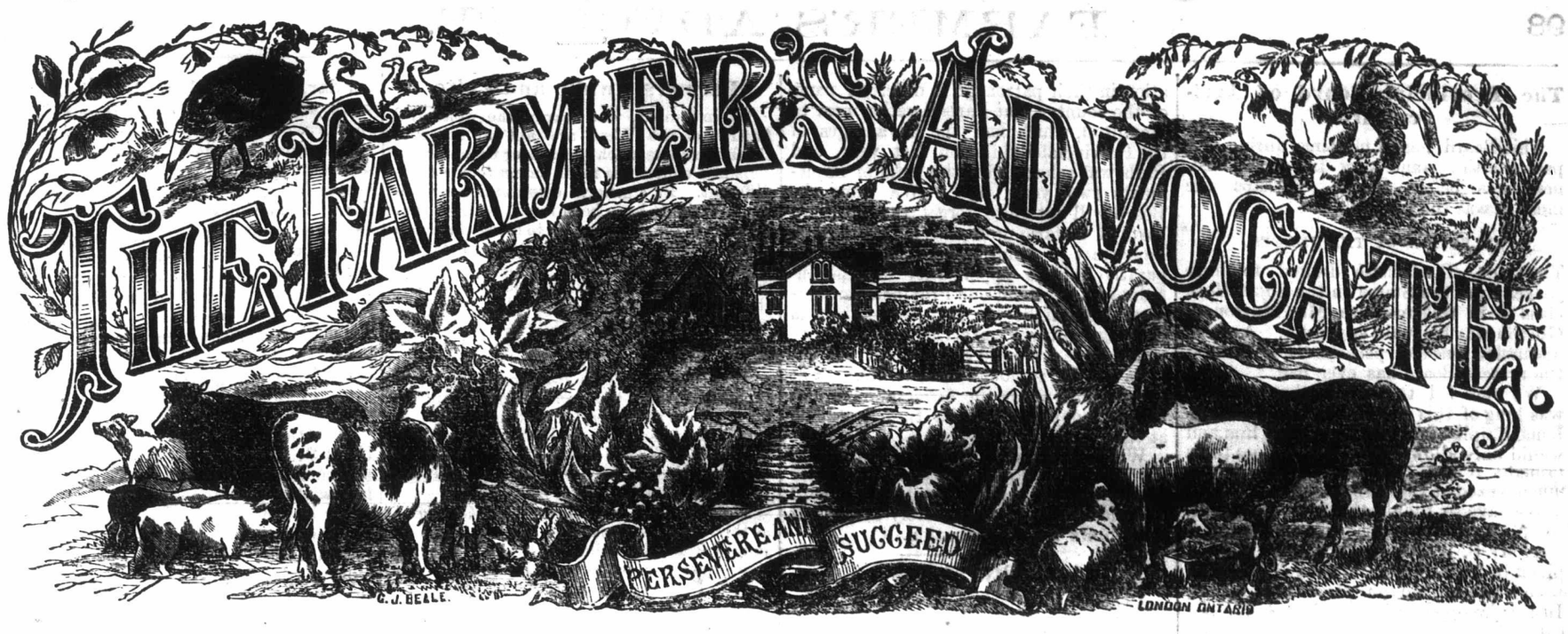


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## The Coming Provincial Exhibition.

ACCOMMODATION FOR FARMERS.

We expect the coming Provincial Exhibition will eclipse any previous Exhibition that has ever been held in this Dominion, both in the attractions displayed and in the number of visitors.

No city in Canada can boast of so many really fine and well-kept farmers' hotels as London can. In speaking of farmers' hotels we mean respectable houses kept up and maintained for and by the farmers.—Still, the accommodation that can be had at these hotels will not be one quarter sufficient for the demands that will be made on them. Farmers that come from distant parts of the country will find great difficulty in procuring shelter when night overtakes them. Money often cannot procure a comfortable lodging. We know one wealthy gentleman who resides in Montreal that attended one Exhibition in this city; he wandered about in quest of lodging at all the principal hotels in the city, and would willingly have given $5 for a bed, but the only accommodation he could get was a seat in a chair, which cost 50 cts. Some paid 50 cts. for worse.

We have attended these Provincial agricultural gatherings for many years, and profess to know a little of their ways; we know there is a very great lack of accommodation for men during the Exhibition time, and far worse for women. The Board of Agriculture is aware of this fact, members of Parliament are also well aware of it, and the Mayor and corporation of each city know it, but who has tried to remedy it? The farmer has no choice but to stay away or run the risk of a lodging on a bare plank, without any covering, or hurry away with but a few hours' observation.

Many desire to attend these large gatherings; they are beneficial. Can no better means be devised to accommodate man? Let us hope that the members of the Board of Agriculture and others may take some steps to prevent the evil complained of. An extra railway train might be run to St. Mary's and Stratford, morning and evening; another to Ingersoll and Woodstock; another to St. Thomas and Port Stanley, to leave London at 6 or 7 p. m., and return to London at 8 or 9 a. m., during the four busy days of the Exhibition.

Another most beneficial plan would be to enact a law that every saloon keeper should be compelled to keep ten extra beds expressly for travellers or visitors. We do not mean for constant inhabitants of the house or boarders, but for travellers.—These saloons are a great source of profit o the cities' grocers, lawyers, constables, police magistrate and collector of licenses, and increase the receipts of the city treasury to a great extent. Should such a law be enforced, the number of saloons might be reduced and accommodation might be obtained at reasonable rates when required.

Hotels also should be compelled to keep from ten to fifty beds for travellers, beds that are not occupied by weekly boarders. Perhaps the greatest profit is derived from the sale of liquors, and those that traffic in it should be compelled to find sleeping and other necessary accommodation for man. The immense number of saloons and drinking stands, if compelled to make preparations for the accommodation of travellers and visitors, might become blessings to the public. If any little gathering is held in any of our cities or towns at the present time, proper sleeping accommodation cannot be had.

If all these saloon keepers were compelled to find accommodation for man and beast, the farmers' interests would be better served. If a farmer from a long distance drives into a town or city to any of these gatherings, it is often only under infringement of the law that he can put horses and vehicles in a secure place. No tavern can be found to accommodate him; all the space is occupied by regular customers.

Another accommodation is required. The few farmers wives and families that attend the Provincial gathering often suffer for the lack of water to drink or a seat to rest on. A few thousand feet of plank for seats, placed in various parts of the grounds, would be found to increase the pleasures and profits of the Association, and one or two good stands where water could be readily obtained would also be advantageous. The cost would be but trifling.

The public have a right to expect some accommodation; many we know attend the Exhibition once, but the fatigue and lack of necessary accommodation to be procured prevent them from making a second visit, and if a visit at all, a very short one.—Thousands would be wishing to expend more time, say some days, if accommodation could be had. Some may think forty people in a room, lying on straw stretched on the floor, and a light horse rug, is good enough accommodation for 25 cts. at Exhibition time.

We hope the Board may make such arrangements with the railroads as to induce them to run extra trains morning and evening of each day. The St. Thomas Railway might, perhaps, with advantage, carry passengers at the excursion rate of 30 cts. to Port Stanley or St. Thomas during the Fair week.

## County Council of Middlesex of 1873.

This Council at its last session carried off the palm of victory as the most niggardly, penurious, narrow-gauged lot that ever sat in this county, or, perhaps, in any other county.

They have wasted the people's money day after day, endeavoring to cut down the salary of the County Clerk from $700 to $500 per annum. Different persons have been elected and decline to serve.—A deputation waited on them to ask a trifle to enhance the Provincial Exhibition when it should be held in this county the coming autumn. Not one red cent would they give.

Do you not think that any county should aid the Provincial Exhibition, or show their willingness when the farmers of the county have such an exhibition within a day's drive of them? But they allow the poor farmers in distant counties who have no such opportunity of partaking of the pleasures and profits of the exhibition, to pay quite as much as they do.

There are many noble and public spirited men in the Council, but political feelings on one side and close parsimony on the other have earned them a name that does no honor to the county.

They might be judged by the very room they occupy—a small room with a ceiling you can almost touch. They cannot sit without crowding as at a small boarding-house dining table. Twenty visitors can not find room in it. No prisoner in the cells or idiot in the Asylum breathes such impure air as they are compelled to breathe when in session; a reporter can find no accommodation there.

The County Council may have just grounds for not aiding the city to bear its part of the expenses, but they might have shown a willingness by granting something toward it in a direct manner, should it be in no better way than to beautify the grounds, erect seats or sink an additional pump for drinking water, if they could not aid the seed, stock or implement departments.

It is so easy for a public body to speak against expenditures for one reason or another, and object to one plan or another; but for the County Council of Middlesex or any other county where large expenditures hove been or are about to be made in their locality, they should be compelled to pay something towards such expense when they are such gainers by it. If these Exhibitions do good to farmers, surely the greater amount of good would be to those who have an opportunity of attending them. There are times when public bodies are required to act with a public, liberal and honest spirit.

## The Provincial Board of Agriculture.

This Board held a meeting during the past month; some very important business was before them. Perhaps the most so was the

SELECTION OF THE JUDGES.

The Hon. D. Christie desired to have judges from the States on the Short Horn class; in this measure Mr. Murton, of Guelph was his main supporter. A warm discussion ensued, perhaps the warmest the present Board has ever had.

We were led to believe that Christie was king of this Board, but Graham, Gibbons, Shipley and others opposed him,and would only allow half of the judges to be brought from the States. Christie was much vexed at this thwart.

We have to thank the late President, the plain, bluff, unpolished Canadian farmer, Mr. S. White, for his audacity and pluck in this matter, although he had been Christie's aid on previous occasions. In this he opposed him, and prevents our eating the humble pie and annexation pill of allowing the Americans more power than we have over our own business.

This important decision was only carried by the deciding vote of Mr. A. Wilson, the President. We deem this an important step, and strongly commend the upholders of Canadian dignity. The Americans are good customers and good neighbors, but we do not wish them as masters.

Surely we can select men with as much honor and as good judgment as they have across the lines. Canadians should control their own affairs. If we want annexation let it be known above board. We have yet to learn that Canadians desire annexation before we advocate that measure.

Murton, of Guelph, nominates half the judges on Durhams from the other side of the lines. Christie desired more. Not one quarter of the members of the Board know anything about these Americans that are appointed. The last time American judges were called in there was quite as much dissatisfaction expressed regarding the decisions as at any other time. We think the Board has gone quite far enough in this matter of allowing half the judges to be brought from the States, all to be selected by Christie, and all proposed by Murton, of Guelph.

We like the Americans' money, but when we cringe to-it for political elections and when we sell the main agricultural interest and power and influence to them, we may as well shut up shop and resign in favor of the stars and stripes. Reciprocity we have asked for, annexation we have not yet dreamed of, but Christie's attempts to have the full power of our Durham stock under the Americans is too much for Canadians to sanction. We hope to see those independent, plain farmers who resisted the measure as much as they did, elevated to better positions and to enjoy more power.

TWO PRINCE OF WALES' PRIZES THIS YEAR.

The Prince of Wales' Prize was withheld last year on account of the error of the exhibitor to whom it was awarded.—This year it is to be given to the best flock of Cotswolds raised by the exhibitor. The other Prince of Wales' Prize is to be given for the best Durham Bull and five calves.

FOUR PLOUGHING MATCHES

are to take place this season under the auspices of the Board of Agriculture, to each of which the Association grants $300: also, each electoral division in which the match is held is to contribute $25 towards the match, and the President of it is to become *ex officio* member of the committee appointed for said district.

The matches are to be held at Ottawa, Port Hope, Paris and Chatham.

We approve of the spirit of the Association in their patronage to different parts of the country, but Paris is rather near to Hamilton, which had the advantages of the Provincial Exhibition last year, and Paris was selected for the trial of implements two years ago. We hope the Board will not quite forget the northern parts of Ontario next year, as there is a large tract of country there that has comparatively little opportunity for the inhabitants to attend our Provincial gatherings. It might be well to aid them in their agricultural gatherings, in fact, we would have preferred seeing both the Ottawa and Paris ploughing matches held at other points where the farmers have not had such opportunities as they have had at those places.

We do not wish to condemn the acts of the Board; we know many of the members to be such that it would be difficult to select better. We merely throw out these hints for consideration.

## Agricultural News.

A company has been formed in this city for the purpose of manufacturing India-rubber from the milk weed. They propose to plant out a small patch of milk weed in order to find out what quantity of the rubber can be manufactured by the acre. The projecters speak confidently of their ultimate success.

We know many farms where it would be quite unnecessary to plant it in order to have a crop of milkweed.

Another grub is making ravages in this section of the country, cutting off whole fields of grain. It is spoken of as a grayish green grub, about one inch in length, and is so bad in some places that fields of grain have had to be ploughed up again and resown. The gardeners are complaining that the grubs are carrying off their cabbage and tomato plants. We read that some farmers are applying a light sprinkling of salt to their fields affected with the grub, and they say with good effect.

The Onion Worm or grub is also at work. They get into the centre of the onion and eat it out. If you notice the ends of your onion tops getting brown too early in the season, you may be sure that you have a visit from the onion grub. A gardener of experience tells us that the best way to be rid of them is to mix up salt and water (slight dose) and pour some on the onions affected.

A very large company has been formed in New York for the manufacture of artificial butter. They buy up beef suet; it is put into a meat chopper and minced fine; it is afterwards placed in a boiler with as much water in bulk as itself. A steam pipe is introduced, which melts the suet. The refuse or membrane goes to the bottom of the water; the oily substance floats and is removed. A temperature of 80° makes the stearia of the fat sink to the bottom, and the remainder, floating on top, is drawn off and about 13 per cent. of fresh milk is added, with the necessary salt, and the whole is steamed for ten or fifteen minutes. Those who have tried the butter say it equals the best. All the leading steamship lines between New York and Europe are to be supplied this summer with this newly invented butter. Several of the leading men in the butter trade have taken stock, and the discoverer expects that the new product will drive live cow butter out of the market.

There is a storm brewing in England. The farm laborers there have had a Union for some time which has forced a raise of wages wherever the Union was established.

The farmers have now become alarmed and have formed a Union of their own to oppose the laborers with, and there is sad work going on. Men striking and farmers turning them out of their houses. There has been as yet but little violence, but that must be expected shortly.

Mr. Shiels, of Adelaide, expresses the opinion that the usual practice of sowing timothy in the spring is not generally profitable. Too often we have dry, hot summers, which completely kill out the timothy, and leave nothing for next year. His practice is to sow his timothy in the fall.

The wheat sowing in the vicinity of Nashua, Ia., is nearly complete, and as early sowing generally brings good crops in that district, farmers have reason to anticipate a good harvest in 1873.

## Farmers, Awake and Unite.

We in Canada, who hear of the wonderful fertility of the West, are apt at times to think their lots much pleasanter than ours.—This last winter has made things look a little different. By a general combination of railroads, freights have been raised so high that it is worth almost as much to bring their corn and other produce to the seaboard as it is worth when it gets there. This has caused a general depression, and although a farmer there may have a good crop, the value he realizes from its sale or exchange is exceedingly small. This combination of railroads has therefore forced upon the farmers of the west the necessity of a combination amongst themselves, and the work of organizing so far has been so successful that they will force Congress ere long to aid them either by compelling the railways to take the freight at a less extortionate rate, or build new railways to the west for farmers' freight alone.

The principles actuating the "Granges," as their organizations are named, may be judged from the following forcible inscriptions upon the banners in a procession of 5000 in Lawrence, Kansas, some days ago:

'Down with Banks and up with Corn!'
'No Quarters to Monopoly!'
'Equal Taxation!'
'God Speed the Plough!'
'United We Stand, Divided We Fall!'
'Live and Let Live?'
'Money Rings, Beware!'
'Farmers Will be Free!'
'No More Parasites!'
'Less Offices, Less Laws, Less Taxes, and More Justice!'
'Industry Will be Rewarded!'
'Farmers to the Front—Politicians to the Rear!'
'Peaceably if We Can—Forcibly if We Must!'
'Reform or Revolution!'
'Vox Populi!'
'Fraternity, Equality, and Fair Exchange!'

We call attention to this movement in the west for the reason that we will probably in a few years be suffering from the same causes that they are now.

There is a tendency among our railways now toward combination for excessive charges. We know very well how unequally they now levy their rates for local freights in Canada, and how careless they are as to whether they properly attend to the business, unless, indeed, it is for one of our big merchants; then they are obsequious enough.

Why is it that the farmer is not treated with every respect and attention when he is on board the train. The conductor is surly and the rates of travel are increased upon him because he only wants to travel a short distance. We farmers have to pay for these railways, and we must and will have our rights upon them. If we only demand it of our representatives in Parliament they can compel the railways to deal justly by us.

## Farmers' Rights.

We, as farmers, have rights, and we should be more united to enable us to maintain them. Trades, professions, citizens and politicians unite their strength and demand and obtain their rights; the farmer is the common prey for all, and he has to pay for all.

You cannot be ignorant of the numerous strikes for higher wages, shorter hours and guarded privileges of the various mechanics, trades, laborers and professions. It is time that we should begin to clamor for our rights, to unite, demand and obtain them.

The latest combination injurious to farmers that we have heard of is the

SURVEYORS' LEAGUE.

