount of flesh. If her food is so deficient that her flesh is wasting, her blood will be poor and her vitality and strength will be wasting also, and the legitimate consequences of deficient feeding will follow in spite of a considerable stock of flesh. It is not necessary that cows should be fat or in very high flesh, but it is necessary that there should be no lack of nutrition, nor any falling away of flesh and strength. It is im-

APPLE-TREE

At the annual Horticultural Society, and reports discussion took first, as to the trees and the trees. It was that many varieties produce apples lakes and river on the high prairie. Winter on the trees of fruit trees should be that his experience such as the Be extensive use, Minnesota cl fruit we have of hundreds of feet. Because different varieties be taken as possible to test a ten years, gro

The Germ for rhubarb: There is a

It is amo though no of horticult account of esteemed. Its earli a place sh will get a suns. So over the and as th a very lig ground b Then the and it is grow nat poor stuff good gro Therefore indeed— When gr is tender over even varieties others. kinds wh about eq Linnaeu Albert,

APPLE-TREE PLANTING IN MINNESOTA.

At the annual meeting of the Minnesota Horticultural Society held lately at Minneapolis, and reported by the Farmers' Union, a discussion took place about apple-tree planting; first, as to the best locality for planting apple-trees and the time necessary to test their hardiness. It was asserted as an established fact, that many varieties of trees would grow and produce apples on or near the borders of the lakes and rivers when they would not flourish on the high prairies. The severity of the last Winter on the fruit trees had made the question one of great importance as to which kind of fruit trees should be recommended, and what tests should be applied. Mr. A. P. Jewell stated that his experience proved that many varieties, such as the Ben Davis, which have come into extensive use, had failed to stand the test of Minnesota climate. That all the samples of fruit we have are but the growth of a remnant of hundreds of fruit trees that have been planted. Because one or two trees out of a dozen different varieties stood the test, it should not be taken as proof of their worth. It is impossible to test any kind of trees, with one, five or ten years, growth.

RHUBARB.

The German Telegraph says a good word for rhubarb: There is a large class who are fond of this.

Rhubarb is very rapidly increased by cutting an old crown in pieces. If these are split downward, on a line with the growth of the root, every piece of root will grow, though it be split into a score of pieces; but pieces of root will not grow unless there is a portion of the crown with it. The crown is the upper portion of the leaf-bud, just under ground.

If very large stocks be desired, the plants should not be set too close. A root to every four square feet is enough—that is to say, the plants should grow two feet from one another every way. As the rhubarb is a gross feeder, if they be but closer than this they will likely starve one another.

Government Agriculture.

LESSON THE FOURTH — PRUNING.

We paid a visit to the Government Farm in February. We found the outside gates open and the hinge was broken. We saw tracks on the snow where stock had been tramping through among the fine young plantations that Mr. Stone had made. Many trees we saw had been freshly pruned by stock having eaten the branches; we do not think you will ap-

Honor and honesty should be the foundation. No farmers ever asked for it; they petitioned against it. The checking of private enterprise by it will do more injury than the Farm or College will do good. If the Government would give it to Guelph without further expenditure, it might be the best for the country, as it is for the benefit of Guelph more than for the farmers of the rest of the country.

We called at the College, or rather the house—the College, we presume, is to be one of the great structures of the country in the course of time, when things run smooth enough. We were introduced to the Professor, who behaved in a courteous and gentlemanly manner to us and gave us what information he could in regard to the management, plans, &c. He said it was a very poor farm and that it had been very badly farmed, but, he added, by subsoiling and manuring, they would be able to make good land of most of it.

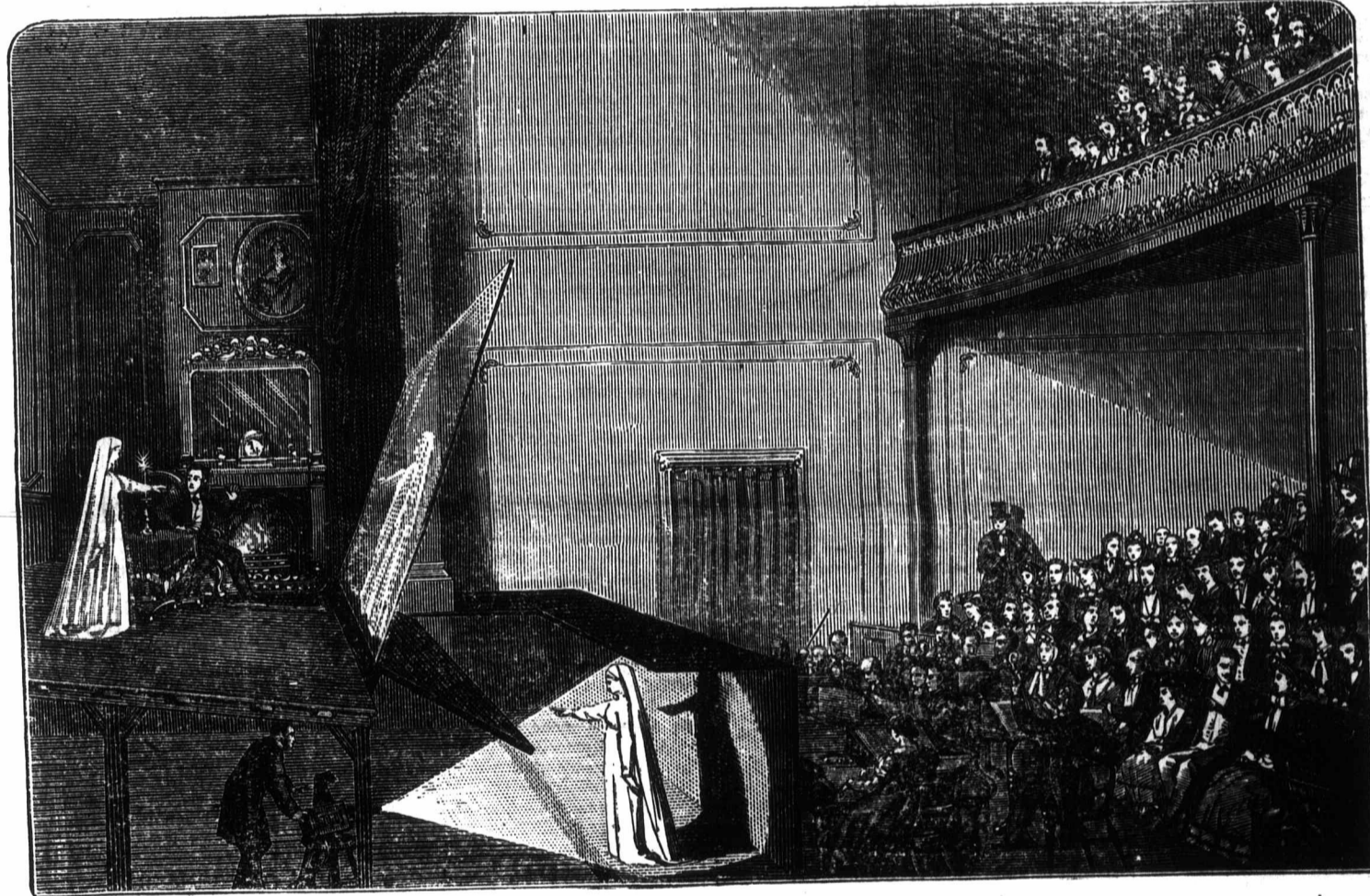
This institution may make a few rich men richer, it may afford a house of refuge for political partizans or their friends, it may answer for rich men to put

years. The process of its production is shown by the operator with his lens and instruments. A figure is reflected by means of concave and convex mirrors to appear in a room just as if a real person were there; the spectator could not detect the reflected being from a real one. We have seen it and are still astonished that this wonderful feat can be performed, there being no looking-glass behind the reflected figure in the same room, and yet the person is to be seen in any part of the room, moving, still, or in any way just like a real person. This we have seen and still we wonder how it is done. After seeing the apparition you would wonder also to see a human figure in your room, and the figure to move as you could, and no figure to be there.

Free Trade.

This is a question that is at present agitated, and many appear in favor of it. We should be if the term were correctly applied, but what people here call free trade is to open our ports to all nations and let them charge duties for what we export, that is, shutting their ports against our productions.

We dispute the term as applied by our



PROF. PEPPER'S GHOST.

It is among the earliest green things and, though no one classes it amongst the choicest of horticulture gifts, in the abstract, yet an account of its early growth it will always be esteemed.

Its earliness being one of its valuable points, a place should be selected for it where it will get all the advantages of early spring suns. Some people help it by putting barrels over the roots. This keeps out the cold; and as the rhubarb is stimulated to grow by a very light heat, the natural warmth of the ground brings it up if the frost be kept out. Then the barrels help to branch it a little, and it is not quite so sour as when left to grow naturally in its own way. Rhubarb is poor stuff when stringy, and it is the aim of good growers to have it as pulpy as possible. Therefore the soil is to be made very rich indeed—as good as manure can make it. When grown in this way, even the outside is tender and it may be cut up for use without even peeling, as is so often done. Some varieties are, however, more tender than others. There are however, four popular kinds which, when well grown, are all of about equal value. These are, the Victoria, Linnaeus, Magnum Bonum, and Prince Albert,

prove of the Government's method of pruning fruit trees. We did not see the stock actually operating, but we saw the work that had been done, and there was nothing to hinder a repetition of the same process.