Surveyors merely require a good common education. Common school teachers can survey; farmers and farmers' sons that have passed through a common educational course can survey. There is nothing difficult in it to any one having studied Euclid Geometry, but surveyors have a law to protect them, and are enabled to prevent any one but themselves from surveying. They were well enough compensated when the law gave them the privilege of charging $4 per day; not being satisfied, they have been combining and have now put up their charges to $8 per day, this to be charged for eight hours work, and the day to count from the time they leave their office until they return.

This must tell most oppressively on our settlers; it must take the farms and homes from many a poor back woods settler. Sometimes a surveyor may and has hung round a poor farmer's place for one or two weeks, under pretence of waiting for his astronomical observations.—The present combination enables them to increase it still more.

The surveyor can thus run a bill of $21 per day; besides, all expenses have to be borne by the employer. This combination is as yet only in this western part of Canada.

A settler may take up a Government lot at $1.25 per acre. He must find out the boundaries of his lot; a surveyor may live within 10 or100 miles, and the surveyor has the power of making the settler pay double as much as the land cost him to run a line, and then the Government or surveyor is not responsible for the work done.

We can speak from experience: we have paid great surveyors' bills for a mere nothing, and find the work not as well done as a common school boy could do. But the law prohibits the school boy and protects many an incapable surveyor. The loss to farmers is now enormous for these bungling acts of legal surveyors. If the farmers' sons were to be allowed to survey the level would soon be found and good reliable lines would be run.

We believe that our individual farmer's loss occasioned by the Government surveyors authorized and paid by the Government, exceeds the sum of $5000, and no recompense from the Government.

And this extortion might go on unchecked and without comment, if we had no other paper than those devoted to politics to take up our grievances. They have not condemned this combination of surveyors. From this and hundreds of instances farmers may see the great necessity of their having a farmers' paper such as the ADVOCATE, and by their liberal support maintaining it in a position to serve them effectually. We have for years contended for the rights of farmers, and until now at a great pecuniary sacrifice. Our increased and increasing circulation is a testimony that farmers now recognize the service we may have been the means of doing them by advocating their interests; and we intend to prove ourselves worthy of that support by maintaining their rights and opposing every measure that may be injurious to them, whether it is from the combined members of a profession or from Legislature or Government.

## The Ontario Agricultural Emporium.

In our last issue we published the Act of Parliament chartering this institution. We also submitted a few questions to our readers, to ascertain the spirit existing in regard to it.

We regret that the responses have not been so numerous as we would like. We have spoken to several leading farmers, most of whom would like to see it established, but few would be willing to aid it. We addressed the agricultural committee of the County Council of Middlesex, the majority of whom were favorable to it; in fact, the only obstacle in its way raised by any one of them was that they did not see the necessity of such an establishment now, as the Government Farm would be sufficient.

This was expressed by Mr. G. McGugan, one of the reeves of Lobo; he is a plain, practical farmer, and his views probably are the views of the majority of the farmers.

Still we are confident of the success of the establishment, if put into proper working order. It requires but two or three gentlemen with a little capital and influence to make it a success. Our capital has not been sufficient to carry it out as it should be, hence the necessity of a

company, which could not be formed without the charter.

The locality of the establishment would entirely depend on the stock holders.—Some might hold forth such inducements as to cause it to be established in their county. We might have had the institution in running order ere this, had we allowed party politics to be the ruling influence of it. We may have been wrong in our views, expecting that such could become a success without the aid of party. We look on both parties as indebted to us even for the steps they have taken to establish the Government Farm, as we have previously said, that it is from our attempts and applications that they established their farm.

Our views on it are to be found in the *Canada Farmer*, before we commenced to publish this paper, and it is only since our agitating the plans and applying for a charter that the Government took up the scheme. If their action in this matter prevents us from enjoying the fruits of our labor, they should remunerate us in some way. Our farm has been more neglected since we commenced the Emporium, as our time has been devoted to other subjects. Many things may not have been managed as well as they might have been, still, despite our various trials, and they have been legion, we have the pleasure to say our labors have not been in vain. The farmers in many sections of the country acknowledge the benefits they have received from the Emporium.

CIRCULATION OF THE FARMERS' ADVOCATE.

The increasing circulation of the ADVOCATE is the strongest testimony to the value the farmers of Canada place on our labors. During the last six months the increase has been greater than in the same period at any time during its existence. This appreciation of our endeavors to serve our brother farmers will have the due effect of our laboring to deserve still more the patronage extended to us, by continued efforts yet more worthy of the support received.

## Plaster on Grain Crops.

The other evening we paid a visit to Mr. Practice. Mr. P. enquired for our opinion regarding sowing plaster on grain. He had a piece of light and poor soil sown with oats; the crop was up, but not over vigorous. He wished to know if we considered plaster sowing would benefit the oats if sown at once, the crop being about six inches high.

We replied that our opinion was that it would benefit the crop very materially; we have seen grain crops look much more luxuriant where plaster had been applied. Mr. P. referred us to a report of the French Agricultural College: It stated that plaster of Paris had been given to 20 individuals to test and report its effect on grain; 19 out of the 20 who tried it reported that it was of no advantage whatever to the grain. They had no more in quantity nor was the quality better, but there was an increase in bulk of straw.

This we should take as reliable authority. None pretend to deny that it is advantageous to grasses of all kinds, but the direct application of it to grain appears to be of no benefit to the grain crop.

We have frequently applied it to corn, and always believed it to be beneficial to the crop, and still, despite the report, we feel inclined greatly to believe it to be beneficial to that crop, whether used for seeding or for a grain crop.

Perhaps some of our readers will test this by plastering a few rows of corn, and leaving a few rows unplastered, and measure the land and weigh the grain produced from an equal length of rows or equal number of rods. It is our impression that the corn is longer maturing where plaster is used. Perhaps some of you will aid us with facts from trial.

## Breeding Dairy Stock.—Best Grasses for the Dairy.

A correspondent of the *National Live Stock Journal* gives in the journal an interesting report of a discussion on the breeding of Stock for the Dairy, and on the Best Grasses for a Dairy Farm, at a meeting of the Western New York Butter Maker's Association. We give it unabridged, as the subjects are of considerable importance to our readers:—

S. Hall objected to the statement of a writer that "the sire has more influence on the offspring than the dam." Judging from his own experience, he prefers calves from his best cows, while if the qualities of the sire predominated in the offspring, he would naturally look for as good calves from the poorest calves as from the best. Breeding for size as well as for milk, in breeding for the dairy, hay has also been recommended. From this statement also, he differed. As a rule, medium sized cows are most profitable for the dairy. A cow weighing 900 or 1000 pounds is considered of a good size for the dairy; light cows eat less, are more hardy and thrifty, requiring less care in both summer and winter than large cows. He thinks the Short Horns are more suitable for the production of beef than for butter or cheese; for the dairy he would prefer the Alderneys or Ayrshires.

G. P. Wattles considers grade Short Horns—that is, Short Horns raised on what is called Native Cows—an excellent dairy breed. Prefers a medium-sized cow.

T. Hall said the average dairy yield of cows of 1000 pounds is as great as that of cows of 1200 pounds, so that it does not pay to breed for size in dairy cows. He never could make it pay to feed an old dairy cow for beef, the value of the grain consumed in fattening such cattle usually being almost or quite as much as the cows will bring when sold to the butcher. He sells his old cows, as soon as dried off, for just what he can get for them, without fattening.

Dr. Fenner gave his own experience as proving to be erroneous as opinion generally entertained, that a 100 pounds firkin of butter, made from only one cow, is not as good as a firkin made from a dairy of 20 or 30 cows.

The question was asked, if two cows of an equal weight are taken, one of which will eat two quarts of meal and twelve pounds of hay per day, and the other four quarts of meal and fifteen pounds of hay, which will give the most milk? Most of the dairymen said that their best cows for milk were the hardest to winter in good condition.

THE BEST GRASSES FOR THE DAIRY.

E. C. Hart prefers white clover and timothy for pastures, and timothy mixed with red color for meadows. He gets his best yield of butter from timothy and pasture. White clover is good in the early part of the season, but soon fails; good butter cannot be made from white clover after the seed ripens. Most of the dairymen agreed in the statement, that the best butter, and the most of it can be made from timothy grass or hay. Most of them sow more or less red (medium) clover, valuing the hay made from it very highly, to feed their cows when they are dry. All like a variety of grasses in their pastures, and thought the indeginious grasses found in old pastures good; these are principally red top, June grass, blue grass, white clover, and some timothy. Red clover gives a bad taste to butter, and is only grown for hay, and as a fertilizer, what is called here June grass (somewhat similar to red top,) will run out old grasses in the old pastures. White clover all comes in spontaneously.

From the reports of such meetings as that given above, we see the great utility of Farmers' Clubs, and other similar associations. Every one can learn something useful from the experience of others. We would like to hear frequently from Farmers' Clubs in our own country.

In breeding stock, whether for dairy or beef, we would certainly be indifferent to the good qualities of either sire or dam; where both parents are good, we may expect good offspring. Defects or blemishes in sire or dam is as sure to be transmitted to the proginy, as points of excellence. The introduction of a good sire into a neighborhood is conferring an inestimable benefit on its people, but it is only by breeding from such a sire, and the very best dams to be procured, that the full extent of that benefit can be realized. The offspring of a good Short Horn Bull, from a good cow, though not Short Horn, is, we need not say, of much higher value than the best indigenious cattle, not having the blood of the Short Horns or others of the justly prized pure breeds.

Our experience is not adverse to the fattening, even, of old dairy cows; we have found to pay from £3 to £5 sterling for their feeding on flattering pasture for four or five months. If put into the stalls in winter poor, they do not pay so well, as it will require so much valuable food to bring up their condition. We are always careful to put in our stock for stall feeding in good condition, and they were sure to pay a good profit. ASS'T. ED.

## Sweet Potatoes.

Having heard that this tuber had been raised in Canada, and that the Potato Bug would not eat it, we sent to Cincinnatti for some of the plants. We had previously written to another American seedsman, but could not find a supply.

We have, however, procured 1000 plants, and have them planted in different places. We do this to try if we can raise them here. They require a long, hot summer to raise them to perfection. The plants we procured are about ten inches long and are in a healthy state.

We could not give our general readers the opportunity of procuring them, as it was too late before we found out where to secure them. If they will succeed here we may not be under such a dread of the Potato Bug. You will hear if they succeed with us.

## Undeveloped Wealth.

Thunder Bay, Lake Superior, is now attracting considerable attention. The immense amount of silver being sent from Silver Islet is almost fabulous. Several parties left this vicinity last year in quest of fortunes; among the number was Capt. Shore, of Westminster. He was settled on his farm when we arrived in this county thirty years ago. On his farm we bound the first sheaf of grain we ever bound in Canada; we have been personally acquainted with him ever since. He is an elderly gentleman now, but with all the vigor of youth. He prides himself in having aided to clear more land than any man in the township. He is well known throughout this portion of the country, and for honor, reliability and whole-souled generosity he stands unsurpassed.

But the glitter of silver ore tempted him to leave his fine estate under the control of his family and try his abilities and judgment among the rocks of Thunder Bay.

What induced him perhaps more than others was that in his youth he learned assaying practically, and believing that his nugget could be found. During the past season, he determined to follow the profession of his youth at Thunder Bay.—Various minerals were brought to him, one of a rich ore was produced. He went to the ground, examined the rock, took from it specimens himself and found the ore rich in silver.

He formed a company and purchased the land, and is now gone again to the land of mineral wealth for the purpose of developing this mine and to continue his assaying.

We know some of our readers are turning their attention to that part of the country and many companies are forming, but the lion's share of the mines are falling into the hands of the Americans. Capt. Shore is a genuine Briton, and is, if possible, determined to retain a portion of our mineral lands in Canadian hands. But while temptations will be offered by cunning men, we would strongly advise our readers not to invest, however alluring the temptation may be, in Thunder Bay stock, without consultation with Capt. Shore, as he is a practical assayist, and from thirty years' personal knowledge of him, we belive if there is one man in this county who has not been known to stoop to some low, mean act, that person is Capt. Jno. Shore. We do not believe that at his age, and being in comfortable circumstances, he would condescend to lead one astray willingly and knowingly.

## The Best Cure for a Cold in Horses.

In conversion with Mr. S. Redmond, an aged, respectable farmer of Delaware, who has for a long time been known as a skilful hand in the treatment of the various diseases of stock, although not a professional, he said the best cure for a cold in horses is to take lard and melt it; as soon as melted and beginning to cool, add turpentine and stir it until cold; add as much turpentine as will keep it in a thick, oily or pasty substance. Take the mixture, rub it well in below the jaws around the neck, as far up as the ears of the horse.—Place an old cloth or bag around the horse's neck, and rub it well with a hot iron.

Mr. Redmond says he has never seen it fail giving relief, and nearly always it has effected a permanent cure. He says he has in several instances effected an immediate cure, even in cases of epizootic.

The remedy appears to us to be deserving of space in this paper, and we feel inclined to try it if we find a horse having a very bad cold.

TO CURE SADDLE GALLS

Mr. Redmond also says he has tried various mixtures to cure saddle or collar galls, cuts and other external injuries.—He says Parrafine is the best substance that can be applied. This may be deserving of greater publicity.

RELIEVING PAIN.

Mr. Redmond's mode of relieving pain may be found useful in many a farm house. Here it is:—Wet the external part of the seat of pain with cold water; then rub on common lamp oil. It will draw the pain to the exterior surface and break out in little eruptions and depart. This may also be often useful.

We may get some more of Mr. Redmond's recipes the next time he calls at our office. If any of you know better, you would be benefitting some poor sufferer by sending them to us for publication.

## The Potato Bug.

This pest is making its rapid marches and flights eastward. It will be with great difficulty and constant watching and care that a crop of potatoes can be secured in this vicinity. There is not half the breadth of land planted here that there was last year, and to the west of us they have almost abandoned the attempt to raise them.

A parasite destroys immense numbers of the bugs and their larvae, but the total destruction of the bug does not appear to have taken place where they have once taken possession of a locality. Our eastern friends would do well to attempt the destruction of the advance guard of the potato bug army, as they increase so rapidly, but we think nothing can be done to prevent the farmers in the most eastern parts of Ontario from suffering from their depredations.

There are various washes and mixtures sold throughout the country for their destruction, but as far as we are able to judge, the cheapest and best destroyer is the Paris green; the proportion of mixing should be 30 lbs. of plaster of Paris to one of Paris green. This mixture, applied with a light dredge, will be found sufficient to destroy the bugs on two acres.

If put on lightly, we presume we shall require to apply it five or six times during the season.

We have heard of an implement invented in the States that is wheeled up and down the rows, and shakes the bugs into a small box, from which they are taken and destroyed. We saw a flaming advertisement of one of these machines offering every inducement and guaranteeing satisfaction, or to return the money. We wrote to the advertiser for one but have not yet seen it.

The process of hand picking is out of the question when they are in full force; it might do with a few vines planted in a garden, but for the main crop it would cost ten times the value of the crop if they should be as thick as we have seen them.

### State of the Crops.

The fall wheat will not be an average crop; there are some good pieces to be found in some parts of the country; in some sections the crops will be very light.

Spring wheat must be in many place as failure; insects have destroyed the plant: the average yield must be low.

The old meadows are very light; some of the new meadows will be fair, but the hay crop we do not consider, from our observations, will much exceed half a crop.

Oats, barley and peas must be light, although there are some fair pieces. There may be a medium crop, although they have been checked for the lack of rain.

The corn that grew is looking well, but great complaints are made that last year's seed did not grow well this year. From our own experience we find that ours grew well.

There has been a great demand for Hungarian Grass and Millet, because farmers saw their hay crop must be light. The pastures have been good, but the grain crops have not came in well; the dry weather set in too soon to suit them this year.

Late fruit prospects are good. Great complaints reach us of the destruction made by a green and brown grub in some of the northern counties; whole fields are being destroyed. Salt has been recommended as a remedy. but we hear of it having been tried without good results.

The root crops require rain to bring them forward in this locality.

### Produce of Our Farms.

What the actual expenses of cultivating a farm really are is a question deserving our serious consideration, and yet it is one to which we give little thought. So much of what is consumed by the workingstaff of the farm—men and horses—is the product of the farm itself, and not purchased in the market, that we scarcely take these things into account. The provender for one horse is in itself no inconsiderable item. It has been computed by an American agricultual writer that it requires from fourteen tosixteen acres of land of average quality, and receiving average tillage, to produce hay and oats for a pair of farm horses for the year. We admit we were at first surprised at the result of his calculation, as it differed so very much from our own experience in this matter. But hear our authority for himself. He says:—"A pair of farm horses will consume in a year 6½ tons of hay and 270 bushels of oats, their daily ration being 18 pounds of hay and 12 pounds of oats for each. It will take 14 to 16 acres of average land to raise this amount of fodder." For horses, stable fed and working during the year, this allowance of fodder is not too great. But we ask farmers, Is not one-fifth or one-sixth of the arrable land of a farm too large a portion to be given to produce the fodder for the horses that work it. We have no doubt much heavier crops, both of hay and oats can be raised.

While admitting that, from the comparative shortness of the growing season, with the great heat of the summer, grain crops and grass are lighter in every country in America than in the British Isles. We are certain we could here, with better tillage, produce crops, if not as heavy as theirs, still not so much lighter as they are at present. We know the modes of farming, and the general produce of large sections of the old country, and can therefore speak from our knowledge and experience on these subjects. There, 46 bushels (barrels of 196 pounds each) was under an average crop, our own average crop being nearly fifty per cent. heavier. Hay was still a heavier crop in proportion. Three Imperial tons per acre was nothing unusual on upland meadows—clover and perennial ryegrass sometimes mixed with other grasses. We mention this to stimulate you to produce heavier crops. This can only be done by deep ploughing, good tillage, heavy manuring, and sowing your grass and clover seeds while the land is in heart.

The average produce of Canada is somewhat, though not much, greater than that of the United States. Taking as our basis of calculation the Annual Report of the Commissioner of Agriculture for the Province of Ontario on agriculture for the year 1872, we find it will take more than 7 acres of oats of average yield to produce 270 bushels. The average of 1869 was 39 bushels per acre; of 1870, 29 bushels; of 1871, 37 6-8 bushels; of 1872, 33 bushels—an average for the four last crops of less than 35 bushels—seven and five-tenths acres to produce the 270 bushels oats required as above for a pair of horses. The average yield of hay is not given in the report, but from the partial report given, and from other sources, we may estimate the area required to produce the 6½ tons as not less than four acres—a total of nearly 13 acres to produce the hay and oats for a pair of horses, when stable-fed, throughout the year. Farm horses generally are not so fed for the twelve months; but the calculation is not the less accurate, as showing how much land it costs to feed a pair of horses; and it ought to urge us so to enrich and thoroughly cultivate our farms as to produce a quantity of food from five acres equal to the present produce of twelve. To accomplish this, gaining a greater depth of soil by deep ploughing is the means. Other means, such as a judicious rotation of crops, and soiling our cattle, instead of having them to roam over pastures, will be found valuable aids. We will return to this important subject in a future number. —Ass't Ed.

### The Agricultural Investment Society.

The office of this institution is next door to our establishment. We are personally acquainted with the directors, and can say to our readers who wish either to borrow or loan money, that we do not think there is a safer institution in Canada to invest in, nor one where persons can borrow money on better terms.

We consider that investments are much safer in this Society than in bank stock, because no money is loaned except on real estate. Those wishing to borrow will find they can procure it at much better terms at this institution than from some other establishments where money is loaned.—We do not doubt but that the stock of this company will soon be as much above par as that of any other institution of a similar kind.

The obliging Secretary, Mr. John A. Roe, will at all times be pleased to furnish information on applying to him personally or by letter.

TO PREVENT RUST.

Manufacturers of farm tools usually apply varnish to prevent rusting, but the cost and difficulty of removing it makes it unsuitable for home use. Whitelead is effectual in keeping off rust, but with this the same difficulty of removing is met. The best thing we have tried—and where the recipe was first given has escaped us—is whiting thinned with kerosene to the consistency of paint, and applied with a small brush or cloth. This readily rubs off, but will prevent rust for months. We keep it ready mixed, and when hoes, spades or plows are laid aside—if only for a few days—a coat of this preparation is given. The London *Lancet* says the medical officers of the British navy preserve their surgical instruments from rust by a mixture of carbolic acid and olive oil, in equal parts, smeared over them.

The butter inspection system is becoming general in the County of Wellington. The merchants of Fergus last week appointed an inspector.

The Winnipeggers are putting on airs already. The local papers there speak of things happening "in this city."

### GARDEN AND FARM.

OPERATIONS FOR THE MONTH.

In the flower garden, finish the planting out of all the tender annuals. They will need shading and watering for a few days, till fairly established in the ground. July is a month of long days and great heat, so all plants lately transplanted need attention and care. Trees and shrubs newly planted need frequent and copious waterings. Keep the hoe and rake stirring among the drilled crops. The frequent stirring of the soil is not only the most effectual method of keeping free from weeds, but also of fertilizing it. The fresh stirred earth inhales the ammonia from the atmosphere. Keep a sharp look out for the insects that infest almost every species of plant. It has been said that lime dusted on currant bushes will drive off the currant worm, but we have always found hellebore the most effectual remedy. Do not forget the training of ivy, Virginia creepers, woodbine, &c.; nail up their leading growths and trim where necessary. Stake and tie all plants that need support.

In the vegetable garden, as in the flower garden, keep the soil *freshened* and the weeds extirpated by the frequent use of the hoe.—No weeds can withstand the repeated assaults of the hoe and spade. In two seasons we entirely freed our garden from some Canada thistles that had established themselves in it when in other hands. As your early garden crops are removed, prepare the ground where they grew for succeeding crops. Let there be no waste places.

The orchard will repay you abundantly for your care of it this month. It will thrive the better for having the soil enjoy the benefits of a summer fallow by turning up frequently. This is especially the case with young orchards. If your trees be overladen with fruit, thin them sufficiently. The fruit you let remain till maturity will be better and more valuable, and you may save your trees from having their branches broken by being overladen. Grape vines may in this month be propagated by layers, and the young vines be well rooted before winter.

Bees and beekepers rejoice in the bounty of July. This month, above all others, the bees lay in their store for the winter. Buckwheat is a valuable addition to the scene of their labors. Bees require redoubled attention now, in this their honey harvest and time of swarming.

In the farm the root crops claim special attention. In the turnip field let any blank places be filled up by stirring the soil and sowing fresh seed, or by transplanting. We have had turnips transplanted and be a heavy crop; but we would advise sowing again in preference. If too late to sow Swedes, sow Aberdeens or Globes, or still later, White Storm turnips, as all these varieties require less time than the Swedes to grow to maturity; they may be sown so much later. A greater supply of fodder for the winter stock will, in all probability, be needed than our meadows will supply. It is not yet too late to sow corn for fodder. You may sow it up to the tenth of the month, and if the soil be moderately fertile, you may thereby make a large addition to winter provender for your stock.

The value of Hungarian Grass and Millet is hardly sufficiently appreciated. They yield large crops of hay, very nutritious when cut in proper season. Every due precaution should be used to provide for the farm stock in winter. The experience of last winter was a lesson that farmers cannot soon disregard. Let plenty of provender be secured and saved for the latter days of winter and the early spring. And if you even have some laid over it will not be waste. Remember the old country proverb—"Old hay is old gold."

Colorado stock men are purchasing blooded stock in Platte County, Kan.

A lady reader observes in regard to the effect of impure air upon butter, that there is a filthy stagnant pond of water a few hundred feet from their house, from which an offensive effluvium would be borne on the breeze directly to the milk room, when the wind was in a certain direction, the result of which was that the cream and butter would taste like the disagreeable odor coming from that pond. As soon as the pond was drained we had no more damaged butter.—*Homestead.*

## Agricultural Items

By a recent law in Massachusetts a dozen eggs must weigh one and a half pounds.

The immunity from snow of Southern Colorado is one of its chiefest advantages as a stock country.

A good agricultural paper brings fifty-two prizes a year, and each prize is worth the price of the ticket.

Winter wheat in Washington Co., Wis., is in fine condition, and all that can harm it now are the Spring frosts.

A meat company has been organized in Texas to can all the beef they raise, and raise all the beef they can.

Southwestern Virginia is rolling North 1000 barrels of eggs daily. Southern pullets have grown industrious since the war.

By unanimous vote the next Page Co., Ioa., Fair will be held in the interests of agriculturists only, and there will be no racing.

Dogs recently attacked a flock of sheep belonging to H. A. Hawle, who lives near Mason, Mich., and fifteen were so badly bitten that they had to be killed.

Pleuro-pneumonia is spreading very rapidly in the vicinity of New York. Nearly all the cattle located in the suburbs have it, and most of the milk now comes from diseased cows.

At a recent sale of an English stud of horses Blair Athol brought $62,500, Gladiator, $35,000, and the whole number, 273 colts, horses and mares, sold for something more than $500,000.

The very dry and changeable weather lately has very seriously damaged the growing wheat crop in Morgan and adjoining counties, Ill.—Many fields are entirely ruined and are being plowed up and sown in other grain.

The quantity of grain used in all the Peoria, Ill., distilleries for the past year was 1,640,795 bushels, and the quantity of high wines manufactured was equal to 88,331 barrels, amounting to 5,986,440 gallons of proof spirit.

W. B. Pratt, Calistoga, it is said, has grapes which he put in wheat chaff last fall and kept dry in a cool place all winter, which are now as plump and well flavored as when plucked from the vine.—*Homestead.*

A barrel of flour weighs 196 pounds.
A barrel of pork, 200 pounds.
A barrel of rice, 600 pounds.
A keg of powder, 25 pounds.
A firkin of butter, 56 pounds.
A tub of butter, 84 pounds.

An Oregon paper reports that an Eastern man is now in that State who has been purchasing horses in Idaho, Nevada and Eastern Oregon for shipment to Atlantic cities, to take the place of those killed or ruined by the epizootic. He has purchased and shipped over 5,000 head since leaving the Missouri river.

The Gratiot Co., Mich., *Journal* says:—We have talked with gentlemen from various parts of the county in regard to the appearance of the wheat, and all report it looking remarkably well under the circumstances. Should the weather from this on prove favorable, the wheat crop of the county will undoubtedly be a satisfactory one.

The economy of rapid and comfortable transit for beef cattle was recently shown at a meeting held in Manchester, England. The loss attending the driving of fatted stock on foot to market was 80 pounds per head per 100 miles; now a fat bullock is taken 530 miles by rail to London with a loss of 40 pounds only.—*Iowa Homestead.*

The Ft. Madison, Wis., *Plaindealer* says that winter wheat as a general thing looks poor and in many cases will be plowed up. Rye promises well. Rain is needed very much, and without everything suffers. The grass is just beginning to show itself, but as yet is rather thin. Owing to the severity of the past winter feed is scarce, especially hay, which is worth from $10 to $11 per ton in the stack.

Improvement by selection is, saving those seedlings that show the most marked and improved type, from the original. If this is practiced for a few generations, the improvement will have become measurably fixed. All our finest vegetable productions were originally obtained, either by artificial or natural selection, and subsequent good cultivation.

I greatly mistake the signs of the times if farmers all over the country do not make an earnest effort to curtail their labor bills the coming season. And I shall be exceedingly glad of it, provided it leads to breaking up less land and more thorough cultivation of the fewer acres under tillage. But if less hired labor means less work per acre on land under cultivation, then I think the result will be bad for farmers and bad for the country.—*American Agriculturist.*

# AGRICULTURAL.

### SOW CLOVER SEED.

Wheat pays the best of all grain, and wheat does best after clover. The rotation of corn, barley or oats, and then wheat, takes a good deal of labor, beside being hard on the land. Sow clover with the barley or oats, let the land lie in clover one year, and then plow under the clover for wheat. This will require less labor, and be better for the land. If sown early, clover does well with barley, and it often does very well with oats. I have found that where oats are sown after a well tended corn crop, and sown early, and the clover seed sown at the same time, immediately followed with a good dressing of plaster, clover generally does well. Plaster should always be sown when land is seeded to clover, as the clover will then be much more likely to catch and do well.

Try plowing under clover. There are few farms that are not largely in need of a large amount of barn-yard manure or other fertilizers. To buy either is expensive, but so it is to buy stock and hay and grain to feed to make manure. Of course all suitable crops raised on the farm should be fed to make manure. But this does not make manure enough; it will make and keep only a small part of the farm rich. Hence more fertilizers are needed. The most important of these fertilizers are nitrogen, phosphoric acid and potash. Clover will collect, store up and furnish these essential elements of crops more easily and cheaply to the farmer than they can be obtained in any other way. The clover plant absorbs nitrogen from the atmosphere and returns it to the soil, where a large portion is changed to ammonia, the very best fertilizer for wheat and other cereal crops. The large clover roots get the phosphoric acid and potash from the deeper portions of the soil, and the adjacent subsoil, where, as Dr. Voelcker says, they would remain in a locked up condition were it not for the agency of these roots. Thus, clover collects and furnishes precisely the fertilizers our grain crops most need. Hence the great benefit and importance of plowing under clover.

The saving of labor by plowing under clover and summer fallowing must be no slight inducement now. I think it safe to say that where three hands have been employed on a farm where spring crops, and especially corn and other hoed crops are largely grown, that two will answer as well when clover is largely plowed under, and in many cases one will answer where two has been employed. It is not a good plan to let land lie idle to save hiring help. Such land improves very slowly at the best, while it is very likely to bring in weeds, worms and various pests, that make it a positive disadvantage to allow land to lie idle. There is also the great loss of the decided improvement that may be secured by plowing under clover, as well as of the good crops which may be grown by thus using clover.

In times like the present it is a good plan not to crowd the land so much by growing exhausting crops—to seed more and oftener to clover, with a view of improving the soil; but it is very seldom good policy to let the land lie idle. Nor is it best to keep grain land for years in pasture, where the grass is very thin and light, and where the damage from weeds, worms, &c., will be very likely to equal the small profit secured from the feed.

Nor is it generally best to plow under a good crop of clover the first year. If the crop is light, and will not be profitable to gather for hay or seed, it may be best to plow it under the first year, so as to seed again and try to get a better crop. If it is good, cut early for hay, and save the second crop for seed. The first crop can be cut before the busier season of other haying and harvest comes on, and the crop of seed can be secured after the fall crops are sown and work is not crowding so hard. With good machinery the work is not hard or difficult, but with good weather is soon dispatched.—The returns for the two crops should not be less than $25 to $30 per acre, and may amount to $40 or $50. One year with another, these crops, if well managed, are as cheap and profitable as any grown on the farm. For, it is well to remember, there is no plowing or other preparation for the crop; the proper preparation for the crop with which the clover seed is sown being all that is needed.

The seed costs little; and all the manure needed is plaster, to grow clover two seasons. If the land is in good condition, the second season an early crop of clover hay may be taken off, and a second growth plowed under for wheat. If it is thought the land needs more fertilizing, and more time to work and subdue it, then the first crop should be plowed under. But as a rule, from the larger amount of clover roots that will be grown, and of leaves which will fall and decay on the surface, there will be a larger amount of fertilizing matter, in proportion to the top, plowed under the second year than the first.

Hence, a very important point that should be always kept in mind, is that clover may answer an excellent purpose to plow under after it has been made a profitable crop to harvest and take off; and all this from one seeding, which is so easily and cheaply secured, as above described. How many farmers work hard, and are at considerable expense to raise a crop of grain, when at the same time a crop of clover might be grown which would be worth more money, and literally cost nothing, except the seed, to put it in. In fact, the hay and seed grown the first year will be very nearly, if not quite, clear gain, as the crop the second year, to gather and to plow under, will be worth enough to the farm to pay all expenses.—*F. in Country Gentleman.*

### MANURES ON SANDY SOILS

Do manures on light sandy loam lands leach down below the roots of plants and become lost and wasted in the lower strata of such soils? Or is this tendency in an opposite direction, and in dry, hot weather do they become absorbed and lost in the air?—I think neither of the above propositions point out the true tendency of manures applied to such kinds of land.

My idea is that they remain in the soil where they are placed, and their only tendency is towards the roots of the plants, thereby constituting the food or ailment upon which these plants feed. I believe that by a regulation of nature there exists an affinity between plant food in the soil and the roots of the plants themselves, whereby they are constantly drawn towards each other.

I cannot see how this arrangement can be broken up by the action of the rains on the one hand, or by the influence of heat and dry weather on the other. For if during rains the manure these lands contained were subject to leach down like water running through a sieve, they would soon pass beyond the reach of the roots of every kind of plant. Or on the other hand, in hot, dry weather, if their tendency were upwards, like the steam from a boiling pot, their strength would soon become absorbed by the air, and, mingling with it, would be scattered to the winds. And these lands, being constantly subject to the wasting power and influence of these elements, must a long time ago, if they ever possessed any fertility, have become very poor, desolate and barren indeed, far beyond the hope of recuperation. But, on the contrary, there are thousands of acres of this kind of land at present covered with a heavy growth of wood and timber, thousands more in pasture and mowing fields, and under cultivation by the plough and hoe, and annually bearing very satisfactory crops; and still other acres of this kind of land that by skilful and persistent cultivation have become some of the richest and most productive lands in the world.

My idea is that the rains, the heat and dry weather, as they ordinarily occur one season with another, do not come to these lands as enemies, but as friends, to help nature to elaborate the plant food of the soil and to carry out her kindly influence in the increase and production of growing plants. And though sometimes her operations may seem to be suspended, as during the severe drouth that prevailed for two years previous to last spring, yet we saw, after the rains came, that the lands which during that time looked so poor and barren, instead of parting with any of their plant food during those dry years, had actually been laying in an additional new and fresh supply of fertility, as is evident from the abundant harvest and the rich mantle of green that clothed the earth the past year.—*R. S. in Country Gent.*

The Kansas Pacific Railroad transports trees and shrubbery free.

### THE POTATO CROP AND THE COLORADO BEETLE.

From the report of the Entomological Society of Ontario we gather the following information respecting the progress of the Colorado Beetle during the past year:—

During the past year we looked forward with considerable anxiety to the effect that the Colorado Beetle would produce on the potato crop; we are glad to be able to report that on the whole, less mischief has been done than we anticipated. It is somewhat difficult, however, to arrive at an accurate estimate.

The Bureau of Agriculture forwards every year to the Secretaries of the Electoral Division Agricultural Societies a printed circular requesting a detailed return of the crops in each district; and if these returns were properly made they would afford much valuable information. It is to be regretted that they are not more universally attended to.—So far as we can learn only 40 of these returns have been made for 1872, and it is on these partial details that we must base our analysis for the Potato Crop. While, however, the ravages of the beetle have been somewhat less than we expected, its increase in numbers and onward progress have yet been such as to cause not only a material effect on the crop, but also to maintain a good deal of alarm amongst the farming community.