Perhaps it may teach some a lesson; it will do no harm at any rate. We do not say that that good may result from the pruning or from the Government Farm, but we do say that the Farm was established for political purposes, that it was positively intended to check private enterprise, that it was moved to Guelph for political purposes, and that the interest of the farmers has never been the object in view, but has merely got the name "agricultural," to gull you with.

Able writers may be paid to laud it before your eyes; the best talent may be employed to speak well of it at political and other gatherings; the Government may attempt to strengthen itself by giving situations to friends and casting slurs on independent men, and our money may be spent by the quarter and half million on it. We shall have to pay for it.

their boys into that they do not know what to do with. The experiments and utility of it may be lauded and upheld by every Government paper in the Dominion, and foreign papers may be used to exalt it, but the benefits to the working farmer will not be equal to half of what it will cost him.

Tens of thousands of needy farmers' sons and daughters must feel the lack of clothing for the maintenance of this monstrous scandal. If this Government Farm is ever to be of any benefit to farmers, if it is for farmers, the voice of farmers should have some might in its weight. Politics should be second, agriculture first in its control.

Pepper's Ghost.

Amusements are as essential to the health and happiness of farmers as to other classes. Still, in the cities, many more expensive amusements are to be seen. We give an illustration of Pepper's Ghost, Prof. Pepper being the person who first brought the plan to perfection. This is one of the most pleasing scenes we have witnessed for many

legislators; we would willingly concede great privileges, or even pay handsomely for free trade to be established, viz., free exit and free entrance would be for our good and the good of other nations.

Our manufacturing interest is now in a depressed state because the Americans flood us with surplus stock and destroy the legitimate business of many of our manufacturers, who cannot send their goods to the States because of the almost prohibitory duty imposed. A greater portion of the capital invested in manufacturing interests could this day be purchased at 50 per cent. less than cost. Our manufacturers are obliged to slacken business, stop work or break down; many firms have been crushed. Our manufacturing population is driven to the States. We should endeavor to make our country a manufacturing country as well as agricultural.

Live and let live; each interest should be looked after. Capital should be fairly dealt with in advocating the farmers' interests. We do not wish to attempt to sacrifice all other interests.

Correspondence.

TREADWELL WHEAT.

Mr. B. Fawcett, of Arran, County of Bruce, informs us that the Treadwell wheat has yielded well there. He raised 40 bushels per acre on 5 acres; his neighbor raised 500 bushels on 12 acres.

GRUBS IN SHEEPS' HEADS.

Mr. M. Potter, of Chatham, informs us that he once killed a sheep, and, examining the head, found six grubs in it, and the brain all eaten away by them. He thinks long grass a preventive for the grub fly; we think tar on the nose of the sheep is a good preventive.

SEED REPORT.

Sir,—I received the seeds you sent me last spring. One peck of McCullough wheat, sowed in sandy loam, yielded six bushels and a peck of fine, plump grain. One peck of Farrow wheat yielded six bushels, not so plump. From one half bushel of California oats I had thirty-two bushels. The peas and small seeds done remarkably well.

I send you a sample of spring wheat that we raise in this township. It goes by the name of the Redfern wheat. The general yield is from ten to fourteen bushels to the bushel sowed. It stands up well and makes splendid flour. I can send you some of it if you would like to give it a trial.

PAUL SOMERS.
Howe Island, Feb. 14th, 1874.

WATERING CART WANTED.

Sir,—I have often missed raising carrots and turnips in consequence of dry weather setting in after sowing. If you or any of your readers could inform me of a simple and convenient plan to make a machine to be drawn with one horse, and easy to be adjusted in putting water on two drills at once, without wanting water in starting or stopping, you would confer a favor on me and likewise on many other farmers.

DANIEL KING.
Cannington, Ont., Jan., 1874.

A watering cart might be needed for liquid manure, but for watering carrots to cause them to come up, it is all nonsense. Everybody should have their carrots sown early in the spring, before the drouth of summer sets in, or they need not expect a crop of carrots. Half the loss on turnips is caused by preparing the land in dry weather in summer. Turnip land should be prepared in August, instead of June or July.

FEED FOR SHEEP.

There is a saying that "necessity is the mother of invention," and I believe it to be somewhat true. Being short of hay as well as pea straw, I was almost at a loss how to feed twenty Leicester ewes that are with lamb. To buy hay at \$25 per ton would not pay.

I had some good oat straw that had been harvested a little on the green side; I took and cut some very fine, and, after damping it, I mixed a little bran with it. The sheep soon began to eat it greedily. I now feed them with one and a half bushels of cut straw and eight quarts of bran, well mixed up, three times a day, and the last thing in the evening, I give them a little straw. This is what I have fed for a month, and the sheep are improving daily. I don't suppose I am alone in being short of food, and any one similarly situated might adopt this plan with a good result.

In my calculation, taking bran at an average price of ten dollars per ton, which is quite as much as the average (although what I am feeding now cost twelve), and the daily allowance of bran as twenty-four quarts, the whole cost will be seven and a half cents, with the exception of straw and labor, for which I think the manure will be adequate.

M. M.

P. S.—A bushel of bran weighs generally twenty pounds, one hundred of which makes a ton, and that at \$10 makes 10 cents for a bushel of 32 quarts, 24 of which would be 7½ cents.

SHALL WE SHOW EWES OR WETHERS?

There is a saying in the world that "a man is never too old to learn." I have a short lesson I learned when in England a few years ago. With your permission I will lay it before your readers, especially those that are breeders of blooded stock.

When in England I attended several agricultural shows, one in particular, that was held at Lincoln, in Lincolnshire.

The method there is to show shearing wethers instead of ewes, in the sheep classes, and one and two-year old steers in the cattle classes, instead of heifers. The breeders there are unanimous as to the benefit of this system. They say "If I show you good males, you may expect I have good females."

Besides, they say your feed is not lost on the males, as it fits them for the butcher, but it is more than lost on the females, for high feeding at so early an age unfits them for breeding purposes and retards their milking qualities.

I think it would be beneficial to introduce this system here, if we could only get our leading men to give it a trial.

I have been an observer many years in breeding and rearing cattle and sheep, and have in many instances seen both good heifers and ewes retrograde that had been too highly fed at an early age. At the same time I advocate judicious feeding in all cases, especially in young stock; always keep them improving, and they will hand-somely reward the owner. But if they are neglected they will leave but a small margin in the owner's book.

I request my agricultural friends to scan these few remarks, and if they think them beneficial, to embrace them; they are penned in good faith, and will be a boon if fully carried out.

M. M.

St. Catharines, Feb. 3, 1874.

[We should be pleased to have the opinion of some one or more of our exhibitors and prize-takers on this subject.—Ed. F. A.]

ROAD FENCES.

I think H. C. Johnson's note, in the January number, on road fences, a good one. All stock should be kept off the road. A lawful road fence should be what would keep stock on the road while being driven—a very light fence that would not cause the road to fill with snow. A wire fence, where roads fill bad, would be the best. There is much time spent in opening roads every winter, and the roads would be much better in spring if the roads did not fill in so much in winter. If the farmers had not so much fencing to do, they would have more time to plant trees along the roads.

JAMES McCULLOUGH.
Clarke, 22nd Jan., 1874.

STATUTE LABOR.

I think your remarks for the time of performing statute labor, not suitable for this section of country. We would rather perform it immediately after planting time; besides, I think roads prepared at that season of the year will be in better order for public travel when the fall rains come, than roads newly prepared. There are more heavy loads passing over the roads here from the middle of September till the middle of November than in any other two months in the year. Were the roads repaired at that time it would be more an injury than a benefit to public travel.

WM. EAGLESON.
Coldsprings, 31st Jan., 1874.

LUMBERMEN AND FARMERS.

Dear Sir,—

One of the grievances under which farmers suffer now is the state of the law affecting lumbermen and farmers, that is, farmers in the new settlements, and they are the nurseries of farmers, of a class of men hardy, industrious, thrifty and persevering, who, if they will only realize the idea that they are something more than mere farming machines, will soon make their mark in the country and be an excellent back-set to their older and more affluent neighbors in the front, when that time comes when farmers will work together with a will as a united party.

By the Public Lands Act of 1860 the pine on any lot became the property of the party located on such lot. No doubt this was

abused by parties who took up land only for the pine. At that time the duty paid by lumbermen was about six cents per log; for reasons of state this was shortly raised to ten, to twelve, to fifteen cents. Then in order to pacify the lumbermen for paying this exorbitant duty, and to prevent the abuse of the Act of 1860, the Free Grants and Homestead Act of 1863 was passed, which left the duty as it was, but took all the pine from the settlers and gave it to the lumbermen, thus not only taking from the former his first and most available means of making money, but impoverishing the country, for the farmer under the Act of 1860, having a property in the pine, would protect it from fire or other injury to the best of his ability, and there would be groves of pine dotted all over the country, the property of individuals, to supply the local demand long after the pine on the lumbermen's limits had been consumed; but now, if the farmer sees the fire running to a grove of pine, he has no interest in preventing it—in deed, I have no doubt that cases have been when settlers (needy or spiteful) have set fire to a grove, the former with the hope of getting a "job" the next winter, as pine, when burnt, must be cut the same year, or it is spoiled by the grub.

To say that farmers will have the pine at the end of five years, when their deed is issued, is absurd, as the lumbermen will take good care that every available stick is cut before then, and this naturally creates an antagonism between the two, the evil result of unwise legislation. There ought to be mutual advantage.

It has been stated by the *Globe* that lumbermen have given \$100 per ton for hay and a proportionate price for oats, but that paper inferred that the farmers got that. It must have known that three-fourths at least, probably four-fifths of that amount was the cost of transportation; any way it was a heavy charge upon the lumbermen, and when they can get hay at \$7 per ton, and oats at 30cts. or less per bushel, nearly at their own doors, they must admit that farmers are an advantage to them.

These are exceptional cases; as a rule lumbermen pay good prices for farm produce, though some of them claim that they ought to get it 50 or 100 miles back in the woods at the prices which rule at "the front," whilst farmers say that they ought to have those prices with the cost of transport added, and ask "will you bring us groceries, drapery, &c., at front prices?" "Guess not."

I think the fairest way would be to split the difference; farmers would be hard set in many places to sell their produce if it were not for lumbermen, and lumbermen would be put to heavy charges if there were no farmers near them. But these things regulate themselves. However, he is not an honest man who takes advantage of another's ignorance or necessity.

I strenuously maintain that in justice to farmers, and quite as much to preserve some pine in the country, the pine on all located or bought lands should and must be the property of the owner of the land. In the very nature of things the lumber interest is evanescent; they consume, but do nothing to replace; they are the pioneers of civilization, and farmers follow close in their steps—the very foundation of all national prosperity, whose occupation must last till the final consummation of all things.—Therefore, I say, give the farmers full property in the pine on their land, taking sufficient precautions against spurious settlers, which can easily be done, and remit nine or ten per cent. of the duty now paid by lumbermen.

But how, with due regard to the revenue, can this be done? TAX THE QUACKS. We are flooded with empirics, crowded out with pills and potions, pain-killers, vermifuges, pulmonics, hair-dressings and a whole multitude of allies—things without count, to cure everything that everybody ails in every part. They advertise large boxes, and they are large—and half full! they parade bottles which appear to have large quantities in, but they are thick glass. They are quackery in their pretensions, quackery in their facts, their quantities and their cures, for those are almost always deceptive; they are quackery in everything but price, and that is real, and the profits enormous. Let all these be taxed! The Americans pour them upon us in cargoes. Let them all be taxed! In England the smallest bottle or box, or jar pays three half-pence and larger,

3s., 6s., £1. Let the same be done here, and justice can be done to farmers and lumbermen, and have money to spare. In England shop-keepers selling these things have to pay a license. I do not advocate that, but let every bottle, box or other vessel now selling at 25c. have a 3c. stamp, and the dealer ones in proportion, and let every one—buyer or seller—contravening this, be liable to the penalties of the Stamp Act.—At any rate, farmers must have fair play; steps must be taken to preserve some pine in the country, or in a few years farmers and new settlers will have to pay as exorbitant prices for lumber as the *Globe* represents lumbermen paying for farm produce.

I am obliged to leave a good deal to be understood, for fear of encroaching on your space.

If you and your readers have patience with my lucubrations, I purpose treating in my next on Agricultural Societies.

Yours truly,
P. HARBING.

Cardiff, Feb. 9th, 1874.

THE PRINCE OF WALES' PRIZE.

Guelph, Jan'y 1st, 1874

Mr. Editor,—

In looking over your last number I see you have an article on the Prince of Wales' Prize, which says that it was the most important prize given at the Provincial Exhibition, and that it was fairly and honestly won. A very strong doubt of the truth of this runs through my mind. Public opinion all round the ring at the time the decision was made said not, and our very best Canadian judges condemned it. There ought to have been three fresh judges appointed for this prize, unknown to any of the competitors, and then the champagne that was so freely pushed round among our foreign judges during the night previous would then have been of no avail. Now it is very well known that "Prince Imperial" cannot take a prize in any ordinary ring, even at a local show. His heifer calves at London had no place, and his bull calves had a hard struggle to get a third place, "British Baron" (imported) taking every first prize he competed for, "Sheriff" (imported) treading his heels very close in every instance. "Fawsley Chief" (imported), a famous old bull, has swept all before him in his day.

Here are three bulls that can go into any ring and bring out honors. "British Baron" is a bull very hard to beat; he has fine quality, with more substance than we often find in a Townley bull. Imported "Sheriff" is a pleasant looking bull with an extra good beefy top and fine bottom line, and has proved himself one of the best stock getters that ever came from England. Yet in the face of all this we are told they were beat fairly.

We will look a little further into these four herds and try to narrow them down to a money value, which I suppose should be a proper test. One of them has already been brought to the auctioneer's hammer, and one of the others is to be in a few months. On consulting the sale catalogue of the Moreton Lodge herd I find the "Sheriff" and his five heifer calves realizing over \$500 each, and when "British Baron" and his five daughters are brought to the hammer in the month of May, I predict equally as good an average, and would very much like to see "Imperial" and his progeny come to the same test.

Those newspaper puffs are very well if they are not overdone, but when too highly colored they are apt to mislead and do a great deal of harm to the country.

The *ADVOCATE* has battled for fair play with outspoken truths at all times, and this is what the plain Canadian farmer wants. Those smooth, oily-tongued, kid-gloved gentlemen that can intrigue and work underneath to any depths, just for the purpose of gaining a prize, I abhor, and say, "cast them out from amongst us." Let us try and keep our fair fame up to par.

You mention some very high prices obtained for Berkshire hogs at the St. Louis Fair. In the face of the money panic and the Berkshire business being rather overdone, those figures look large. In publishing these sales it would be of more benefit if we could have the names and residence of the purchasers, as we could then refer to a back number should we be in want of any of this kind of stock. I happen to know a little about the price of Berkshire hogs at St. Louis, and would caution breeders of this class of hogs not to be led away with those \$400 a pair prices. It is expensive to raise young hogs, expensive travelling to St. Louis, and then to have to beg customers at \$5 per head is ruinous in the extreme. When Berkshires go up at \$60 per dozen depend upon it the game is up with them; better far to ease off for a short season than to continue an unprofitable business.

WESTERN

[As we ask for communications, and as our paper is open for discussions on agricultural

subjects, the right writer fur article al would pre still discu may do go

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Lon

Sir:—

I an enq care for say, th all tha begin t part of or win self tha the cut after t the ed and if same s linb cu the cut new b will se branch made i maple rays of should

subjects, we insert the above, others having the right to differ with us in opinion. The writer furnishes his name. We publish this article although it may censure us. We would prefer giving useful information, but still discussions on the charges intimated may do good.—Ed. F. A.]

SCOTT WHEAT.

I received 7 lbs. of the Stott wheat a year ago last fall. This fall I threshed from the above grain, from the 7 lbs. I received three bushels of good, plump, clean wheat; no wheat yielded near like this in this part of the country. I am highly pleased with it, I have this fall sown nearly two acres.

JOHN SIMPSON

McGillivray, Dec. 25, 1873.

I bought some Scott wheat last fall and after a full trial I am satisfied that it is Fife wheat turned into a fall wheat.

NEIL NEWMAN.

Glencoe, Dec. 24, 1873.

We very much doubt Mr N's report of his conclusion. Some of you that know better, please take your pen and reply to the charge; we want you to discuss these subjects.

Yours,

GANAHOQUE.

RAPE FOR FALL FEED.

I last fall derived much benefit from little cost. I immediately after taking off my crop of crown peas, ploughed the ground and sowed on 4 lbs. of rape seed per acre, dragged and rolled smooth. The latter part of Oct. it was about one foot high, when I turned in the horses and cows; all seemed to relish it equal to new clover. The cows are kept in their flow of milk. The young plant kept growing yielding, an excellent substance for clover, until plowed down. The ground plowed up very nicely after.

PLATT HINMAN.

Grafton Dec. 24, 1873.

CUTTING GREEN GRAIN.

Please allow me to give my experience last year with my field of barley. I sowed it about the last of April, 1873, and only about one-third of the seed grew on account of the drought, until rain came in June when the remainder of the seed grew, consequently when I cut the barley the first grown was dead ripe, and the rest of the grain was no more than just past the milk, and the straw was just as green as ever. I cut it with the reaper, and left it lying on the ground in loose sheaves for some days, as I thought it would be fit for nothing but cattle feed. However I threshed it, and found I had No. 1 barley, which I sold for the highest market price at that time 95 cts. I will try and cut my barley for the future while the straw is a little green, as the grain of the past crops was the prettiest samples I ever raised.

Yours Truly,

A FARMER.

REMARKS OF AN ENGLISH READER.

Your paper is here read by several parties seeking to know of Canada, and all consider it a highly useful and very satisfactory publication highly deserving a large circulation.

Wishing you a very successful new year.

I remain, Yours Truly,

JOHN Mc KAY.

London England, Jan 15, 1874.

WHEN TO PRUNE FRUIT TREES.