A comparison of the crop returns for the two past years fully confirms the statement made in our former reports, that the second and third years of appearance of the beetle are worse than the first.

A few statistics may not be out of place here. In 1871, 45 Agricultural Societies sent in returns showing an average crop of 131 bushels per acre. In the past year, 1872, only 40 Societies reported, with an average of 181 bushels per acre, In 1871 only 14 Societies reported the presence of the beetle, while 33 were free from it, and none badly affected. In 1872, 26 Societies reported injury from the beetle, and 8 report very serious danger, in some cases almost total destruction, and only 14 appeared to be free.—It is to be noticed that all the western places which in 1871 were the most badly affected, were in 1872 far more seriously attacked. In no one place do we find that the beetle after making its appearance one year, has not reappeared in the following season. In London the beetles literally swarmed, and thousands were daily trodden down on the sidewalks and streets, and we look for a still further increase next year.

It would be very desirable to obtain statistics of the various sorts of potatoes grown, as we are quite satisfied from our own experience that some varieties are much more subject to attack than others, and we would beg respectfully to suggest to the Commissioner of Agriculture the propriety of obtaining such information during the present season.

From the monthly reports of the agricultural department published at Washington, we obtain some information respecting the ravages of the Colorado Potato Beetle in the United States. The returns of their correspondents show that the crop of 1872 was less than that of 1871 by about six millions of bushels. This, however, comprehends sweet potatoes as well. The Western States, in which the potato crop had suffered for several years past from the ravages of the Colorado Beetle, reported diminishing losses from that cause, and were the only States, North Carolina and Texas excepted, reporting increased production. In Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Nebraska, Missouri, Kansas, California, and Oregon, the average yield was only 98 bushels to the acre, while the average price of December 1, 1872, was 50 cents per bushel.

We give these statistics as it is from the Western States that the Colorado Beetle has worked in its way, and they show to some extent what effect has been produced by its ravages for some years past.

The only sure remedy for the pest, besides hand-picking, which answers very well at first, is Paris Green, mixed with fifteen to twenty pounds of flour, or thirty to forty of plaster of Paris; the latter mixture is highly recommended by our friend Mr. Saunders, of London—no mean authority on such a subject.

When the insect is likely to be abundant, our farmers should not attempt to grow a larger crop of potatoes than they can properly attend to and exercise a constant vigilance over.

### TREATING CORN GROUND.

If there is a very good year for corn, warm and showery, and your soil is deep, mellow, and rich (and, of course, dry or drained), and it you give good cultivation, planting not too close, say three by four feet, leaving not more than four stalks to the hill, there will be a good crop of corn, and this whether the land is plowed in the spring or fall. We have seen this tested where two crops of 80 odd bushels to the acre were grown. The one was ploughed in the fall and not very late either, so that the grass (quack) started up in the spring, making the prospect very discouraging. But notwithstanding the quack—which must have hurt some—there was the yield spoken of above. We think, however, this lot was a trifle better in the soil than the other, which was ploughed just before planting. It was a wilderness of growth, both lots, the road only intervening.

Other instances have demonstrated the same thing, viz., that fall ploughing is good for corn. We have found that it is best to plough late, if the weather will admit—and we presume winter ploughing would be the best of all, as it would leave the surface soil mellow and in a better condition to start the crop, the grass having little or no chance to start up, and no fermentation of the sod present as in the case of spring ploughing. Besides—and this is a point that cannot well be overlooked—there will be a chance to apply manure; apply after ploughing and thus get the ground saturated with it, and preparing it in the best possible manner to receive the seed.

But late ploughing is sometimes attended with wet, in which case it should be omitted, especially where there is much clay. In all cases where the land is dry, or sufficiently drained to admit of ploughing, and is not sufficiently rich, we advise late fall ploughing and a dressing of manure. Cover well and evenly, and give the rains and snows a chance to wash out the substance and saturate the soil with it. Then when the time comes for planting, cultivate and harrow, and there will be a bed of soil, dark, rich, mellow, that needs nothing more to convince unless the appearance of the crop, which will be dark, lusty and thriving, and there will be no stop to its progress, the soil taking it up and carrying it on the remainder of the season, in connection with the surface application. The soil will be improved, will be more mellow, work easier, and retain the longer its moisture, as well as absorbing more readily from the atmosphere. This we conceive the best mode of treating poor corn land.

Otherwise, if there is a good sod to turn down, and the soil is disposed to be mellow, turn down in the spring just before sowing. To make the thing more secure, to get a good start (which is important), apply some fertilizer in the hill. Hen manure is excellent mixed with the soil, or previously with something else, though manure from the hog-pen is perhaps equally well. We never knew either to fail, and we have tried them frequently. But, in order to guard against the drought, which will sometimes set in at planting time, put well into the ground, say two inches and a half, and immediately after ploughing, when the land is yet moist.

Most of the corn land here is treated in this way, and it must be said with a good general effect. With a good year and rich land there can be no failure if the crop is attended to. In all cases the land for corn should be rich, either so in its soil or sod, or made so, as corn will bear it. No fear of too much straw or a lack of ears, providing, of course, that there is room between the rows so that the sun and air have full access; this particularly to favor the ear. Close planting will defeat this; there will be straw, excellent fodder, but no ears; none at all if quite closely planted, as we have known and as is seen at any time with corn planted for soiling.—*F. G. in Boston Weekly Advertiser.*

THE BEST TIME TO HOE.—In Secretary Flint's Massachusetts Report it is stated by a cultivator that the portion of the garden which is hoed or cultivated with the dew upon the ground produces better crops than the part that is hoed in the heat of the day. Will some of our own cultivators make the experiment with different parts of their garden and send us the results for publication?

### WHY THERE IS NO REMEDY FOR THE POTATO DISEASE.

In reply to an assertion in the *London Magazine*, that our ignorance of a satisfactory remedy for the potato disease is rather a stigma upon modern science, an eminent naturalist retorts that the investigations necessary to determine the desired remedy require large expenditures of time and money, and that, if those who are practically interested in the subject—our Governments, or the farmers—do not think it sufficiently worth their attention to induce them to employ scientific men for the special object of working out this problem, the omission to do so cannot be imputed to the latter. Very little, indeed, so far as we know, can be done to arrest the disease, from the fact that the infection spreads so rapidly that the first intimation of its presence may be the destruction of the crop in an entire field.

It is said that potatoes escape with little or no disease in the neighborhood of chemical works, which is due possibly to the effect of the sulphurous acid or other gases that are noxious to the fungus growth, without injuring the more highly organized potato plant. The application of finely divided sulphur is beneficial here as in other plant diseases. It is stated that, if as soon as the disease has attacked the fields, the stems be all cut down close to the ground, the infection will not extend to the tubers; and when the crop is nearly ripe this may be a judicious application, but it necessarily has the effect to stop any further growth. Even in this case, however, the potatoes may be serviceable for seed for the coming year.

After reviewing all that has been said on the subject, Mr. Thistleton Dyer comes to the conclusion that the only way in which there is any reasonable hope of relief from the scourge is in obtaining early maturing kinds.

August, in England at least, is the month when the disease is worst, especially if the weather be both wet and warm. If the crop can be secured before this period, the evil will be avoided. The production of early kinds, so as to cause a systematic improvement, is possible only with time united to skill and patience.

### CORN IN HILLS AND DRILLS.

At the Michigan agricultural college in 1868 two plots of land were set apart, substantially equal in character of soil, each measuring forty-eight rods in width. The ground was ploughed May 5th, and manure was spread evenly and worked in by cultivator and harrow.

Yellow Dent corn was planted May 21st in rows four feet apart; one of the plots being planted in hills, the other in drills.—The plots were cultivated and hoed June 15th, and again July 7th; the plants being thinned so as to leave the same number of stalks on each plot, including an equal distribution of plants throughout the subdivision of the plots. As nearly as possible each of the two plots received the same amount of labor in cultivation. The stalks were cut at the bottom September 17th, and stooked in good order; three weeks afterwards the corn was husked and weighed.—The stalks then again carefully stooked, and were hauled and weighed, in good condition, October 12th.

The corn on the portion planted in hills was better in quality than on that planted in drills. But the drilled portion produced 74 1-6 bushels of shelled corn and three tons of stalks to the acre, against 65½ bushels of shelled corn and 2⅝ tons of stalks per acre produced by the portion in hills.—*Rural World.*

### OBSERVE! OBSERVE!!

It is related of an English farmer that he condensed his practical experience into this rule:—

"Feed your land before it is hungry, rest it before it is weary, and weed it before it is foul."

Those words should be written in the heart of every man who desires to farm, and may go far to answer, in his mind, the question so frequently and so anxiously asked, "Does farming pay?" The rule demands the exercise of the qualities needful for success in every occupation—untiring watchfulness and prudent care, knowledge, forethought, energy and economy, regularity, attention to little things, personal supervision and observation—this latter a power requiring education and constant exercise. It may not be altogether amiss to say that this power of observation, although named last, is perhaps the most important to a farmer. In this wondrous world, this panorama, as it has been called, of thought and action, of forces, currents, growth, decay, special beauties are presented to the agriculturist, but, alas!—while many see, few observe.

Millions see only and never acquire the habit of detecting good in what they see, so as to use it, or of evil so as to shun it.

It is this power of observation, trained, exercised, which in agriculture has done so much; it has reclaimed exhausted lands and fertilized barren soil, improved tools and machinery, and raised the value of stock.

To this may be traced the development of agricultural chemistry. The phenomena of vegetation and the chemical constitution of substances had previously been observed.

To young men about to enter on the noble profession of agriculture, the foregoing is of value. Too many enter on its pursuit with the idea that it is easily attained, that success is an affair very much of chance, of weather, of cheap or dear land, or of market value of products. While, doubtless, there is an element of truth in such thoughts, it ought to be ever borne in mind that no occupation requires more constant exercise of mind and body; that the better educated the farmer is, the more he maintains and increases his knowledge, the more he becomes acquainted with natural and physical science, the more his reasoning faculties will be aroused, and his ability to observe increase.

His observations should be recorded and studied. There is great practical utility in the well known saying of Captain Cuttle, "When found, make a note of."

With this enhanced power to observe, and to reason of the matters observed, the farmers will be in a better position not only to follow the simple rule already given, but by taking avail of any of the adventitious circumstances named, he will elevate his noble profession and himself.—*Scottish Farmer.*

### CROP AND MARKET REPORTS—WHEAT.

The New York Produce Exchange *Reporter* says "advices from the winter wheat growing States are encouraging for their crop; in most sections the plant is looking healthy, though very backward. It is generally well set, and the season on the whole has not been unfavorable for its growth. From the North West the crop is represented as very backward, and the plant looks far from healthy; but everything now depends upon the weather, and it would be useless to express any opinion of the future."

Reports from California, it is said, fully confirm those previously received; "it is very evident that, with the same acreage, the yield will be less than fifty per cent. of last year's crop; but if we add the increase in area under cultivation, it will be safe to assume that their surplus will be about half the quantity they had last season, provided there is no increase in the domestic consumption." Other reports are not generally so favorable for winter wheat in the Atlantic States. The crop as a whole is spotted, and not making a good growth, and the prospect not so good as it was early in the spring.

### BEST TIME TO CUT GRASS.

To the stock farmer this is a question of great importance, unless he lives in that fertile belt where grass is green the year through, and his stock forage for themselves instead of requiring warm shelter and the best of prepared food. Such of our readers as live in this belt of perennial green can read this article and sympathize with their less favored brethren.

The first point to determine is when grass contains the greatest amount of nutriment in a soluble and digestible condition. There is no doubt that grass and all forage plants contain the most absolute nutriment at the time of the perfection of the seed, but in perfecting the seed the stalk yields up its soluble matter and becomes tough and woody, so as to be nearly indigestible to the animal. It has also been determined by chemical analysis that at the time of blossoming the grasses contain all the nutriment required to perfect the seed without receiving anything more from the soil, and that by keeping the roots moist, and without any earth, the seed will perfect itself. Wolff, the German chemist, by careful analysis, found clover just in blossom to contain only twenty-five per cent. of crude fiber, but when seed was fully formed, forty-eight per cent., showing the great rapidity of change in the stalk, from soluble to insoluble matter. From these solid facts it appears that grass at the first blossoming contains all the nutriment that the stalks and seed both contain after ripening. And it follows, that if the farmer will cut his grass when its nutritive matter is most digestible, his animals will thrive as well upon it as upon ripe hay with a liberal allowance of grain. From a number of experiments upon Indian corn, we found that if it were cut when the kernal had first taken form, and set with the butts in damp earth, the ear would ripen from the nutriment contained in the stalk, the kernels being plump. It is thus certain that those stalks contained all the nutriment afterwards forming the grain. And corn sown for fodder, if cut at the time of full tasseling, will contain all the nutriment of ripened corn, and in a soluble and digestible condition. If stock farmers in the grass districts, where grain is not so easily raised, would always cut grass in blossom, their animals might be kept in fine condition upon it alone. We have known liberal quantities of milk to be given upon clover and timothy hay alone, but in all cases early cut.

June grass, which is considered almost worthless for hay, is excellent for pasture, and would be for hay if cut when in blossom. If farmers would study all the different grasses, sow only those that ripen at the same time in the same field, and cut them at the proper stage of maturity, they would be able to give their stock a greater variety of food, and all of the best quality. It must be remembered that after blossoming, every day decreases the amount of digestible nutriment and increases the indigestible woody fiber. Prompt attention to this matter means stock in good condition next spring, but delay means poor cows, poor colts, poor calves and poor profits.—*Live Stock Journal.*

### FROM CONTINENTAL CORRESPONDENCE OF "IOWA HOMESTEAD."

The annual Horse Show has just taken place, and as usual in the Palace of Industry, Paris, France, marks progress, although not so great as was to be expected. The prizes offered are divided into five classes, for draught and saddle horses, and the age of the animals limited, four to six years old, as also their height, but no distinction is made, as hitherto, as to their district of origin. For the first time a prize has been opened for horses suited to army purposes, and twenty-eight competitors have thus entered the list. There are also exhibited fourteen Corsican ponies, the most diminutive of their class ever seen. The animals on a whole are light, and not specially remarkable in a carriage point of view. There are 464 entries and 89 exhibitors, of whom five represented two-thirds of the animals exhibited, 63 are breeders, 15 landed proprietors, and 11 horse dealers. Normandy and the district of Poitiers contributed 89 per cent of the total entries; it is on the rich pasture lands of these parts of France that the breeding, &c., of horses is concentrated, and where most of crossing with English horses takes place. In other districts it is Arab, or rather Oriental blood, that holds sway. Those persons in England and the States who admire the Norman horse or *percheron*, may be astonished to learn that the French themselves do not consider that race to be the finest in the world, and are still seeking "the ideal." It is a mother, but not a perfect race, for the *percheron* lacks uniformity and homogenity. English blood would remedy these defects, and produce a type more powerful and less heavy, more active and enduring, while retaining the largeness of bone and fulness of muscle. In Brittany there is an excellent breed of horses compact, muscular, powerful and enduring, admirably adapted for general service, requiring only the introduction of Arab or English blood to give it a cleaner look and a lighter movement.

Germany is as rapidly going ahead in the manufacture of beet root sugar as France; she possesses no less than 322 factories; but French cultivators are not falling asleep respecting ameliorations in this branch of industry they have had shows and trials of the various implements connected with the culture and lifting of beets; they now wish to solve the complex question of the action of manures on that plant, and to this end they have established an exhibition of manures suitable to beet culture. Each competitior is to furnish a quantity of his preparation sufficient for half a rood, as well as two pounds of the same as sample, with analysis, and which will be sealed and placed under lock and key. The commission will give a "number" to each lot, so that no names will be known till the crop has been harvested. The manure will be divided into two portions for quarter of a rood each, applied to different soils; the seed will be sown the same day and a similar process of cultivation adopted. The roots will be lifted and weighed within forty-eight hours, and their saccharine richness tested. An important beet-root grower in the North of France states, that to have roots rich in sugar, the soil should have the manure well plowed in during the winter, and only lightly tilled during spring, to be sparing in the use of fertilizing agents, and never apply liquid or pulvurulent matures to the growing crop. Matured, not monster roots, is the object to be kept in view.

French agriculturists decline to purchase guano in its natural state, and insist on its first being treated by sulphuric acid, which ensures the solubility of the insoluble phosphoric acid, and consequently the immediate action of manures.