Sir:—I see in this month's (Feb'y) ADVOCATE an enquiry of Mr. A. Yale, Dunville, how to care for young fruit trees, etc. Now I will say, that observation and experience shows to all that the proper time is when the buds begin to open in the spring and in the early part of summer, but on no account in the fall or winter. Every man may observe for himself that a small wound made at that time in a healthy tree, that by examining the edge of the cut with a glass within twenty-four hours after, that the life of the bark if formed at the edge, lapping over the cut in the wood, and if but a small cut, will perfectly heal the same season. Now if a wound is made or a limb cut off in the fall or winter, the edge of the cut will become dead or dried up, and the new bark will form back from the edge and will scarcely head over without effecting the branch or trunk; besides, when a wound is made in fruit trees in winter, like the sugar maple, will give its sap (its life) at the first rays of the warm sun in spring. All pruning should be done after the buds begin to open.

As to how or what to cut off with the pruning knife it is hard to explain; but for the first few years the pruning should be very thorough, leaving nothing that in after years would require the amputating saw, for which every man must form his own judgment; but if in early spring the pruning is properly performed the amputating saw will never be required.

In a new country a piece of land may usually be selected for fruit trees of the "Virgin soil," that is, which has never been cultivated or turned over by the plough, and which must never be done afterwards; the grass to be kept from the trees a few feet about twice a year with a hoe—a bright sandy loam, probably, is best—a side hill or a natural sloping piece of ground must be selected on which the water can never remain. If the virgin soil can be obtained where the land is properly drained by nature, whether of a clay, sand or loam (where healthy timber once grew), and the trees properly pruned; the land never to be turned over with the plough until which time the soil will have retained its light porous nature more congenial to the luxuriant growth of the tree than all the operations of modern science upon old plowed ground, the virgin soil will forever retain all its lightness and purity until ploughed; nor will fruit on any other trees ever exhaust it.

Yours,

rods, and so on until 99, which is 18 rods. When you reach 110 yards, which is 20 rods, commence again. If a field is not square, step in the centre and find how many rods each way, and add together, then divide by 160, and you have the acres. If you wish to sow a certain quantity to the acre on a field, measure off an acre or half an acre, and measure the quantity of grain you wish to sow to the acre; divide that so as to sow the land measured, and it will guide you for the remainder of the field. Supposing that a field is 20 rods long, then 22 steps across is four rods, which will be half an acre.

Yours,

PETER FISHER,

Reaboro', 1874.

NAMES WANTED.—A registered letter has been received from Colebrook, mailed Feb'y 17, and one from Compton, mailed Jan'y 30, but no signatures given.

Miscellaneous.

THE ANT FAMILY.

Insects are everywhere; humming in the forest, sailing through the air, crawling through the field, basking in the sun, sporting in the water, revelling in the flowers, sparkling in the night time, everywhere, and at all times, turn our eyes which way we will, they are with us. Out on the wide, burning, sandy desert where nought can be seen but sky and sand, insects are there, and away up in the frozen zones, where life seems impossible, myriads of them dance in airy flight over frozen seas, or alight on the ice bound coasts, and hum cheerfully amid everlasting desolation.

They are the very embodiment of vitality, activity and destruction. They fly, crawl, hum, work, play, swim, fight, love, steal, kill, and devour with constant, unremitting zeal, seeming to know that their life is "but for a day," and that what they do must be done quickly.

Are these tiny throngs useless in the economy of nature? Unworthy of our serious attention? Must we go through life, crushing them at every step, drinking them at every draught, breathing them in at every inspiration, moving amid them continually, and never once stop to ask why they are here, or to examine their construction, economy or utility?

Their uses are most wonderful. They fertilize the soil, purify the atmosphere, arrest the too rapid growth of vegetation, furnish food for birds and animals, lay up the daintiest food for man, clothe him in costliest array, cure his maladies, furnish the richest colors for his apparel, and teach him the profoundest of lessons. It will not be denied that many are destructive and pestiferous, but in many cases even these may be "necessary evils" whose real utility in the economy of nature is not yet correctly understood.—Colonial Farmer.

GRINDSTONES AND THEIR CARE.

Every farmer, of course, should possess a good grindstone. We mean by good that there is a difference in the quality of these implements. One composed of short grit, and not too hard, is the best. It will not last quite so long, but the soft, sharp stone will cut faster. A grindstone should not be run in water, but be wet from a pot with a small hole in it, suspended above it, as water in a trough is not only liable to get frozen up in winter, but to make soft places in the stone standing in it.—It should not be allowed to get untrue, but be kept round by being cut down by a piece of iron placed on a stationary object near the outer edge of the stone.

Clean off all greasy tools before sharpening, as oily substances saturate the grit of the stone.

The blue Nova Scotia stones are finer than the Berea stones, but all differ much in quality. If obliged to order the stone from a distance, state distinctly the diameter, thickness and quality wanted.—Colonial Farmer.

EGGS-TRAORDINARY.

We copy the following from the Ogdensburg Republican:—

"Some idea of the demand made by Americans upon Canadian hens may be found from the fact that since the opening of navigation sixteen millions six hundred and thirty-seven thousand one hundred and twenty-four eggs have been brought in at this port."

Mr. Howell, whose advertisement appears in another part of this paper, confines his business to the manufacture of Horse Rakes and appears to succeed quite as well as manufacturers who make many implements. He commenced four years ago and manufactured 100 rakes, and he has doubled that number every year since. This speaks well of the satisfaction his Rakes are giving.

Good Health.

MILK.

Considerable has lately been said in medical journals concerning the value of milk as a remedial agent in certain diseases. We notice an interesting article upon this subject that lately appeared in the London Milk Journal, in which is stated, on the authority of Dr. Benjamin Clark, that in the East Indies warm milk is used as a specific for diarrhoea. A pint every four hours will check the most violent diarrhoea, stomach ache, incipient cholera and dysentery. The milk should never be boiled, but only heated sufficiently to be agreeably warm, but not be too hot to drink. Milk which has been boiled is unfit for use.

"It has never failed in curing me in six or twelve hours, and I have tried it, I should think, fifty times. I have also given it to a dying man who had been subject to dysentery eight months, and it acted on him like a charm. In three weeks he became a hale, fat man, and now nothing that may hereafter occur will ever shake his faith in hot milk."

A writer also communicates to the Medical Times a statement of the value of milk in 96 cases of typhoid fever, in every one of which its great value was apparent. It checks dysentery and nourishes and cools the body.—People suffering from disease require food quite as much as those in health, and much more so in certain diseases where there is rapid waste of the system. Frequently all ordinary food in certain diseases is rejected by the stomach, and even loathed by the patient, but nature, ever beneficent, has furnished a food that in all diseases is beneficial—in some directly curative. Such a food is milk.

Dr. Alexander Yale, after giving particular observations upon the points above mentioned, viz., its actions in checking diarrhoea, its nourishing properties, and its actions in cooling the body, says:—

"We believe that milk nourishes in fever, promotes sleep, wards off delirium, and, in fine, is the sine qua non in typhoid fever."

We have also lately tested the value of milk in scarlet fever, and learn that it is now recommended by the medical faculty in all cases of this often distressing children's disease.—Give all the milk the patient will take; even during the period of the greatest fever it keeps up the strength of the patient, acts well upon the stomach, and every way is a blessed thing in this sickness. Parents, remember it, and do not fear to give it if your dear ones are afflicted with this disease.—The Household.

THE NEED OF GOOD FOOD.

Though man does not live by bread alone, the bread portion of his sustenance is of very great importance. Ignoring the body is as fruitful in mischievous results as living for it alone. Body and soul are so dependent on each other that what affects one affects the other, and the more finely organized the body and soul of any person may be, the greater must be his care to keep the two in perfect harmony.

It makes a world of difference what one eats. No class of people is so particular about their food, the quality, the mode of cooking and the manner of serving, as those who live by their brains. They know that the human animal who would keep in the highest working order must be as carefully groomed, as nicely fed, as perfectly appointed as (Goldsmith's) Maid or Dexter, and they lay their plans accordingly. The cooking a potato, the compounding a cup of coffee, the broiling a steak, the making and baking a loaf of bread, are to them matters of vital importance, as, indeed, they should be to everybody.

A great many people never stop to inquire what particular diet is best for them, but, following the injunction of St. Paul in absence never intended by him, eat what is set before them, asking no questions for conscience' sake or any other sake. If "hog and hominy" is the standard dish, they live on that; if hot soda biscuit and steak fried in lard are provided, that must reinforce their strength and content their appetites. It is a melancholy fact that horses and dogs are more intelligent feeders than most human beings, and by natural consequence, they rarely have dyspepsia, gout or humours. If men and women would be governed in their diet by reason as rigidly as brutes are by instinct, a large portion of the ills that flesh is heir to would never be heard of.

How many understand the chemistry of food and know just what they must eat to make them warm, what foods build up bone and sinew and muscle, and what will best supply the nervous waste? How many understand the effect of diet on the temper and disposition of the mind, and avoid whatever will make them irritable, stupid and melancholy? How many mothers regulate the food of their children with reference to these results, and by so doing secure the tranquility of their entire households? How many students are there, who, alive to the importance of proper diet, eat only food "convenient for them?"



MINNIE MAY'S

DEPARTMENT.

Minnie May's Cook Book.

CREAM NECTAR.

Two oz. tartaric acid, two lbs. white sugar, juice of half a lemon, three pints of water. Boil them together five minutes, and when nearly cold, add the whites of three eggs, well beaten, with half a cup of flour and one-half ounce essence of winter-green. Bottle and keep in a cool place; take two tablespoons of the syrup for a tumbler of water, and a quarter teaspoon soda. Stir it and drink.

JULIA A., Charing Cross.

CUSTARD CAKES.

One cup sugar, one tablespoonful butter mixed with sugar, three eggs, one tablespoonful sweet cream, half a teaspoonful soda—very fine, one teaspoonful cream tartar, one large cup flour; butter four round tins, and put them in a quick oven; then take one teacupful sweet milk, one tablespoon and a half of starch, wet with a little milk, and boil it with milk; beat one egg, sweeten and flavor to taste; stir in the boiling milk. When the cakes are baked, put one on the other, with the custard between. To be eaten fresh. JULIA A.

FRUIT CAKE.

Two cups sugar, one of cream, one-half cup butter, one cup raisins; cook a little; one cup currants, four eggs, one cup molasses, half pound chopped almond kernels, preserved lemon peel, half a nutmeg, one teaspoon allspice, one of cream tartar or cook's friend. BELLA E. HESS.

MOLASSES GINGER-BREAD.

One cup molasses, two tablespoons melted butter mixed with molasses, one cup boiling water, one heaping teaspoon soda dissolved in the water. Let the water cool before adding to the molasses; three cups flour, one teaspoon ginger. B. E. H.

POTATO PUDDING—VERY NICE.

Six large potatoes boiled and mashed; add piece of butter the size of an egg, and a little salt; roll out with a little flour; make a layer of this crust, then a layer of apples. Steam one hour. To be served with sauce. B. E. H.

HICKORY NUT CAKE.

One and a half cups sugar, half cup butter, two cups flour, whites of four eggs, three-fourths cup sweet milk, one teaspoon cream tartar, half teaspoon soda, one cup of meats of the hickory nut. Bake in small tins. B. E. H.

FARMERS' FRUIT CAKE.

Two cups of dried apples, soaked over night; then chop or cut them, and simmer in two cups of molasses three hours; then cool and add one cup of brown sugar, one cup of butter, two eggs, one cup of sour milk, one large spoonful of cloves, four cups of flour, and one teaspoonful of soda.

MOLASSES CAKE.

Take two cups molasses and one-half cup of shortening, and add as much flour as you can stir in; then add two cups of boiling water, in which you have dissolved one large teaspoonful of saleratus.

QUAKING PUDDING.

Lay slices of light bread, cut thin and spread with butter, in a pudding dish, alternating the layers of bread with raisins till quite near the top. Beat five eggs up well, and add to them a quart of milk, salted and spiced according to taste. Pour this liquid over the contents of the dish. Bake half an hour, and eat with sauce. Boil the raisins in a very little water so as to make them tender, and add the water with the rest.

Minnie May's Scrap Bag.

UTTERLY MAD.

A very sad case is described by an American paper, which unfortunately, however, does not locate the facts. A young lady is stated to have become insane, and the disease was discovered by observation of some circumstances that produced much alarm in her family. Not long ago her mother found her in her room energetically darning stockings, and soon after she appeared in the kitchen and assisted that wondering dame in making and baking bread and pastry.—Alarmed by these fearful signs of intellectual disorder, her fond parents immediately sent for a skilful physician, who watched her through a keyhole while she sewed buttons on her father's garments, and mended those of her little brother. Much affected, the venerable man remarked that never during a medical practice of twenty-five years had he known any young person to manifest such symptoms as these. The most heartrending phase of all, however, was shown the other day, when her kind father, with a faint hope of rousing her from her sad state, gave her \$200 and told her to buy a new dress. Alas! 'twas useless. She instantly observed that she didn't need a new dress, and if he would let her keep \$25 to pay a poor widow's rent, she'd much rather he would take the rest of the money for himself. For a few moments that grief-stricken old gentleman gazed upon his hapless child, then hiding his face, muttered between his sobs, "Her mind is gone! Her mind is gone!"

A very pretty chess or checker table can be made by arranging on any kind of white wood alternate squares of small oil prints or engravings, or the blocks may be alternated with squares of white paper. They must be cut and fitted exactly, and fixed at the corners with strong glue. A border should be placed around it. After it is all arranged, varnish it.

SUN-BURN.

Milk of almonds, to be obtained at any druggist's, is as good a remedy as any in use. JULIA A.

RED HANDS.

Wash frequently in warm, not hot water, using honey soap and a soft towel. Dry with violet powder, and again with a soft, dry handkerchief. Take exercise to promote circulation, and do not wear your gloves too tight. JULIA A.

Minnie May's Flower Garden.

There are many seeds which require the utmost skill of even the professional florist to assist in germinating properly, yet we regret to say there are a few people who buy seeds and bury them in the ground, oftentimes so deeply that they will never come up, however much they may struggle to reach the surface, even through a hard, baked soil or stiff clod; and when they fail to grow, pronounce the seedsman a humbug, and by a careless or thoughtless remark, injure his business more than their trade ever benefitted it. Instead of this, follow the directions which we give below. If you give your seed sufficient care you will in all probability reap your reward; but if they do fail, see first if it is not your own fault or the fault of your soil, or perhaps of the weather, before you blame any one else. It has often been remarked of some lady who has been particularly successful in securing beautiful flowers and successions of bloom, even in the winter, that "the flowers seem to favor her." This is a great mistake. The lady learns the wants of her plants, and encourages them to grow and make home beautiful. Floriculture is an exhaustless science, and who is there that knows all there is to be learned?

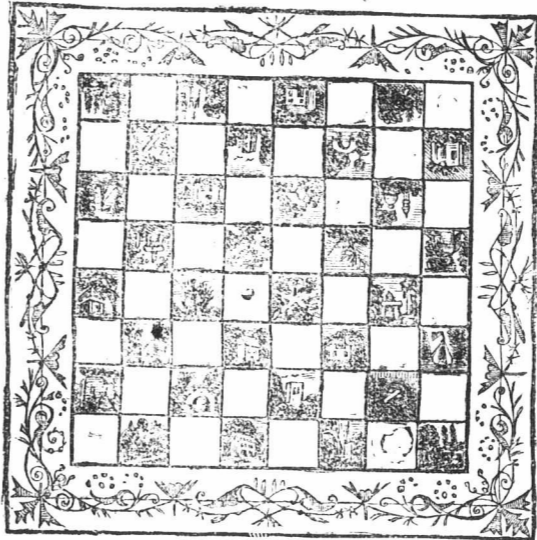
MAKING SELECTIONS.

If a tall, showy group of flowers is desired, plant Zinnias, Calliopsis, Marigolds, Balsams, and the gay Poppies, &c. If it is

desirable to have showy masses or beds, select Phlox Drummondii, Candytuft, Petunias, Verbenas, &c. If dwarf edgings are wanted, use Sanvitalia, Sweet Alyssum, &c. If fragrance be the particular quality sought for, Mignonette, Sweet Peas, Sweet Alyssum, Stocks, &c., will be the most desirable. For expression, take the Pansy.—If leaf color is wanted, select Amaranthus, Perilla, Coleus, Celosia, &c. For tropical foliage, you may take Ricinus, Cannas, Caladium, &c. It should be borne in mind that when mixed beds are wanted, the tallest flowers should always be sown or planted in the center, and the low growing varieties toward the outside.

THE SOIL.

Flowers succeed best in sandy loam, made rich by the addition of well-rotted manure, which should be thoroughly mixed with the soil. Such a soil, thus prepared, will not become hard or baked, but will remain loose and porous. It will not only afford the small and tender plants chance for existence, but will also enable them to perfect themselves with vigor and beauty. If your garden is composed of a stiff, heavy soil, a good dressing of sand and manure will improve it. A heavy soil is greatly benefitted by being thoroughly spaded up in the fall, and left in that condition through the winter.—In all cases, before sowing the seed, it is of the utmost importance that the soil should be thoroughly pulverized. This important particular should never be overlooked.—When the soil will spade up mellow, crumbling to pieces when struck with the spade, it is in proper condition to be worked.



SOWING.

Seed should not be sown in spring until sufficient warmth and dryness has been imparted to the soil. When these requisites are overlooked, and the seed is sown too early, it is apt to perish. If fine seed is to be used, sow it on the surface, and press it evenly with a smooth piece of board. If sown too deeply the seed will perish; indeed, this is the common mistake. The seed of half-hardy plants should not be sown so early in the season as those of the hardy plants, as the latter will endure more inclement weather. The best and most certain success with seeds in this climate is obtained when they are sown in a hot-bed, or planted in boxes or pots and raised in the house and transplanted when strong enough. When you sow the seed out of doors a board or cloth on top of them for four or five days is a great aid.

THE SEED BED AND TRANSPLANTING.