### FEED FROM AN ACRE.

A pair of farm horses will consume in a year 6½ tons of hay and 270 bushels of oats, their daily ration being 18 pounds of hay and 12 pounds of oats each. It will take 14 to 16 acres of average land to raise this amount of fodder. A cow will consume 18 pounds of hay and 6 pounds of corn meal daily, equal to 3¼ tons of hay and 40 bushels of corn, allowing for toll for grinding it, per year. This will require about 4 acres of average land. One acre of good corn land will produce enough grain and stalks to keep a cow during a year. This estimate, which is deduced from practice, accords elsewhere, as gathered from statistics, which prove that eight acres of land are needed to support a horse during a year in Belgium and Holland—countries which, as regards the supply of food, are self-sustaining. There would be no practical difference between the crops mentioned and others that might be chosen, for the reason that more prolific crops require a greater amount to be consumed to yield an equal sustenance, with less prolific, but more nutritious crops. The most economical single crop to raise for feeding animals is corn, when the whole stalks are well cured and properly used.—*N. Y. Tribune.*

### SOWING PEAS IN THE FALL.

"Ruralist" writes the *Rural New Yorker* that "it is to be supposed that everybody knows that the pea will grow in very cool weather, and the seed sprout at a very low temperature; consequently, market gardeners sow, for an early crop, as soon as the seed can be got into the ground in spring. This plan has always been the extent of my efforts towards securing an early crop; but I have to own up that for once I am beaten; for two of my neighbors informed me to-day that they had peas up and growing finely just as I was getting ready to plant. Upon inquiring how it was done, I learned that the seed was sown last fall, and remained in the ground uninjured during the winter. I have sown tomatoes, lettuce, spinach and a few other vegetable seeds in the fall in order to gain time, but never tried peas; still, as I am not too old or too bigoted to learn anything useful, I will try not to be outdone on the pea question next year."

### A FEED CUTTER.

A correspondent of the *Vermont Farmer* gives his method of converting a mower into a feed cutter as follows: Place the machine standing upright on the back end, and brace it firmly. Then brace the bar so that it will be steady, and fit a board on the top of the fingers of the guard bar so that the hay cannot get over the bar. Then make a table to feed on. Throw the machine into the gear, put the hay on the table and turn the wheel. The hay is fed against the under side of the bar. With a horse power and belt to the wheel this makes a first rate power feed cutter, doing the work fast and well.

### FARMING IN NEW HAMPSHIRE.

The *Mirror and Farmer* says:—Farmers are still determined to sell out in the back towns of our State; they have lost all hope of getting ahead by cultivating the soil, and they have no fears of doing worse. We hear of frequent sales of farms to be turned into pasture, and their owners seeking other occupations in the cities and villages. We must say that many of them are too hasty, and will regret their acts. Hold on a little longer and see if by cultivating less area and in a better manner, and turning out to pasture and to woods the hardest and roughest portions, something of advantage does not follow.

The *Germantown Telegraph* has the following:—

In reply to inquiries about the Alsike clover we would say that it ought to be tried in a small way by farmers having cattle to pasture and fodder. We regard it superior in quality to the ordinary red clover, and about equally productive. The seed is for sale at all our first class seed stores. We think that it will be generally introduced after a trial.

### ENGLISH FARMING.

We in America are very proud of our large barns, and I have been always in the habit of patting myself on the back over what I consider a very good one at Ogden Farm. I was surprised at first to see an almost entire absence of barns for storing hay and grain in England, where rain probably falls on twice as many days in the year as it does with us. The more I saw and thought about it, however, the more I came to the conclusion that there is much to be said on their side of the question. They save the cost, and it is a very considerable cost, of building hay-barns Their stacks are far enough apart for the rest to be saved if one takes fire. They are very handsomely made, placed on wooden or iron frames about two feet above the ground, are considerably larger at the top than at the bottom, and are nicely thatched with wheat straw. Some are round and some are square. I saw in one instance a very handsomely made and well thatched stack of hay containing over one hundred tons, and on the Earl of Warwick's Sewage Farm there was a row of twenty-two stacks, containing each about five hundred dollars' worth of wheat all so well built and so closely thatched that they might stand there for ten years without the least danger. Whether the stacking of hay in England accounts for its superior quality I do not know, but although the last season was an unfavorable one, it seemed to me that all the hay I had occasion to observe was better than the best we usually see at home; greener, and more savory. Owing to the projecting top and thatch of the stack, there seemed no appreciable injury to the hay from weathering.

The great question in all good agriculture of the world is the manure question. It is even more important in England than it is as yet with us, but they resort almost universally to a means of securing it of which we may make much more general use; that is, in the manufacture of meat by the use of grain not grown upon the farm. As a general rule, farm products in England are not much higher in price than in our Eastern States. Meat retails for just about the same price, yet every good farmer makes it part of his regular business to buy beef cattle or sheep, and to buy American corn, or linseed, or cotton seed, with which to feed them. The demand in England for American pork is always good and reliable; it pays, therefore, to import corn from Illinois to fatten pork for the London market. If, as one of our writers has said, "fifteen bushels of corn can be packed into a pork barrel," it must be much the better plan for the Illinois farmer to convert the corn into meat on his own farm, and send the product to market at much less cost for transportation, especially if he has begun to appreciate the value of manure. Here in the Eastern States we have to pay more for our grain than the Western man does, but less than the Englishman, and there is hardly a limit to the extent to which we may profitably manufacture meat for that market (should our own soil give out, which is not likely), making an immense amount of the most valuable manure for our own fields.

As a general summing up of the impressions brought home from my trip, I would say that I am thoroughly confirmed in my old faith that the only good farmer of our future is to be the "high" farmer, and I desire to reinforce, as far as possible, all my previous statements to the effect that the great benefactor of the world is he who makes four blades of grass grow where only two grew before.

I have a neighbor who has produced these four blades. I offered him the other day one hundred dollars for the summer rent of two acres of new grass land (clover and timothy). He said that he could make double that by devoting it to sheep, and I finally told him, as he is a fair man, that he might make whatever allowance he thought fair for the cost, risk and management of his sheep operation, and I would give him the balance, to have the land this summer. I have no idea how much I shall have to pay for it, but I am confident that, as it lies near my barn, I can, by getting two or three soiling crops from it, make money by my transaction.—*An Agriculturalist.*

### CATTLE, CORN AND GRASS.

*By Isaac A. Hedges.*

The stock growing interest of the West is every day becoming more and more important, and yet there is no department of our agricultural pursuits that is more susceptible of improvement. In fact, with very few exceptions, the whole business is done upon the very old fogy plan of "rough and tumble," that is, cattle allowed to run at large and wild in the summer, and out in the storm and cold in the winter. With such wild grass as they can find, either good or bad, and often scant at that—with sometimes water and sometimes not, and not unfrequently stagnant and unhealthy in the former case—with shock or ear corn in the latter.

Now, in this way of growing and fattening beef cattle, the operator finds the result to be about this, to-wit:—"He buys a three year old steer, say in April, weighing 700 pounds, grazes until October, then he feeds until April, feeding six months, or 180 days, at the rate of about half bushel corn per day, when he will find he has made his steer weigh about 1,200 on foot, which he may sell at 4½ cents as second rate beef, making him a return of $54, costing him, first—

| | |
|---|---|
| 700 lbs., at 3 cts. per lb | $21 00 |
| Grazing 6 months, at 50 cts | 3 00 |
| 90 bushels of corn, at 25 cts | 22 00 |
| Leaving a balance of | 7 00 |
| There is to be credited to this about 150 lbs. of pork at, say 3 cents | 4 50 |
| Net total | $12 00 |

We will state the results upon the improved plan of feeding, taking the same weight and cost of animal for a basis, viz: 700 lbs. steer, at 3 cents, $21.

| | |
|---|---|
| Grazing on tame grass, 75 cents per month for six months | $ 5 00 |
| 60 bushels of corn, at 25 cts | 15 00 |
| Extra expenses in feeding | 2 50 |
| Cost of steer at | 43 00 |
| Weight at the close of year, 1,400 lbs., first quality, at 5½ cts | 77 00 |
| 150 lbs. pork at 2 cts | 4 50 |
| Total | 81 50 |
| Less cost | 43 00 |
| Net total | $38 50 |

Here we have a difference of $26 50 upon each steer of 700 lbs., provided our estimates are correct.

Now, we propose to show that the above estimates are entirely within bounds, and can be realized by any feeder who adopts the best methods of feeding. In the first place, this, like any other business, should not be undertaken by any person until after a thorough investigation, and then only to such an extent as the means at hand will enable the party to do it thoroughly, for "that which is worth doing at all is worth doing well." It is not worth while to especially advocate tame grass pastures as preferable to prairie, as it is usually known and admitted to be superior; but the feeding season is the one to which we must look for loss or gain. The months of August and September are, some seasons, rather severe on cattle. The common enemy, flies, and some seasons drouth, cuts short both grass and water. The former can be guarded against by cultivating corn in narrow drill rows, putting in about 24 quarts of seed per acre, where the land is well adapted to corn. From this can be cut green feed that will afford relief dering periods of short grazing. Should there be no drouth cutting short the pasturage, this corn can be cut and shocked for winter roughness to supply the place of hay, and if cut by a cutting-box, and mixed into a hot slop and allowed to steep in a covered box, will prove one of the best qualities of food for not only fattening stock but milch cows, increasing the quantity and greatly improving the quality of milk, making a rich yellow butter. Farmers in the West give too little attention to a proper provision for their stock in the winter. Stalls are indispensable to a profitable business in stock raising.

I am aware of the common objection that is made, viz: the cost. Now, let us consider this a few moments. Suppose Mr. A. has 50 head worth in the fall $30 each, making a total of $1,500; now, suppose he sells 15 head at $30 each, he will realize $450; this sum will build 35 stalls at cost of $13 each, which is an ample allowance, where lumber is not to exceed $25 per thousand, as I shall show you by an estimate soon to follow. Now, the difference in the result of feeding, or even wintering stock in stalls and open fields, will be greater on the 35 head than the cost of the stalls were, if the feed given them is of the same preparation.

It is scarcely requisite to show why this is the case because the experience of every feeder who has given any attention to his own business, has taught him that in all stormy weather, and also during such days as the mercury ranges from 15° above zero and downward, stock will not increase in weight, however well fed; not only that, much of the time they will actually lose, especially if they are compelled to drink "ice water," as most all are, (provided they get any at all). Now, it is fair to estimate that during the months of December, January, February and March, taking one season with another, at least one third outdoor feeding is lost, and as such stock will require one-half bushel corn per day, it will result in a loss of twenty bushels per head, besides the other forage and labor of feeding.

In support of this showing, I will quote here a synopsis of a report from a feeder in Champlain County, Illinois, as appeared in the Chicago *Tribune*, February 20th, 1871. He said he fed in stalls 80 head of 3 year olds, coming 4, and out-door 60 head of as good steers of same age, and all with same kind of feed; that the latter ate more corn than the former, and were not in as good condition at the close of feeding. This satisfied him that out-door feeding would not do.—*From the Illustrated Journal of Agriculture.*

### PUFF ON AGRICULTURAL COLLEGES.

The *Buffalo Express* says:—Of all the highly developed humbugs which have received the fostering care of the American people, probably the average agricultural college, as at present conducted, is the most finished specimen. It fails more completely than any other institution to do the thing which it was designed to do. Princely endowments have been bestowed on these bucolic seminaries in every State of the Union, immense tracts of public lands have been taken from the actual settler to build them up, and yet we do not believe they are turning out enough practical farmers annually to yoke up a pair of two-year old steers. What do young men do when they go to Cornell They study Latin, in order to learn the nature of crops; astronomy, to find out about the character of various soils, and rhetoric in order to understand the breeds of bulls. We judge so, at least, from what we have heard and from the annual circulars which the managers send out.—*Prairie Farmer.*

### HOEING POTATOES.

The Ohio *Farmer* says:—"One of the secrets of success in potato growing is in giving them a hoeing at the proper stage of growth. One hilling is sufficient, and this should be given when the vines are about six inches high. Previous to this, use the cultivator freely; keep the earth loose on the surface and free from weeds. When at the stage of growth mentioned, give a good hilling, making the mound broad and flat on top and a little cupping. After this do no more than to cut out weeds. The hoeing is best done soon after a rain. Some advocate flat culture and others two hillings; but we have never succeeded with either of those plans, nor do the most successful potato-growers advocate them. Two hillings will make two settings, and result in a large number of small potatoes at harvest time. Flat culture may do on a deep loamy soil, where the roots can ramify and form tubers readily; but a clay soil hilling in the old-fashioned way is the one most certain to make good returns."

### SHAVING THE MEADOWS.

A correspondent of the *Country Gentleman* discusses the question why the hay crop is growing lighter from year to year. Among other things he says:—Another reason has been whispered, which is this: That on account of the great competition among the different mowing machine manufacturers, as to which machine will shave—yes literally *shave*—the surface of our meadows, the closest, the roots of the grass is really and permanently injured in leaving them bare, and thus very liable to be frozen out absolutely. We believe a good deal of clover is killed out in this way, the crowns being sliced off to the very roots. Close mowing of grass, like close cropping of the human hair, is a very senseless practice. The "velvet cut," as it is called, which makes men with dark brown hair look for all the world like monkeys, deprives the head, to all intents and purposes, of its natural protection. So "shaving" the meadows deprives them of their natural mulching, which is such a protection against the droughts of summer and the rigors of winter.

### POTATO EXPERIMENT.

James Wells, of Chicopee, Mass., plowed deep and harrowed a piece of green sward, designed for a garden, dug deep holes three feet apart each way, put sods on the bottom, grass side down, and on them cow stable manure, about two quarts in each hill; cover this lightly with soil; cut one bushel of Early Rose potatoes so as to have but one eye in a piece, and put two pieces in a hill, six to twelve inches apart. The ground was kept free from weeds, and the hills made high and large. The product was 51 bushels of potatoes, 48 of which were suitable for the table. The ground measured 4,280 square feet, or a fraction less than one-tenth of an acre, and therefore the crop was at the rate of over 500 bushels to the acre.

MULCHING. A correspondent of the Cincinnati *Gazette* says:—For the last ten years in setting my trees I have used a compost composed of about equal parts of rotten wood, leached ashes and light barn-yard manure.—Pursuing this plan I have succeeded beyond my most sanguine expectations. Especially is this true in regard to light soils.

The best sugar factory at Freeport, Illinois offers $4.50 a ton for beets delivered on the cars at the city.

## The Horse.

### THE HORSE IN THE STABLE.

The following sensible remarks are made by a correspondent of the *Western Rural:*

In selecting a site for the horse-barn, a high and dry situation is essential in order to drain the stable, purify the atmosphere round it, and preserve the health of its inmates. The stable should front the south to shelter stock from the prevailing cold winds, and give them the benefit of the warmth of the sun. It requires to be thoroughly drained and well ventilated. Damp, filthy stables, full of vegetable matter and foul air, are the prominent causes of such fatal disorders as bring fevers, influenza, farcy and glanders, that destroy annually so many valuable horses.—Fresh air is indispensable to supply the place of that which has been once breathed, and take away the fumes of ammonia, always found in close stables, depriving the atmosphere of its life-sustaining elements till it is not fit to breathe. Next to ventilation, light is essential to the health of horses.

Blindness, as well as other diseases, has been attributed to dark, ill-ventilated stables.

The domesticated horse is more predisposed to become blind than any other animal. The cause must result from over exertion or mismanagement in the stable. The wild horse is seldom found blind. This shows that close stables have a potent effect in spreading the infirmity. It has been said that dampness in brick walls may be obviated by extending the roof over the gable ends and sides some two or three feet. The projection makes the barn cooler in summer and warmer in winter, whether it diminishes the causes of disease or not. Apertures for ventilation, always left open, will renovate the stable by the constant escape of the foul air, and the re-supply of the pure element.

Air, when deprived of its oxygen by breathing, becomes unfit for respiration, and the influence of pure air upon the health of horses may be demonstrated from the fact that horses running at large escape those diseases that afflict others compelled to breathe the confined air of close stables. The infection arising from poisonous gases may be more conclusively proved by the fact that horses kept in perfectly ventilated stables are not subject to one-tenth of the maladies that infest filthy, undrained, ill-ventilated ones. The feet and legs of the horse are the most difficult for the groom to keep in condition.—Some horses get cold legs, and require hand-rubbing to restore the circulation; others become feverish in the feet and legs and require wet bandages to relieve the inflammation. Washing the legs in cold weather cannot safely be permitted, except they are thereafter rubbed dry. Cracked heels and swelled legs are the consequence of suffering the limbs to dry by the slow process of evaporation.

The grasses are the natural and most essential food of the horse. Turning out to grass will prove a sovereign remedy for inflammatory diseases. It also relieves, and sometimes entirely removes, chronic disorders.—Hard, upland meadow hay is preferable to lowland grass for trotting and running horses, eight pounds a day being about the usual allowance to fast workers. The draught or slow working horse should have all the hay he will eat. Old oats are sweeter, more nutritious and easier digested than new oats.—They are the most profitable when one year old. The roadster in active service will consume daily from 12 to 16 quarts of oats. The draught horse will work on from 10 to 14 quarts per day.

Regular hours of feeding are as necessary as a liberal allowance of food. The fast horse must be fed often and in small feeds. They cannot go fast on a full stomach. The diver, boxer, wrestler or runner must regulate his diet to correspond with the active exertion required of his physical powers. Trotters get little food or water on trotting days; runners are muzzled to prevent eating or drinking until after their race is over, for all work that materially forces the breathing should be performed on an empty stomach. Young horses ought to be worked moderately, so as to gradually harden the flesh, enlarge the tendons, and develope a sound constitution. Overtaxing the muscular powers before they are matured tends to weaken the joints, relax the cords, and puff up the legs, from which they may never recover; and the soft, half-seasoned horse will take more food than those in good working condition.

When the work is such as to fall more severely on the legs than the body, they must be hand-rubbed, and the food must be so regulated as not to increase the inflammation. "Take care of the legs and the body will take care of itself." Muscular exertion produces important changes. The motive power exists in different degrees, according to the state of the system. In one state it has a slow and feeble action, in another it has a strong and powerful action. The muscles are the active instruments of motion. They are put in force by the power of the will.—Condition implies that state of the muscular system that confers the most strength, speed and endurance. Condition is the fruit of exertion, that clears the wind, quickens the action of the vital forces, produces perspiration, which purifies the blood, and invigorates the body.