A seed bed may be made later in the season in the open garden, by taking a little extra pains in preparing the soil, making it rich and suitably light for fine seeds. Select a warm, sheltered spot, lay out the bed three or four feet wide, and of any length desired. Sow in drills, keep moist by frequent waterings, and give the advantage of a little shade with thin cloths or newspapers, until the plants are up; after which they will merely require watering until transplanting time. The advantages of a seed bed are that more care can be given to a greater variety of flowers in a small space than if sown in various parts of the garden. When the young plants have attained a growth of two or three inches, they are fit to be removed to the place where they are

wanted to bloom. The seed bed should be thoroughly watered before taking up the plants for transplanting. The transplanting should be done, if possible, in showery weather, or in the evening. The soil where they are to be set should be spaded up at the time of planting, to bring the moist earth to the surface, and, as before advised, should be thoroughly pulverized and made fine. Lift the young plants with all the dirt possible attached to the roots; make a hole with the garden trowel, hand, or whatever is convenient, set the plants in a little deeper than they stood before, and press the earth firmly about the roots; cover with a little loose soil, and the job is done; and if properly done, no after watering will be necessary, except in very dry spots or during continued drouths.

ANNUALS, BIENNIALS AND PERENNIALS.

Flowering plants are divided into Annuals, Biennials and Perennials. Annuals are plants that are raised from the seed, which perfect their flowers and mature their seed the same season, and then perish. Biennials are plants which do not, as a rule, survive the second winter. The Hollyhocks, Canterbury Bells, &c., are among this class. Hardy Herbaceous Perennials comprise a great number of varieties of useful and beautiful hardy border plants.

ABOUT WIDOWS.

"Samival, beware of vidders!"—Mr. Weller.

There was some sound common sense, and not a little reason, in the philosophy of the elder Mr. Weller. His advice to his inexperienced son was not based upon any fallacious theory. It was the result of a lesson he had learned in the sober school of experience. Mr. Weller was widow-wed. He had married a widow. He had learned what was what. And it was not without a grain of parental anxiety that he regarded the future career of his promising son.

Widows. They understand a man better than he knows himself. They read his character by intuition, and make him willingly perform just what he solemnly resolves not to do. They pet him, they flatter his vanity, they coax him they make him promise, they marry him, and they govern him, before he wakes up to a comprehensive sense of his situation.

These weeds fit them so becomingly, and there is something so touching in the sad, melancholy look that they wear, and in the tender way in which they allude to "my dear Will, when he was alive," that it at once enlists a man's sympathies. And when a widow makes a man feel sorry for her he is half in love with her already.

Widows are never excessively bold, nor are they particularly bashful. They are never too young and seldom too old. It is sometimes remarkable how young they grow, how innocent they appear, how sweet and pretty they look, and how becomingly their dress fits them, after a short season of mourning for their late lamented husbands.

A widow, will marry half a dozen times while a maid is getting an offer. She knows a man's weak points and she directs the arrows of her affection directly at them, as Paris sent his slender, yet deadly shaft into the vulnerable heel of the Styx-immersed Achilles, and he is down in a twinkling. She storms his citadel, he hauls down his colors and makes an unconditional surrender.

I know an old bachelor who is a most estimable man. He has a kind heart, a comfortable fortune, a taste for art, a disinclination to attend church, and the rheumatism. He is a great admirer of Scott and Macaulay. He will read Locke and Lecky by lamplight far into the midnight hours, and he can discourse most charmingly upon the beauties of Bacon, the grandeur of Guizot, the magnificence of Milton, and the sublimity of Shakespeare. But I have seen a black-eyed, bewitching widow who would lead him limping off to church, looking as meek as Moses, and make him talk of Tennyson and Tom Moore, all the way there. Why, a virgin could not have got within speaking distance of him, with all her proverbial philosophy!

I do not mean to speak unkindly of those whose lives are hopelessly saddened by some great loss. Their griefs are too sacred to be made the subject of rude or unmanly public comment. I want to make the sorrowing smile if I can. I am a true friend of the widows. I admire their tact, their good judgment and proverbial common sense, and I like to take their children upon my knee and talk to them, and make them happy, because I feel that they are fatherless.—Eugene.



UNCLE TOM'S COLUMN.

MY DEAR CHILDREN:

It looks so bright and cheerful out of doors, that I feel as if spring was here, and I want to get at my gardening. How did your house plants look after the winter? I took great care of mine, and they were looking splendidly until one evening I had to go and help at a young folks' festival, and when I came home at night was so tired that I forgot to take my plants away from the window, and as it was the coldest night we had this year, when I awoke in the morning my plants were all frozen stiff. Oh, I was so sorry. So now, if any of my nieces or nephews have some real nice house plants which grow by slips, cut off a piece for Uncle Tom and send it to him by mail. The postage will be only one cent for two courses. Write me a letter also, saying what the name of the plant is, and how to care for it.

One of my little nieces was telling a friend about the nice book she received at Christmas, to which a sequel was soon to be published. "O, Aunt, isn't it nice; my book's got a sequel to it."

Two of my little nephews were trudging along from market; one had a basket on his arm with meat in it. He said, "My ma's got a flagelator what'll keep everything so cold as ice, to put it in. Your mamma got one?" "No, she aint," answered Bob, "but she's got a steel egg-beater!"

"Ho! a leg-beater!" shouted my wee youngster, turning square round to look at the other; "what's that for?"

"Why, to beat eggs with, you goosey!" "Ho!" screeched the little chap in great scorn, "she'd better look out! if she goes to beatin' eggs she'll break in. Eggs is brittle than an' thing. Guess you most don't know what you're talkin' about!"

UNCLE TOM'S FAMILY PICTURE.

For the benefit of those who have not yet succeeded in getting my family picture, I will tell you whose faces are in it. Mr. Weld and the associate editor occupy the two upper corners, and between them are three of my nieces; under that comes a row of faces containing three nieces (one a first-prize niece), and two nephews. Next comes a row of five nieces, and Uncle Tom in the middle. Then a row containing Minnie May, Uncle Tom's girl and five nieces (one of whom is my friend Nina). Then the last row contains five nephews and two nieces. Then all around the picture you will see little faces peeping through the corner, trying to get into the picture. Remember, you can have one of these pictures if you will send in two new subscribers to the ADVOCATE.

PRIZES.

1st.—A prize of ten packages of flower seeds will be given for the best selection for Uncle Tom's Scrap Book. The selection must be in by the 15th of March.

2nd.—A bound volume of the ADVOCATE for 1873 will be sent to my most popular niece or nephew, to be decided by the majority of votes sent in to Uncle Tom by his correspondents before the 15th of March. Let each of you, when you write, say which one you vote for.—You can choose any one whose name has appeared in my column during this or last year.

PUZZLES.

HIDDEN FISH.

- 183. Did you give Mary her ring back?
184. Will we sing a psalm on Sunday?
185. I wouldn't run after Bob as Sarah does. LILLIE FLODY.
186. Why are the nose and chin not likely to agree? LIZZIE ELKINGTON.
Maggie C. Millar sends a lot of answers.
187. There's not a creature lives beneath the sky Can secrets keep as faithfully as I; All things for safety are to me con-sig-ned, Although I often leave them far be-hind. I never act but by another's will, And what he commands I must fulfil. LIZZIE FORBES.

188. Oh, how many tales of me could be told, By the young and the poor, the rich and the old; For I never do good wherever I am, Altho' I have been from creation of man; No legs have I got, yet how swift do I go, And often I cause the blackest of woe; But if you transpose me a man's name I show, A scriptural one I would have you to know. MARY JANE FERGUSON.

Rose Widdifield says: "I should have written to you before this, but I have had the measles, and have not been able to do anything. Did you ever have the measles, Uncle Tom? I can tell you they are not very nice, are they? I want your FAMILY PICTURE for the two subscribers I sent in, as I want to see the faces of my cousins. I will send you my photograph when I get able to have it taken." I wish all my nieces and nephews would send me in their photographs for my album. UNCLE TOM.

Nellie V. McGannon sends answers to puzzles.

189. I am composed of nine letters. My 9, 1, 6 is a horse, My 3, 8, 6 is a very useful animal. M 2, 1, 5 is a boy's name, My 6, 4, 6 is a light chaise, My whole is a County in Canada. N. GILMOUR.

190. My 1st is in Laura, but not in Jane, My 2nd is in Spaniard, but not in Dan, My 3rd is in dagger, but not in dirk, My 4th is in chapel, but not in kirk, My whole a range of mountains you'll find At the eastward of Europe, bear this in mind. BELLA E. HESS.

191. A drover being asked how many horses he had, said altogether they had twenty fore legs. How many had he? WILLIE E. FLEWELLING.

192. If flour was \$8 per barrel, how much would a rummy loaf cost? BOB B.

193. My positive is an insect, My comparative a liquor, My superlative a quadruped. JOHN PARSONS.

Walter McCall sends answers and some new puzzles.

Stanstead, P. Q., Feb. 10, 1874.

Dear Uncle Tom,—

I mean to be respectful as I am so young. You were so very kind to print my insignificant letter. It nearly took away my breath to see my name in print! And you say Quebec is ahead. O, my, but Nina beats me all out! I'm proud to call her "Cousin." And so you've handed me over to Harriet. Dear me, is she fond of children? I wonder how she will serve me up! O, Miss Haviland, I'm in such a fearful state of expense! Please pat me on the head, and ask me if I go to school and what I study.