### HORSES IN STORMS.

The *Farmers' Union* says:—"Avoid, as far as possible, exposing horses to storms. When on a journey aim to feed at regular hours. If nothing more can be done, take along some corn meal and put a quart in a pail of water, and stir it while the horse is drinking. It will greatly refresh and strengthen him. Many horses suffer from dyspepsia, and one great cause of it is irregularity in feeding. and giving too much grain when the horse is fatigued. When a horse has been exposed to a storm, and comes home in a exhausted condition, give him a warm bran mash. Put two or three quarts of bran in a pail, pour on two or three quarts of boiling water and stir it up; then add sufficient cold water to cool it to the temperature of new milk, and give it to the horse. Blanket the horse, rub his head, ears and legs dry, and afterwards rub him dry all over.

### ADVANCE IN HORSES.

An Eastern paper says:—We recollect very well that when railroads were first being built in the interior of New England, farmers thought that horse raising would no longer be profitable, and many breeders of our acquaintance acted on this belief, and either raised no colts at all or much less than they had formerly done. Everybody knows that their fears were not realized. Horses have been in greater demand, and prices have been much higher, since the completion of the railroads than before. The same appears to have been the case in England. as it is stated that the London General Omnibus Company has purchased 22,024 horses in the last twelve years. From 1861 to 1870 the average price was about $120 each. In 1871 the average price was about $140, and in 1872 nearly $165. Until 1870 the needed supplies were easily obtained in England and Scotland. For eighteen months past nearly all the horses bought have been purchased in France.

### DRIVING COLTS.

If the colt is at all uncertain, it will be policy to work slowly and carefully, as one mismove now may cause serious mischief, by the colt becoming nervous and unmanageable, and, should he be able to resist restraint will easily cause a loss, by damage to waggon, of from five to fifty dollars. To guard against this, get three slender poles, two of them about twelve feet long each, the third about seven feet in length. Lay down the poles in the form of shafts, the front ends about twenty inches apart, the back about six feet apart. Lay the short pieces across, about six feet six inches from the forward ends, and tied on with pieces of cord. Hitch the colt into these poles, attaching tugs to the cross pieces by tying with small cord, and drive the colt around until there is perfect submission to them.

Driving to poles is an advantage, for two reasons; they cause less noise and excitement, and consequently are less likely to cause resistance; and should the horse kick, no danger can result—whereas one kick against a buggy would be likely to cause serious damage and loss. Before attempting to drive a colt to the waggon or shafts, all danger of resisting anything striking the heels should be thoroughly overcome by the course of subjection. It is always the safest and best method. Anything like a suitable cart or two-wheeled sulky can be obtained but by few, and the ease of constructing poles into the form of shafts will lena be any one to easily supply the want.—*Prof. Magner.*

### STABLE DRAINAGE.

Notwithstanding all that has been written on the important subject of stable architecture, there are a very few stables in the country where a really efficient provision is made for removing and utilizing the liquid manure that is furnished by horses and cattle, who pass a great portion of their time confined in stalls. Not only is there, in consequence, a great loss of valuable fertilizer, but the liquid excrement accumulates and rapidly putrefies, giving rise to various noxious gases which contaminate the air, and cannot fail to prove injurious to the animals who are compelled to breathe the poisoned atmosphere.

In some stables we find no pretence whatever at drainage of any sort. In others, perhaps in the majority of such buildings, drainage is attempted, but on various accounts is ineffectual. For example, the floor is made of common pine plank, a soft material, which trampling and kicking of horses soon wears into hollows, in which the urine stands, a constant source of discomfort to the horse, and a trouble to the groom. These floors, in most cases, slope back to a gutter in the rear. This arrangement compels the animal confined in the stall to stand always up hill, and puts a very uneasy strain on the sinews of the legs. To relieve themselves of this strain we constantly find horses hanging back, and getting as far from the manger as the halter will allow. Then, again, either from shrinkage or original carelessness in fitting the planks and joints in, the floor on each side of the gutter behind are so open as frequently to allow more liquid to pass through below than is carried away in the desired direction. This very large portion of the urine soaking through the floor completely saturates the ground underneath; and thus being entirely lost to the farm, accumulates and putrefies in a hidden mass of filth, enough to gender the most malignant forms of disease.

Besides all this, it too often happens that the liquid manure which does not find its way outside the stable is, for want of proper arrangements to receive and store it, allowed to flow over the farm-yard, or is washed away by the first heavy shower of rain that falls. Now, this state of things, so common on our farms, is both a serious waste of valuable material and a great detriment to health. It is a great mistake to suppose that any such impurity can be other than highly injurious to the animals in confinement.—*American Stock Journal.*

We saw the above illustration in one of our exchange papers some time back. We had it re-cut in Montreal, believing it might be amusing and a little appropriate dutring the time of working statute labor. It was not formed in time for last month, but it will answer now. It carries its own explanation, which cannot fail to cause a smile, and remind us of the state of the roads in bad weather.

### MONEY MAKING BY FARMERS.

Prosperity attends one farmer, ruination another; many get a good living, and some turn their hands to some other calling to save them from losing capital; in short, agriculture results just about the same proportion, with regard to profits and loss, as mercantile pursuits. Although there are many mistakes; although there are many misfortunes which foresight and good judgment cannot forestall, and the same run of common accidents which attend every business, yet none need be timid in entering on a good, fair average farm; for if all particulars have been weighed and allowance made in the purchase money, a few disadvantages can be readily overcome. Even a stock farm, badly watered, should not be discouraging, as this having been calculated on, there are plenty of ways to secure a supply from rain to last through the longest drouths; and where the water is kept clean, the writer has seen it in standing ponds preferred to spring or other fresh water by horses, cattle and sheep. This is mentioned as one of the greatest drawbacks because most people dread the trouble of keeping in order temporary drinking places and the losses sustained by neglect.

Making money is as readily attained by attention in farming as in trade; and it is a common error to suppose this is to be accomplished only by the sweat of the brow. Industry is absolutely necessary, but tact in directing labor aright is better than merely leading a lot of men by working every bit of flesh and atom of fat off the body. Then it is essential to be posted in the market value of every commodity, which can only be done by attending auction sales and rendezvous for buying and selling. A money making farmer will ascertain the prices of all varieties of live stock and calculate the comparative cost of raising, so as to be certain which pays best; he will also find out how butter or cheese making and how wool growing will pay. Doubtless in these times of highpriced and unreliable manual labor, a system of farming which will permit of a great deal of the land lying down in perpetual grass, would pay more for two reasons:—First, less expenditure in wages would be required, and 2d, the fertility would not be extracted by selling off grain and corn.

When a farm has to be bought to commence an agricultural career, the climate as well as the soil can be chosen, and then a system of breeding and raising stock can be contrived to be adapted for the end of having a good deal to sell with very little to buy. However, when a farmer has become well versed in the price of all kinds of live stock, it is often that opportunities can be taken to buy in a low market, and when there is temporary depression, and by feeding with any grain or other food which is selling cheap, money can be made and the manure from the consumption will increase the value of the farm, being in imitation of John Johnson and a few other high farmers, but which is very common among a class of tenant farmers in several districts in England, and which the frequent great cattle markets, taking place annually at certain dates, enables them to make a regular practice of; for if one market should be too high to answer their purpose to buy they can try others.—*Working Farmer.*

A severe frost has nipped early vegetation in parts of Georgia. The gardeners complain that a general replanting will be necessary.

Texas wheat prospects are flattering. The acreage in some of the wheat growing counties is reported as fully one-third more than that of last year.

## MINNIE MAY'S DEPARTMENT.

My Dear Friends:

I have received some very nice letters this month from my friends to whom the prizes were awarded and sent, but I hope, girls, you will not cease to write just as soon as I stop offering prizes. I want every one of you who has a useful idea or who wants a recipe, or wishes to know about anything, to write to me. Let us be sociable, and if you have nothing particular to say, why send in your card at any rate.

Minnie May.

Here is one of the letters:—

Glenallan, May 21st, 1873.

Dear Minnie May,—

Please to accept my thanks for the seeds and bulbs. I waited for to thank you until I could say that they are sprouted and are doing well. I was particularly pleased with the Lilly.

Yours, &c.,

Minnie Gray.

I suppose you have all packed away your woollens and furs. Considering how much depends upon their being put away properly, I will give you a few ideas on that subject: A lady says "I find the great secret of preserving furs and woollens is to keep them closely folded from the air. If the egg has been deposited, the mischief is coming; but if camphor is placed in the packages, and they are laid in a close box or chest, our trust is that the insect life is destroyed. Paste will answer as well as gum to seal up the furs, if alum is dissolved and added to it; make it rough to the taste, and neither insects or mice will molest it. I tie my bundles in convenient sizes, generally folding them closely in two newspapers and labeling each one, so that in the fall I can easily get at whatever article I may need. One season I had a bunch of dried penny royal in a trunk, and I noticed that no sign of moth was to be seen. I think that they were stifled with it."

### CLEANSING BLANKETS.

Put two large tablespoonfuls of borax and a pint of soft soap into a tub of cold water. When dissolved, put in a pair of blankets and let them remain over night.—Next day rub and drain them out, and rinse thoroughly in two waters and hang them out to dry. Do not wring them.

Our friend Mrs. Jameson says:—

"We farmers make a great account of our pork barrel in spring, and of our hams."

I often have *fried pork* for breakfast, and, by way of variety, dip each slice into a batter of eggs beaten up with flour, and then fry them. This makes an appetizing and nutritious dish, very good for workingmen to plow on.

We use salt mackerel at breakfast too, for the fish wagon seldom passes our door and we are two or three miles from market. I am always careful in removing it from the brine not to let it touch the oil floating on the surface of the salt water, to wash it clean and then soak it with the flesh side down, eight or ten hours. Then I wash it and soak over night in sweet milk, and dry it by the fire.—It is next broiled five minutes, flesh side down, over lively coals, turned so as not to break the skin and left over the fire ten or fifteen minutes until done. Thus cooked, it can be eaten with zest by any one.

Cod fish, too, comes frequently on our table by way of variety. This is soaked over night in water to freshen it, then stirred into sweet milk scalded and thickened with flour or eggs.

### HOW TO BANISH FLEAS.

The oil of pennyroyal will certainly drive these pests off; but a cheaper method where the herb flourishes, is to throw your dogs and cats into a decoction of it once a week. Mow the herb and scatter it in the beds of the pigs once a month. Where the herb cannot be got, the oil may be procured. In this case saturate strings with it and tie them around the necks of dogs and cats, pour a little on the back and about the ears of hogs, which you can do while they are feeding without touching them. By repeating these applications every twelve or fifteen days, the fleas will flee from your quadrupeds, to their relief and improvement, and to your relief and comfort in the house,

It is quite as important to have blankets on our beds clean as to have the sheets pure and white. The Boston *Journal of Chemistry* gives the following method of

### CLEANING TINWARE.

Acids should never be employed to clean tin ware, because they attack the metal and remove it from the iron, of which it forms a thin coat. Rub the articles first with rotten stone and sweet oil, then finish with whitening and a piece of soft leather. Nothing else will give so good a polish. To remove rust spots from cutlery, rub them with a common lead pencil and polish with paperor a cloth.

I can give you a recipe for a

### MUFFIN

as delicate as it is excellent. One pint of milk, one pint of flour, two eggs and one pinch of salt. They will be very light and should be baked in small tin cups or iron corn cake pans, in a hot oven.

### POISON GREENING.

Last month we gave some comments upon the culpable fashion of greening pickles by means of one of the most poisonous salts of copper. We are not alone in the absurdity of coloring food. In France it seems fashion demanded that canned peas should have a dark green color, which, of course, the canner willingly gave them, though, in so doing, their natural delicious flavor was destroyed. At length the French government has awakened to the folly and criminality of this custom, and has passed very stringent laws prohibiting the sale in the country of the vegetables artificially greened. This will no doubt put an end to them in France, but they will probably go on greening them for the American market. We should keep a sharp look out for them and never suffer them to come upon our tables.—*Journal of the Farm.*

### HEALTH AND CELLARS.

Make whitewash with one peck of unslacked lime and boiling water enough to thin it; add to it four pounds of copperas and three pints of flour starch; make it thin enough to spread well and yellow with the copperas. Wash every rafter, stone and crack or crevice at the sides or over head, and see how sweet the place will become, and what a scampering of mice and rats will follow. Throw bits of copperas in corners, lay them on the shelves, and purify every part of the cellar with this cheap disinfectant, which is also disagreeable to the ordentir.

### TREATMENT OF NEW DWELLING ROOMS.

The dampness of newly finished rooms is not due so much to the water used in mixing the plaster, as to the water of dydration of the lime, liberated by the action of carbonic acid. The action of the small quantity present in the normal atmosphere, would, however, be so slow, and the water be liberated so gradually, that no injurious effects could result. But as soon as the rooms become tenanted, the large amount of carbonic acid given off in respiration causes such rapid displacement of water, and with it other matters indicated by the peculiar odor, that unpleasant and injurious results may follow.

Treatment of the rooms with carbonic acid, before occupying them, suggests itself at once as a means of rendering them perfectly tenantable. Although by calculation, it would require the carbonic acid from the combustion of about 320 pounds of coal, to displace the hydrate in water in the walls of a room of about 1,500 square feet of surface, in practice the consumption, in a suitable way, of about five pounds of charcoal per day for five days would answer, in the room, because the interior portions are protected from rapid action of carbonic acid, as soon as a lawyer of about one-tenth of an inch has been acted on. This is proved by the fact that Professor Fuchs has detected crustic lime in walls centuries old.

### 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 it 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 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 not ing 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 26 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 beneficient, 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 action in checking diarrhoea, its nourishing properties, and its action in cooling the body, says: "We believe that milk nourishes in fever, promotes sleep, wards of 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 everyway 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.*

*Fig 1.*—A CEDAR IN DIFFICULTIES.

*Fig. 2.*—SUSPENDED ROCK.

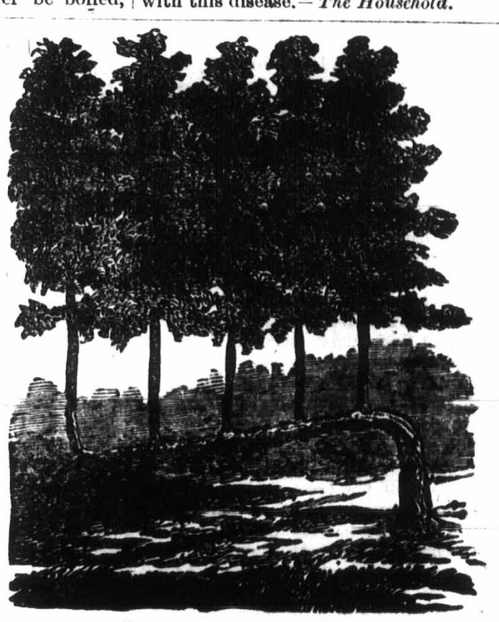

*Fig. 3.*—A LOPPED OAK.

## Curious Growth of Trees.

You have probably noticed in your travels what curious shapes trees will sometimes take, and more especially is this the case where the tree is growing on rocks, which prevent the roots from taking their natural course.

On an isolated rock near the shore of Garden Island, Lake Champlain, there is a cedar tree (fig. 1) that gets its sustenance, save what the air gives it, through a root that extends, like an arm stretched out for food, to the neighboring shore, from which, doubtless, its own rocky foundation long ago broke off and slipped away.

Upon the shore of the same lake there is another old cedar (fig. 2) which holds, clasped by its roots, a large stone snspended over the rocky edge.

There was once a thrifty white oak tree that, after growing upright for some feet turned a short corner and ran along horizontally, sending up five branches as in fig. 3.—When young, the tree was lopped to make part of a brush fence; the wound healed and the branches took their natural upward course. The tree grew in this form years after the fence disappeared.

## North Norwich Farmers' Club.

SUBJECT—MANAGEMENT AND FEEDING OF DAIRY COWS.

PRESIDENT'S ADDRESS.—Gentlemen—I feel sorry that it has fallen to my lot to introduce a subject sf so much importance. Since it is the first time I ever attempted to bring anything before the public, I shall only glance at a few points, and that briefly. In looking back over some 20 years we cannot but notice the marked improvement in this department of husbandry; then shelter around a straw stack, behind the barn, or perhaps only a rail fence was considered sufficient. The results were as might have been expected. When spring came and the weather began to get somewhat warm, the poor cow would lie, pant and loll, unable to raise herself on her pins without the help of the owner and two or three of his neighbors. And, oh! cruel man, well might you exclaim, the cow does not pay. Those are bygone days, and my greatest wish is that they may never return. We can safely say that we are living in the day of advancement. The dairy farm is the home of the cow, and our study should be to make that home suited in its arrangements to her peculiar habits and inclinations, for any pains we may take for her health and comfort will be amply repaid by an increased flow of milk. The cow is emphatically a domestic animal of a quiet nature, loving ease and rest when satisfied with food and drink, and it is essential that this peculiarity of her nature be consulted in the arrangement of our pastures and watering places. As for pastures, cows should not only have a variety, but such a combination of grasses as would afford them some one or more kinds in the different stages of advancement as long in the season as possible. This may be accomplished by studying the nature of the different grasses and sowing those that will mature at different times in the season. The different kinds which I would prefer sowing are, large and small red clover, alsike and white clover, timothy, red top and orchard grass, in such quantities of each kind as would produce the same number of plants per acre, the whole quantity per acre being 25 lbs. The ground should be clean, and rich, as well as subsoiled and underdrained; then we would be certain of obtaining a class of pasture that would stand our dry season and insure a large flow of milk, of a quality such as would enable the manufacturer to make the finest cheese, for which he could obtain the highest prices. If our pastures should fail we ought to be prepared with a sufficient quantity of sowed corn, lucerne, orchard grass, vetches, crimson clover or some more succulent, rapid growing plant that could be mowed and fed in the green state in the stables. Without something of this sort we are running a great risk of poor returns from our dairy.

I notice from my milk book that some patrons make as high as 500 lbs. of cheese per acre, others 400 lbs., and others again as low as 300 lbs., and even 200 lbs. Why is there so wide a difference? Some may say it is luck, but as for my part I am not a believer in neither luck nor witchcraft. Every man, generally speaking, causes his own luck. If we succeed in any one thing we have got to make that a speciality. I do not believe in dabbling in all sorts and kinds of farming—where there are too many irons in the fire some must burn. That is my experience.

As to wintering dairy cows the first thing needful is a good, warm, comfortable stable, well ventilated, and supplied with plenty of straw for bedding. The cows should be fed regularly; let it be either twice or thrice a day, with good nutritious food, salted every other day; and, finally, good, pure water at their pleasure. Treat them kindly, keep them clean, milk fast and at a regular hour, and allow no talking while milking. Never wet the teats, as it is considered, above all things, the most filthy, causing them to crack. Give a few bran mashes before and after calving. Always take the chill off the water given to the cow for a day or so after calving.

Take a farm of 100 acres, stocked with 20 cows—For winter feed I would put in 10 acres of corn, five of which should be planted in hills and five in drills. In addition to this I would have 10 acres of clover hay cut in full bloom. The corn fodder and the straw that would be grown on the farm, if well tilled, cut up by a straw cutter, would be sufficient to feed 20 cows up to the first day of April, and also a span of horses, if a small quantity of grain be supplied. The ten acres of clover hay I would commence feeding the first day of April. I would also feed the remainder of the coarse grain which grew, or the five acres of corn and five acres of oats. This would be sufficient to feed the cows until grass grew. Now, if my estimates are correct, and I can cite you men who have pursued this course and realized $55 per cow, I think we must all admit that dairy farming is yet the most profitable.

The members of the club seemed to take a wrong meaning out of Mr. Losee's address in regard to making a speciality of one thing. They advised a mixed husbandry. Some found difficulty in curing corn fodder. Mr. Elgin Mott stated he stacked his corn fodder and found no trouble. His stacks were built hollow, by setting up a pyramidal frame in the centre. The stack is built on a scaffold of rails and short posts. In building, the bundles should incline upward toward the centre. By this means a circulation is created under and through the stack towards the centre which acts as a chimney.

The next president will be Mr. D. S. Butterfield. Subject, "Fruit."

New Durham, Ont. B. J. P.

We regret that the above communication had to lie over until now, on account of press of other matter.

## Garden, Orchard & Forest.

### PRUNING IN SUMMER.

The *Horticulturist* says :—

Now is the time, friends, about the 15th to 29th of July, to prune and pinch back those limbs of superabundant luxuriance. Go through the orchard, nip off with your fingernails the top of any straggling sprouts, or clip them off altogether with a pruning knife. Many of our most experienced horticulturists find the month of July quite as effective for pruning as in the early and late winter. The theory of this is thus explained by the *New England Farmer :*

By the time midsummer comes, most of the sap that flowed up in the spring has gone to the branches and aided in expanding buds and blossoms, and in sending out new leaves and extending the twigs. When the tree has done this, the superabundant sap extends down the tree through the bark and increases its diameter.

The tree now has a season of rest. The sap vessels are comparatively empty, so that if its branches are cut, the wound will rarely bleed. The returning sap, we suppose, soon forms a green, healthy ring about the cut in the bark, and the remainder of the cut dries and shrinks before the sap is again in motion. This season of rest, then, of three or more weeks, is the best time to prune.

All fruit trees growing as common standards should be allowed to assume their natural form, the pruner going no farther than to take out all weak and crowded branches.

Some persons go into the centre of a tree and cut away quite large limbs, when the desired object could be much better gained by thinning out their extremities. It is always better not to cut a large branch, unless it is actually endangering the tree considerably. Taking off large limbs tends to throwing out suckers the following summer. All these should be rubbed off when they first appear.

### A WONDERFUL PEAR TREE.

Our horticultural friend, Mr. C. J. Miller, of Niagara, related to us the history of a pear tree growing on his farm near Virgil.—The tree is at least 100 years old, and at its base measures 10 feet 3 inches in circumference, but about five or six years ago a large limb, measuring some twenty inches through was broken off in a storm, and the rent then made in the trunk has been securely fastened by a strong ox-chain.

Mr. Miller's predecessor on the farm, some 15 years ago, asserted that he had picked 100 bushels of pears off the tree, and since Mr. Miller became proprietor he has repeatedly in one year picked 20 barrels of good fruit, and the tree having grown to a great height, some eight or ten barrels more have blown off. The tree is still in good bearing, was originally a seedling and a good one ; is now grafted, and some of the Bartlett pears grown thereon were exhibited by Mr. Miller at Guelph. There is also another similar pear tree, but some ten years the junior of the other, and we understand is prolific with somewhat similar results.—*Ex.*

### SOAKING SEEDS.

Soaking seeds in a dry time is regarded by the *Rural Home* as a risky operation, unless particular attention is paid to putting the soil in suitable condition. A soaked seed in dry and lumpy soil is almost sure to perish if the drouth is prolonged. The dry earth and the air in the crevices around the grain extract the moisture before the roots form and begin to absorb food from the soil. But if the soil is well pulverized so that its natural condition is somewhat moist, and the seed is then covered pretty deep, it will usually live. Those who endeavor to hasten growth by soaking the seed previous to planting should take care to use the roller and harrow without stint.

THIS month grape vines will throw out extra shoots and suckers, which should be rubbed off at once. Young peach trees should be looked after for the same purpose. Mulch newly planted trees and vines to keep the ground moist about the roots. This is better than watering.

STRAWBERRY beds must be kept free from runners, if you desire fruit rather than an increase of plants. It is better to cut than to pull them off. Mulch and water the plants, if a long bearing season be desired.

### RELATIONS OF TREES TO WATER.

The general practice of the pioneers of civilization on this continent was to cut down the wood chiefly from the uplands and the lower slopes of the hills and mountains.—They cleared those tracts which were most valuable for immediate use and cultivation. Necessity led them to pursue the very course required by the laws of nature for improving the soil and climate. The first clearings were made chiefly for the purposes of agriculture, and as every farm was surrounded by a rampart of woods, it was sheltered from the force of the winds, and pleasantly open to the sun.

But when men began to fell the woods to supply the demands of towns and cities for fuel and lumber, these clearings were gradually deprived of their shelter by levelling the surrounding forest and opening the country to the winds from every quarter. But the clearing of the wood from the plains while it has rendered the climate more unstable, has not been the cause of inundations or the diminution of streams. This evil has been produced by clearing the mountains and lesser elevations having steep or rocky sides ; and if this destructive work is not checked by legislation or the wisdom of the people, plains and valleys now green and fertile will become profitless for tillage or pasture, and the advantages we shall have sacrificed will be irretrievable in the lifetime of a single generation. The same indiscriminate feeling of woods has rendered many a once fertile region in Europe barren and uninhabitable, equally among the cold mountains of Norway and the sunny plains of Brittany.

Our climate suffers more than formerly from summer droughts. Many ancient streams have entirely disappeared and a still greater number are dry in summer. Boussingault mentions a fact that clearly illustrates the condition to which we may be exposed in thousands of locations on this continent. In the island of Ascension there was a beautiful spring situated at the foot of a mountain which was covered with wood. By degrees the stream became less copious and at length failed. While its waters were annually diminishing in bulk, the mountain had been gradually cleared of its forest. The disappearance of the spring was attributed to the clearing. The mountain was again planted, and as the new growth of wood increased, the spring reappeared and finally attained its original fulness. More to be dreaded than drought and produced by the same cause—the clearing of the steep declivities of their wood—are the excessive inundations to which all parts of the country are subject.

If it were in the power of man to dispose his woods and tillage in the most advantageous manner, he might not only produce an important amelioration of the general climate, but he might diminish the frequency and severity both of droughts and inundations, and preserve the general fulness of streams. If every man were to pursue that course which would protect his own grounds from these evils, it would be sufficient to bring about this beneficial result. If each owner of land would keep all his hills and declivities and all slopes that contain only a thin deposit of soil or a quarry, covered with forest, he would lessen his local inundations from vernal thaws and summer rains. Such a covering of wood tends to equalize the moisture that is distributed over the land, causing it, when showered upon the hills, to be retained by the mechanical action of the trees and their undergrowth of shrubs and herbaceous plants, and by the spongy surface of the soil underneath them, made porous by mosses, decayed leaves and other debris, so that the plains and valleys have a moderate oozing supply of moisture for a long time after every shower. Without this covering, the water, when precipitated upon the slopes would immediately rush down over an unprotected surface in torrents upon the space below.

Every one has witnessed the effects of clearing the woods and other vegetation from moderate declivities in his own neighborhood. He has observed how rapidly a valley is inundated by heavy showers if the rising grounds that form its basin are bare of trees and planted with the farmer's crops. Even grass alone serves to check the rapidity with which the water finds its way to the bottom of the slope. Let it be covered with bushes and vines, and the water flows with a speed still more diminished. Let the shrubbery grow into a forest and the valley would never be inundated except by a long continued and flooding rain. Woods and their undergrowth are indeed the only barriers against frequent and sudden inundations, and the only means in the economy of nature for preserving an equal fullness of streams during all seasons of the year.

At first thought it may seem strange that the clearing of forests should be equally the cause both of droughts and inundations ; but these apparently incompatible facts are easily explained by considering the different effects produced by woods standing in different situations. An excess of moisture in the valleys comes from the drainage of the hills, and the same conditions that will cause them to be dried up at certain times will cause them to be flooded at others.

Nature's design seems to be to preserve a constant moderate fullness of streams and standing water. This purpose she accomplishes by clothing the general surface of the country with wood. When man disturbs this arrangement he may produce evil consequences which he had never anticipated. We are not, however, to conclude that we may not improve the soil and climate by changing the original condition of this wooded surface. The clearing of the forest may be reduced to a science whose laws are as sure and unexceptionable as those of mechanics and hydraulics. Though it has not gained much attention from the public mind, it is well understood by the learned who have made this branch of vegetable meteorology their special study.

Our danger lies in neglecting to apply these laws to operations in the forest, and in preferring to obtain certain immediate commercial advantages at the risk of inflicting evils of incalculable extent upon a coming generation.—*W. F. in "Woods and By-Ways of New England."*

### NORWICH FARMERS' CLUB.

Mr. D. S. Butterfield read the paper on the cultivation of fruit, which we abbreviate :—

I shall confine my remarks wholly to the cultivation of apples.

Fruit culture is a branch of agriculture which we are all as farmers interested in to a greater or less extent ; more particularly the raising of apples. Any farmer can afford at least to raise apples enough for his own family. There is no kind of fruit more generally used than apples. Other fruits may command a higher price, but for usefulness and general consumption with all classes the apple stands at the head. A writer on the subject once said he thought it would be a greater loss to have apples taken away than all other kinds of fruit combined.

I think it is just as easy to raise a first class apple as it is a poor worthless one, not fit for a hog to eat. I will give you my views of raising a young orchard. The first object will be to select a good location for an orchard, and I would recommend a rolling piece of ground with a northern descent, if such a piece is convenient ; if not, any other except an eastern. I would prefer a strong clay loam, and if not naturally drained, I would underdrain it ; if not able to do that I would surface drain it with open drains, as fruit trees will not thrive well on a soil saturated with water ; the trees will be sickly, and have a tendency to raise out of the ground.

It is an advantage to have the ground in a good state of cultivation and well manured the previous crop—a hoed crop of some kind, although I have had very good success in setting trees in a good clean sod of clover and timothy ; but it requires more work in setting out the trees.

Having the ground all prepared I would go to some reliable nursery and select my trees myself of about four years' growth, and would superintend, taking them up myself and seeing that it was done carefully, so as to not injure more roots than could possibly be avoided. I have found by purchasing trees of different parties, that were delivered, many of them badly bruised in the bodies as well as roots, caused by careless handling in taking up and loading ; such handling will show itself in their growth (if they grow at all) after being set.

I would stake or mark off the ground forty feet each way ; that will give 28 trees to the acre, or 1600 square feet of space to each tree. I would set for an orchard of 100 trees the following proportion of varieties : 1 Early Harvest, 1 Red Astrachan, 2 Porter, 2 Duchess of Oldenburgh, 2 Colvert, 2 Cayuga Red Streak or wine, 1 Snow, 3 Fall Pippin, 1 Pomme Grise, 2 Tallman Sweet, 1 Swar, 5 King of Tompkins County, 5 Baldwin, 5 Spitsenburgh, 4 Talapahocin, 3 Yellow Bellflower, 1 Northern Spy, 10 Waggoner, 2 Rock, 10 Roxbury Russet, 10 Golden Russet, 25 Rhode Island Greening, total 100, 21 varieties. This collection will enable a person to have green apples the whole year. I think this number of varieties quite enough for profit in any common orchard. There are many other good varieties that I have omitted. If I were going to enlarge the number of trees to several hundred I would increase the number of the last five varieties, as I consider them the best shipping varieties.

I would open a place large enough to receive the roots (not dig a hole and cram the roots in, as I have seen some do) to about the depth they set in the nursery ; see that the roots are all straight and natural ; after putting in a few shovelfulls of fine earth or mould, put in a part of a pail of water, move the tree gently up and down that the soil may become thoroughly mixed with the roots, then fill up even with the surface and press the soil gently with the foot. One thing quite important is to have the trees in straight rows each way. After the orchard is set, stake and tie every tree with good straw, that the wind may not cause them to lean.—After this is all complete, mulch every tree with coarse manure or straw.

If these rules are carefully observed you will not complain of trees dying out. I think one great cause of a failure in raising an orchard is carelessness in setting. Our dry hot summers are very trying on newly set trees, unless great care is used in setting them. The same rules will apply to taking up and setting every other kind of trees.

After the orchard is set I would keep the ground in some kind of a hoed crop and keep the land well manured ; wash the trunks of the trees every spring with strong soap suds, as it has a tendency to keep off insects, besides giving the bark a rich glossy appearance. Keep them well trimmed so as to form an open, well-balanced top, not too high from the ground, and the fruit will not be so likely to be blown off.

To protect young trees from mice during winter, I have found that making a little mound or hill around the body and keeping the ground clean were about as good preventatives as I ever tried. In taking care of an old orchard I would graft every tree that does not produce good, profitable fruit, unless the tree is on the decay ; in that case I think it would be useless. A person who has not tried the experiment would be surprised to see in how short a time an old tree can be renewed. If you cannot do it yourself, employ a reliable grafter, and he will bring about a great reformation in your trees in about three years. Many people make a great mistake in cutting off all the top of a tree the next year after being grafted ; the consequence is in nine cases out of ten the tree dies. You should be at least three years cutting off the natural limbs ; by that time the grafts will be grown so they can take the place of the natural branches. It is a good plan to scrape off the rough bark of old trees early in the spring, and keep the ground well cultivated, or if kept in sod, well manured around the trees.

We have one great enemy to contend against in raising apples, that is the "Tent Caterpillar," which you are all too well acquainted with to need description from me.—My plan of destroying them is as soon as I discover their nests or webs, which is about the 10th or 15th of May, I nail a small piece of long-wool sheepskin on the end of a long pole, and with soft soap reduced a little with rain water, give them a good soaking, which kills every one that the soap touches ; one or two applications will destroy every one. I generally go over the orchard two or three times in the course of the spring, and if all would try the same experiment, in a few years they would be annihilated. I have not been troubled much for the last two years with these pests, but there was another very formidable enemy that made its appearance last season that did a great deal of mischief in our orchards ; that was the apple worm.—There is a small grey winged miller that deposits the eggs in the blossom end of the apple as soon as the apple is formed, and the grub as soon as hatched eats its way into the core of the apple, causing many to drop off, and those that do not drop off are injured so as to not keep, and are consequently not fit for shipping. I saw a plan recommended to build bright fires about in the orchard in warm nights, the fore part of June, which would attract the millers, thereby destroying them in great numbers. I think it would be advisable for all to try the experiment.