By the way, I want to tell you that we have a perfectly splendid new college down here, and if you want any of your young folks to get as wise as Methusa—no, Sampson; why, no—Solomon is the man I mean—just send them down here; that isn't what ails me, tho'. 'cause I haven't been there yet.

My aged relative, I will now introduce to you my big sister. I hope she will not disgrace your family or me either.

I remain yours respectfully, CORA HIBBARD.

Stanstead, P. Q., Feb'y 10, 1874.

Dear Uncle Tom,—

And you, my bright, fun-loving cousins, all hail! Cora has so happily introduced me that there remains nothing for me to do but to make my best bow and glide in among you, provided that you'll allow me to do so. I must speak to Miss Hattie H., as she is appointed to "serve up" Cora. I would just say, don't deal gently with her on account of her extreme youth. However you treat her case you may be sure of my approval. Whatever you say to her will be no more than she deserves, be it good or bad!

Ain't you sorry, uncle, that the holidays are gone? How sad that we must now bid adieu to the chicken pies, turkeys and plum puddings that abound so plentifully at Xmas and New Year's gatherings! I hope you all had as nice a time as I had. I was off "a visitin'", and some of our evening parties were equal to Nina's, I guess. We had such fun playing charades. Ever played them? They are fine fun for those who have any dramatic talent.—We acted the word "nap-kin." The first scene was "nap," of course. A lady sa-

waiting for her husband to come in in the evening from his store, or club, or somewhere; presently he came and greeted his wife affectionately. She flew to bring him his dressing-gown and slippers, as all good wives always do. She devotes herself to him and is very agreeable; he, like a perfect brute, reads his paper, yawns and falls asleep, nods—and there's your "nap." Two or three country cousins drop in for "kin," and behave very green and awkward; a lunch is prepared and the napkins forgotten, for the whole word "nap-kin." The lady must summon the 'girl,' who will bring them with a flourish. Let the guests put them in their pockets, around their necks, and so make a great fuss over them.—The contrast between the city-bred people and the country cousins is quite amusing. There, Uncle Tom, my mother wants me. Ain't you glad? Yours, nevertheless, CORA'S SISTER.

P. S.—Cora says I have disgraced her. I must have Cora's and Cora's sister's pictures for my album.

Ingersoll, February, 1874.

Dear Cousin Cora,—

You see I look on you as a cousin already. I don't think you will have any occasion to have the blues, because Uncle Tom is such a dear old uncle that he don't refuse any one and now, instead of being a bad girl, you can smile and say "appreciated merit." I wish you were in the picture, Cora, so that I could see what such a homely little puss as you looked like.

I think every one that takes the ADVOCATE likes it. My grandpa is almost as eager to get it as I am. You asked Uncle Tom if he was any relation to Uncle Tom's Cabin? I don't think he is, but we are all related by being descendants of Adam and Eve. As for big brothers being humbugs, I don't know anything about them, for I have no brothers, so I think we will have to leave that question for Uncle Tom to answer.

I remain your affectionate cousin, HATTIE HAVILAND.

If Hattie has no big brothers, can't she tell us what she thinks about some other girl's big brother.

Uncle Tom's Scrap Book.

Ten little black boys went out to dine One choked his little self, and then there were nine;

Nine little black boys sat up very late, One overslept himself, and then there were eight;

Eight little black boys travelling in Devon, One said he'd stay there, and then there were seven;

Seven little black boys chopping up sticks, One chopped himself in halves and then there were six;

Six little black boys playing with a hive, A bumble bee stung one, and then there were five;

Five little black boys going in for law, One got in Chancery, and then there were four;

Four little black boys going out to sea, A red herring swallowed one, and then there were three;

Three little black boys walking in the "Zoo," The black bear hugged one, and then there were two;

Two little black boys sitting in the sun, One got frizzled up, and then there was one;

One little black boy living all alone, He got married and then there were none.

A miller who attempted to be witty at the expense of a youth of weak intellect, accosted him with

"John, people say that you are a fool." On this John replied, "I don't know that I am, sir."

"Well, John, what do you know?" "I know that millers always have fat hogs, sir."

"And what don't you know?" "I don't know whose corn they eat, sir." C. C.

When a woman will, she will, You may depend on't; And when she won't, she won't, And that's the end on't. C. C.

The Granges are gaining so much power that every politician wants to prove that he is a farmer. Here is how one of them shows his knowledge:

"The hickory berry vine entwines The brown nuts of the turnup tree; The cashmere heifer skips and plays To the tuneful bleat of the feathery bee, On tall boughs 'mid the buckwheat buds

We hear the low of the finny plover, While the bay bull hitched to the rumbling scythe, Husks out the golden clover."

"Ah, Pat," said a schoolmistress to a chuckle-headed urchin, into whose muddy brain she was attempting to beat the alphabet, "I am afraid you will never learn anything; now, what is that letter, eh?" "Sure, don't you know, ma'am," replied Patrick.

"I thought you would have recollected that much, because it has a dot over the top of it." "Och, ma'am, I mind it well, but sure I thought it was a fly speck."

"Well, now, remember that it's I." "You, ma'am."

"No, not U, but I?" "Not I, but U, how is that?"

"Not U, but I, blockhead!" "Oh, yes; faith now I have it, ma'am; you mean to say that not I am a blockhead."

"Fool! fool!" exclaimed the pedagogess, almost bursting with rage.

"Just as you please," replied Pat, "fool or blockhead, it's no matter to me which ye are, so long as ye are free to own it." C. E.

Mark Twain, a few months after his first baby was born, was holding it on his knee. His wife said, "Now confess, Samuel, that you love the child." "I can't do that," replied the humorist, "but am willing to admit I respect the little thing for its father's sake."

An eccentric old fellow, who lives alongside of a graveyard, was asked if he was not an unpleasant location. "No," said he, "I never jined places in all my life with a set of neighbors that minded their business so stidly as they do."

SCRUPLES.—English tourist (having arrived at Greenock on Sunday morning): "My man, what's your charge for rowing me across the Frith?" Boatman: "Weel, sir, I was jist thinkin' I canna break the Sabbath day for no less than fifteen shillin's!"

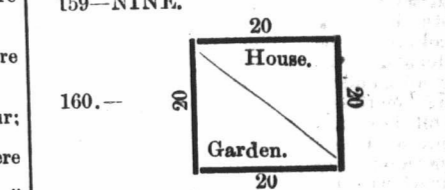
The fondness of the Scotch for metaphysics was never more happily hit than by the story Sidney Smith tells of his hearing of a young lady at a ball, in the midst of a momentary lull in the music, saying to her gallant, "That may be true, my lord, of love in the abstract." And here the music began again, and he heard no more.

It was an Irish coroner who when asked how he accounted for an extraordinary mortality in Limerick, replied sadly, "I can not tell. There are people dying this year that never died before."

Punishing the parson.—Rector: "John I did not see you at church last Sunday."—John: "Noa zur, vather sent of to chapel, and sez of you want lend 'un the wheelbarrow, I beant to go to church again, never no moar!"

ANSWERS TO JANUARY PUZZLES

159—NINE.



160.— 161.—Quebec. 162.—Toronto. 163.—Calcutta. 164.—Boston. 165.—Singapore. 166.—Rain, train, strain. 167.—Noise. 168.—When 't is a little bear. 169.—A glove. 170.—The tiller. 171.—Veil, vile.

GEOGRAPHICAL PUZZLE.

As I was awakened one morning by a (Shanghai) and as the air was (Chili) I wrapped myself in my cloak made of (Cashmere) and lined with (Sable). When I came down to breakfast a lot of (Pines) burned brightly on the hearth. A (Canary) greeted me with a song. Soon (a slave) brought in the breakfast, which consisted of a (Turkey) and a (Plate) well seasoned with (Salt). As I am fond of (Society) I chatted with Miss (Parry). My appetite was at first (Keene). After I had satisfied it a little I ate a (sandwich). As she was suffering with a headache, I bathed her head with (cologne), but stopped suddenly on discovering that (the slave) was (Pekin). I assured him that he would never obtain his (Liberty) unless he mended his ways, although my disposition toward him was (friendly); but should his conduct prove satisfactory, he might look forward with (Good Hope) to obtaining (Liberty) in due time. I then went and enjoyed a (Race), and after I returned, finding that the children were making a (Noise) I sent them to bed after visiting a good deal of (wrath) on them.

ANSWERS TO FEBRUARY PUZZLES.

174.—Key West. 175.—Eight. 176.—He is easily seen through. 177.—One is too thin (tooth in) and the other is tooth out. 178.—Because it is the shortest month. 179.—Tear. 180.—When it is grated. 181.—It is a simpleton. 182.—The postman.

The Apiary.

PUTTING BEES INTO WINTER QUARTERS.

By A. C. Atwood.

LETTER NO. 1.

Many persons form a very false idea of what constitutes winter quarters for bees; they think any place is better than out of doors, and, acting on that idea, they set them away, as I have frequently seen them, in such places as the driving house, granary, milk house, wood house, back stoop and a dozen more just such places as we would hang a chunk of beef, if we wanted to keep it hard frozen all winter. But for bees, such places are worse by all odds than their summer stands, as I shall prove before I have done.

Many will open their eyes when reading this, having always heard me recommend putting bees in winter quarters. Understand me; I am still as much as ever in favor of winter quarters, providing they are really what winter quarters ought to be. A winter repository for bees ought to be perfectly dark, quite dry, and away from the influence of fire, so that it will not be hot in the day time or cold at night; it should be where there is no jarring, hammering or noise; it should have an even temperature, as near 33 degrees as possible, never over 40 degrees as a rule. For those who have not a thermometer I would recommend to place a cup of water in the hive; the water should just freeze and no more, and it makes no difference where such a place can be found, that is the place to winter some bees.

In such a place the bees can at all times pass freely over their combs to their stores, and the combs will come out dry in the spring, with the hive full of strong bees, and will at the same time winter with about half the stores they would consume if wintered out of doors. They must, of course, have upward ventilation, as, indeed, they ought to have in all cases, according to the strength of the colony. If a repository cannot be got that will always remain at 33 degrees, I would rather have it run up to 45 degrees than to get below 30. Bees do not go into a cold dormant state, like snakes and frogs, as some suppose, for a thermometer thrust into the centre of the cluster will at all times show, even in the coldest day in winter, a summer temperature. Usually in February the queens begin to lay eggs; these eggs are hatched, the larva fed, capped over, and comes out a perfect bee in 21 days, the same as in summer, which proves the contra of a dormant state. Hence the necessity of a proper wintering repository.

The objections to wintering in such places as the driving house, &c., as referred to, are that a thermometer in such a place will show just about as cold a temperature as it does out of doors on a cold day, and if a fine, sunny day should come, such as we usually have every 12 or 15 days in winter, the bees in the driving house never feel the good of it. They stand perhaps for five months in a place as cold as can be. The breath of the bees condenses on the sides of the hive and outside combs, and they become one mass of ice. The bees on the outside of the cluster get chilled, and those in the centre are as backward to turn out as I am to turn out of bed these cold mornings. The result is that they starve to death with plenty of stores in the hive, being locked up in ice.

Still, notwithstanding this fact, the poor bee keeper—or rather old fogy, he ought to be called—clears his conscience by saying: "I put them into winter quarters." True, but they proved to be a living tomb.

The advantages of wintering on the summer stands over such places can be easily proven. Bees will stand a great amount of cold if they are relieved every 10 or 12 days by a few hours of warm sun. The sun strikes the hive and warms it up; the bees live up and warm the combs; they move out and bring a fresh supply of food into the centre of the cluster, and are then ready to stand another siege of cold weather.

If a person has not a proper repository, I would recommend him to leave the bees in their summer stand; leave the honey boxes in for ventilation; raise the hive up say three-eighths of an inch from the board all around, not more, as the mice may get in. Fix it so that you can pack pea straw on the back, two sides and top full one foot thick, as tight as it can be packed, leaving the front directly facing the noon sun open, so the sun can strike the hive. Leave all the fly holes open, and in fine days lay wheat straw in front of the hives. Of course the bees will consume more honey than if wintered in a proper repository, but they will come out in a different shape than they would if wintered in the wood house.

Mr. D. Patterson, of Copetown, condemns the Agricultural College and says all the farmers he has spoken to about it consider it a humbug of gigantic proportions.

NEW YORK AND EUROPE CARRYING TRADE.

The gross receipts of the carrying trade between New York and foreign ports amounted during the year just closed to nearly \$60,000,000. Aside from the interest which these statistics in themselves possess, there are several points emphasized by them which are worthy of attention. In the first place, the capital employed in this enormous and enormously profitable business is almost, if not entirely European capital. Most of the vessels used in this traffic, it will be seen, are built in the Clyde. All the profits go into foreign pockets. The most trivial details of the service results in benefit not at all to this country but solely to England, France, and Germany. The vessels employed are commanded by Europeans, sent out from the home offices. Not many years ago forty packed ships sailed out of this port under the American flag. When packed ships came to be superseded by steamships, and the profits of ocean traffic were immensely increased, the United States quietly handed over whatever advantages they might have enjoyed to their countries.

(Chicago elevators, on Feb. 31 contained 2,491,972 bushels of wheat; 1,862,346 bushels of corn; 681,746 bushels of oats; 62,257 bushels of rye and 334,063 bushels of barley, making a total 5,432,387 bushels of all kinds of grain, against 5,731,361 bushels at the same period last year.

ILLINOIS BOARD OF AGRICULTURE.

A committee has been appointed by the legislature of Illinois to investigate into alleged exorbitant charges for printing the transactions of the Board of Agriculture. Some objections have been made, also to the character of the papers composing the volume, some of which that noted authority on literary matters, the Chicago Times, describes as "unmitigated trash," "literary slush," "worse than useless," "inconsequent lectures by irresponsible mountebanks," and "essays by prolific ignoramuses."

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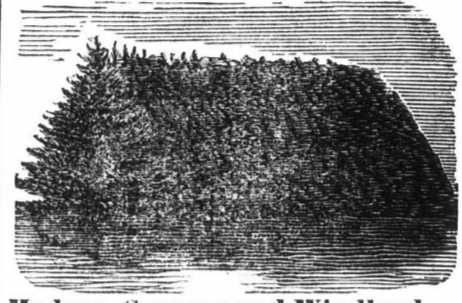
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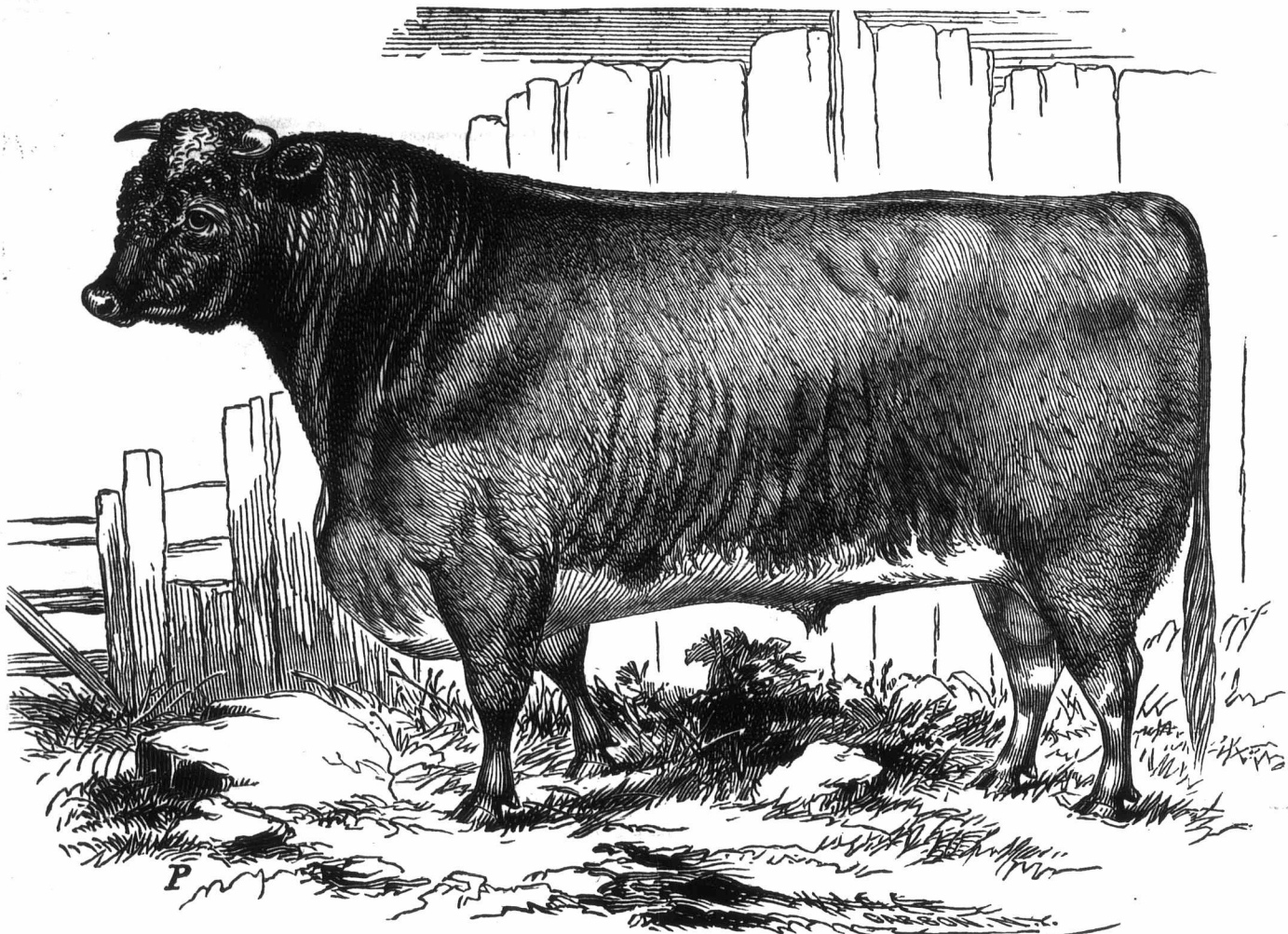
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NOTE.—The Sale of John Snell & Sons will take place on April 8th, the day previous, so any person attending one can attend both without any inconvenience.

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