### REMEDY FOR STRIPED BUG.

Having occasion to use Paris Green and calcined plaster, in the proportion of one pound of the former to fifteen of the latter, as a destroyer of the potato bug, I tried the stuff on squash, melon and cucumber vines; with me, the mixture dusted on from a common dredging box, has proved equally effectual against the Colorado potato beetle and the striped bug. On squashes of the tenderest variety of foliage, like the Hubbard, for instance, and on the hardier, like Cymlin and the winter Crookneck, this mixture, whether put on when the plant is wet or dry, does not injure them; and so of musk melons and cucumbers. The water melon, however, does not like to be so treated, but I would recommend that the mixture be used with care.—*Cor. Prairie Farmer.*

### PROTECTION OF CABBAGE AGAINST WORMS.

To procure an efficient remedy against the ravages of the Cabbage Worm is a desideratum long needed by our vegetable gardeners and farmers. Mr. Thos. S. Trigg, of Montgomery Co., a gentleman of nice observations, assures us that stale suds applied to the heads of cabbage will drive away and keep away all worms. There is something about the soap suds especially obnoxious to the worm, and a few applications of it will protect the cabbage from their ravages.

There is another advantage in the use of soap suds—it fertilizes the land and induces a more vigorous growth of the plant. We hope every farmer who reads this will give it a trial and report on its efficiency.—*Nashville Union.*

### THE HONEYSUCKLE AS A STANDARD.

A writer in the *Villa Gardener* thinks that the honeysuckle is one of the most regularly flowered climbers in cultivation, taking rank for effect and surpassing in many points—odour for instance—even the gorgeous colored Clematises, which are in every modern garden. As a standard, the honeysuckle merits the very foremost place in our villa gardens. "We have seen it with thousands of flower umbels in pale yellow and pale pink, decorating villa grounds in a way that no single plant in the month of July can do."

It is scarcely possible, in words, to portray its extreme beauty and effectiveness. Buy a plant of it (cost not 50 cents) train or tie it to a stout stake, as one would do a standard rose; prune it not too severely, but in the way a hybrid china rose ought to be done; give it a good soil to grow in, and it needs no further attention. It will grow into a plant that will astonish, by its flowering capacity, thousands and tens of thousands who have not seen it so trained.

### ASHES IN THE ORCHARD.

I have had a number of letters inquiring as to how I use ashes about fruit trees to prevent the borer from entering the trees.—These inquiries come mostly from farmers who ask me to reply through the *Homestead*, which I cheerfully do.

I have never used unleached ashes, and do not know whether or not these would injure the trees, but any one can afford to try it on at least one tree, and if it costs the life of any one tree to trust and establish a fact, all right, that tree will then have done its duty and filled its mission.

I use leached ashes altogether, as we cannot spare the unleached. About a gallon to a tree is sufficient; thus a bushel would be enough for eight trees unless the trees are so large that this will not encircle it two inches in depth. I make this application not more than once in two years. For seventeen years this has proved a perfect success with me, and I hope farmers will try this, but they should also see that their trees are free from borers before hand, as it is not claimed these ashes will kill the borers already in the tree, but only prevents them from entering, probably because these ashes are deleterious to the hatching of the eggs that may be deposited at surface and about the bark of the tree close to the ground. These ashes impregnate the bark of the tree for several inches up the stem, and this is doubtless distasteful to this troublesome creature.

These ashes may be put on in the spring, and should not be disturbed by cultivating, because if they were pulled away from being in contact with the tree, their efficacy would undoubtedly be lost.—*D. W. K. in Iowa Homestead.*

### CURRANTS.

The *Rural New Yorker* remarks, with a good deal of truth, that "it's a pity the currant is so tenacious of life—otherwise it would be more highly valued, and the plants receive better care."

From observations we have repeatedly made, bushes which are kept evenly pruned and well cultivated, bear berries from five to ten times as large (in weight) as those which commonly grow on old neglected bushes, enveloped in grass, along garden fences.

### POPULAR FRUITS.

A Kentucky correspondent of the *Horticulturist*, in giving select lists of small fruits, names the "immortal Wilson" as the first among strawberries, "simply because you cannot do wi hout it." After this he places Green Prolific, then Downer's Prolific, and lastly Kentucky. Of raspberries, he would begin with Mammoth Cluster, which should occupy at least half the plantations; Doolittle, Davison's Thornless, Purple Cane, and, where it will succeed, Hudson River Antwerp. But if only two kinds could be had, he would take Mammoth Cluster and Philadelphia. Cultivators would vary these lists in different soils and localities, but all of them have a wide approval, although some occasionally fail.

### SAVING GIRDLED FRUIT TREES.

A writer in the *Pomologist* gives the following remedy for saving trees girdled by mice or rabbits:—

I made a composition of grafting wax, bees-wax and tallow, in equal proportions; then procured old cloth, such as calico or muslin, and made it into strips an inch wide, wound it into balls, just as nurserymen do for grafting, and boiled it in the composition until well saturated; I then wound it round the wounded trees, and although 400 or 500 were injured, and many gnawed all round and quite through the bark, I believe only one was lost. All have made good growth. I may add that, having used all the wax I could get, I used the rosin and tallow alone for some, and I have discovered no difference except in the cheapness of the latter. In doing the winding the hands should be greased to prevent sticking.

### TOMATO CULTURE.

For tomatoes the ground should not be made too rich. If so, the growth of vines will be large and the tomatoes ripen later than when planted on soil of average richness. It is important, however, to mellow the ground thoroughly before setting out the plants either for early or late crop. If it is found necessary to manure, spread some well rotted stable-yard manure broadcast and turn it under. This in practice will be found a better plan than applying yard manure in the hill at the time of planting.

To stimulate the plants early in the season and hasten the ripening of the crop, market gardeners very often apply a small quantity of Peruvian guano (mixed with soil) in the hill before transplanting. This does undoubtedly bring forward the plants and makes a difference in the date of ripening of the crop. In the garden tomato vines may be made ornamental by supporting the vines on a frame, or it is a good plan when the tomatoes are full grown to cover the ground slightly with salt hay or straw as a mulch to keep the tomatoes clean.—*N. Y. Tribune.*

### TREE SEEDS.

Farmers in the wooded districts can supply themselves with native seeds at a small cost of labor and time. Even where there are but fringes of trees along the streams large quantities of seeds can in some seasons be gathered. Where seeds can be thus had in the neighborhood, it is cheaper and better to gather them than to buy from a distance, as they will be fresh, and can at once be planted or placed in safety for keeping. The gathering of tree seeds has not yet become general in Kansas; but it is a work in which even children can aid, and ought not to be neglected. All our native trees are of value, particularly the ash, box elder, elm, honey locust, hickory, maples, oaks, and walnuts. No money ought to be sent out of the State for these seeds, until at least all frem the native trees are consumed each year. Tree seeds are not yet an article of commerce in the State, because there has not yet arisen a general demand for them; but the time will come when dealers, as in other States, will collect them for sale. It is only within two or three years that any one in Illinois has had tree seeds for sale, but now there are several dealers; and we may reasonably hope for the same trade to begin in Kansas at an early day.

One farmer in Netawaka, Kan., proposes to sow sixty acres to flax.

### ORNAMENTAL PLANTING.

Tree planting for ornament, or shade, whenever done, should have each tree, its probable future size, its general habits, etc., carefully studied. Too many plant without thought of future growth, and often the Norway Spruce or other variety of tree, that in twenty years reach a height of forty or more feet, with a spread of branches equal to its height, is planted within four feet of a footpath or a roadway; or perhaps half a dozen of them planted in a dooryard or front ground of not over thirty to forty feet square.

A few years can only elapse ere the tree or trees have to be removed or severely cut back. In the former case the thick planting has in nine cases out of ten caused all the lower limbs of the tree to die out, and the removal of one, two or more, leaves the remainder with scrawny, unsightly, verdureless lower limbs.

Every tree planter should look up authors' descriptions of the habits, ultimate growth, etc., before planting, and then so arrange them that no future labor will be required. If a single tree is to be planted for its beauty alone, or for the purpose of a shade, then it should have room for all its branches to extend either way. But if a group of three, five or seven trees is desired, the whole, when grown to form a whole head, may then be placed near each other, as only the outer limbs are expected to grow and form, as it may be, one outline; but with varied colored foliage and spray, making, as we might say, an aboriform bouquet.—*Goderich Star.*

### CULTIVATING GRAPES ON THE GROUND.

A method of cultivating the grape as pursued in Cabul, Central Asia, might be tried here, at least. Cabul and the country just northward of it has a climate, as it appears, not a little like our own here in Minnesota, being a high plateau where, whilst the thermometer sometimes marks twenty degrees below zero, grapes and other fruits grow in perfection, although requiring a great deal of care. As the snow does not usually disappear until the first of April or thereabouts, it appears needful to push the vine all that is possible, the frost once out of the way for the season. Accordingly this is the method:—

"Trenches are dug about one foot in depth, the earth being thrown up in the form of a terrace one foot high and six or eight feet broad. The vine being set in these trenches about three feet apart, is allowed to run over the terrace to the next trench, at the edge of which it is cut off, and the lateral branches are allowed to spread, being trimmed into three or four buds. In this way the vine and the fruit rest upon the ground. The effect of this plan will be to force the fruit by the heat or refraction from the soil."

Now as heat in this latitude, and with our summers (apt to be too short at both ends for grapes) appears to be the great desideratum, why should not some of our grape growers try the process above described, even if on a small scale? We know how much to do with early production the strawberry has raised flat on the ground. Why not apply the same method with the grape, putting some light brush or limbs along the terrace described, to lift the vines a little above the soil, in order to have a little more neatness?

And could this method be successful there is advantage to be considered. In laying down the vines for the winter the slant already given to them would prevent their suffering that twisting, that wrenching and violence certainly not beneficial to them when restored to light and growth in the spring. The experiment appears worth trying.—*Farmers' Union.*

### MANURING ORCHARDS.

One often sees an orchard with large heaps of manure close around the body of the trees instead of being spread evenly over the whole ground. This has been aptly compared to placing feed in the manger and then hitching the horse with the tail to it in other words, placing the food where there is no mouth to eat it.

The roots, or feeders that collect the tree's food from the ground are not at the trunk, but are cut in a circle as far as the ends of the limbs. The small roots or feeders may be compared to an army of small worms moving outward from the trunk and penetrating every inch of soil from the lowest roots of the surface, and extracting every particle of tree food from the ground as they go. As long as these feeders can extend outward a few inches into rich soil every year, the tree flourishes, but when the supply of tree food becomes exhausted in any direction the feeders upon that side of the tree become famished, and the roots dependent upon them immediately begin to decay.

We often see one thrifty on one side and the trunk and limbs dead on the other. The reason is plain that the feeders on the decayed side have met some obstacle to their further progress in that direction, or that the tree food has been exhausted within their reach. In either case the result would be the same, the roots and feeders would be neglected and left to decay, while the whole energy of the tree would be thrown into the other side, where food was yet abundant. All the danger in applying manure to an orchard lies in overlooking this peculiar principle in the economy of vegetable life. If the manure is placed outside of the circle of feeders they soon reach it, and all is well, but if it is placed inside and near the trunk, a fatal revolution in the economy of the roots begins. Instead of drawing support from the feeders and roots outside of the manure, they are neglected and left to decay, while the whole energy of the tree is exerted to throw out a new set of feeders around the trunk to live on the manure. And while the outside roots that held the tree so firmly in the ground are rotting, the manure gives to the tree, through the new set of feeders, a vigorous growth and fruitage for two, and perhaps for three years, and the farmer is satisfied that manuring around the trunk of his trees has been a success. But disappointment is sure to follow, for the large roots have rotted off near the trunk, and the trees are blown down one after another, taking with them only the small tuft of live roots around the trunk that supported the tree from the manure till the roots could hold it no longer.—*American Farm Journal.*

### FRUIT PROSPECTS IN ILLINOIS.

Among the peculiarities of the year in Illinois are, since the summer heats have come on, the extraordinary vigor with which plant growth pushes forward. Though the middle of May may have been two or three weeks behind the average of seasons, by the middle of June the time lost will have been caught up. Then, too, the elements of plant food seem to abound in an unusual quantity near to the earth's surface, and a vigorous crop of weeds push in a few days.

Of the early fruits there will be no full crop, except those of currants and gooseberries. The weather has been very favorable to these, and also to strawberries, but the acreage of the latter is very limited. Notwithstanding the scarcity of money, and the almost universal feeling of poverty everywhere, except among the wealthiest classes, the crop of strawberries will be so short that great prices may be had for them. I calculate as a consequence to this state of the market, more strawberries will be planted within a year than for the previous three years together. The destruction among nursery stock and young fruit trees by the severities of last winter is something fearful, and I anticipate a rise in stock of that kind, and of all descriptions, from 20 to 40 per cent. I think for the next year, perhaps for the next two or three years, from two to three times the quantity will be called for over and above the quantity disposed of during the last three years.

Of peach and pear stock there will be no adequate quantity to supply the demand, and I suppose that half the apple stock in Illinois has been more or less injured. Peaches and pears are dead beyond all previous anticipation. Apple trees believed to have been hardy are dying, and I suppose it would not be too high an estimate to say that twenty per cent. of all fruit growth had been destroyed.—*B. F. J. in Country Gent.*

### PRUNING AT MIDSUMMER.

It is many years since from our own experience we recommended people to prune at midsummer, although we knew it was opposed to the views of many eminent horticulturists. At that time it was regarded as a bold innovation on established rules; and we have often since seen articles to show that summer pruning must be wrong. The reasoning by which this is supported is no doubt very good. It does seem by the reasoning we have referred to that it ought to be wrong to prune at that season; but on the other hand we have the evidence of our own senses not only that no harm but absolute good resulted from the summer pruning of trees.

But it seems to be forgotten by many good people that there are two sides to every story—two sides to winter pruning, and two sides to summer pruning. Few of these horticultural operations are unmixed good or unmixed evil. In any case what we have to accomplish is to be gained, sometimes at a little expense of good points—good if we are after some other object. So in this summer pruning question. It is said by persons whom the whole horticultural community respect, that "winter pruning strengthens while summer pruning weakens trees;" and if one were to deprive a tree of the whole of its foliage this would probably be true enough to work serious injury. It is on the principle on which noxious weeds are destroyed. Denuded of every leaf as fast as one appears, a plant is often killed in one season. But may this not be different when only a few branches are taken off? The remaining leaves and branches have more food at their disposal,

What was intended for a thousand branches is now to be divided among nine hundred. But we are not disposed to enter into these minute points of physiological science. It is enough for practical men to know that the cutting away of a few branches has never been known to work any serious injury; while the ease with which the wound heals over is in striking contrast with the long time it takes a winter wound to get a new coat of bark on it. We have seen in a vigorous healthy tree a stout branch of two inches in diameter taken off, in which the new bark nearly covered the stump in two years. In winter the same spot would have been several years in closing over, and perhaps the parts would decay first, and thus lay the foundation of future disease in the tree. So well is this known that in many places where winter pruning is practiced to any great extent, it is not unusual to have shellac, or some other composition ready to paint over the wounds, to keep out the weather until it shall have closed over by the new bark.

Of course a heavy loss of foliage would be a serious loss to a tree; but it is very rare that any tree has been so much neglected as to need the half or even the fourth of its branches taken off in summer time. But there are in many cases branches here and there along the trunks of trees which is an advantage to the tree to lose; and thinning which may be done in various ways to advantage, and in such cases summer pruning will tell a good tale.—*Germantown Telegraph.*

### TREES AND HEALTH.

Trees are the great oxygen producers, thus furnishing to the air what man most requires, at the same time extracting from it carbonic acid gas, which is poisonous to animal life, though life giving to them. By furnishing the cool, refreshing shade to screen us from our Canadian scorching June, July and August suns, they not only render our own and the lives of animals more enjoyable, but actually serve to prolong. No cow, horse or sheep should be subjected to the severe experience of being placed in a pasture or driven along our roads during the summer days without the refreshing shade of overhanging trees is furnished them. It is found that the sheep produces more and a better quality of mutton and wool when in pastures thus sheltered than otherwise; that the cow yields more milk and of richer quality; the ox takes on fat with less food, and that horses are in every respect benefitted, as well as their drivers, by a liberal supply of shade; and it is indisputable that the shade produced by trees is far preferrable in summer for cattle to that of the shed.

### THE GRUB.

Considerable alarm, says the *Expositor*, is occasioned among the farming community in the County of Huron by the ravages of a grub which has attacked the spring crops. The grub is about an inch long, and of a green color. It attacks the roots and stems of the young plants, cutting them off and eating great patches, and sometimes whole fields, entirely bare of vegetation. In McKillop, fields have been so badly ravaged by this destructive worm that they will have to be plowed up. In Tuckersmith, Stanley and other townships of the County the pest is also at work, but not, we believe, with such disastrous results, so far, as in McKillop. Many farmers are sowing salt as a remedy, and we are informed in many cases with satisfactory results. In some quarters this grub has made its appearance in former years, but never in such large numbers and with such destructive results as at present.

### FLOWERS AS DISINFECTANTS.

The Boston *Cultivator* says:—Lovers of the beautiful as manifested in the flowers, instead of being unhealthy in rooms, are, on the contrary, disinfectants in disease. Prof. Mantegazza has discovered that ozone is developed by certain odorous flowers. A writer in our own clever contemporary, *Nature*, states that most of the strong-smelling vegetable essences such as mint, clover, lavender, lemon and therry-laurel, develop a very large quantity of ozone when in contact with atmospheric oxygen in light. Flowers destitute of perfume do not develop it, and generally the amount of ozone seems to be in proportion to the strength of the perfume emanated. Prof. Mantegazza recommends that in marshy districts, and infested with noxious exhalations, strong-smelling flowers should be planted around the house, in order that the ozone emitted from them may exert its powerful oxydizing influence. So pleasant a plan for making a malarious district salubrious only requires to be known to be put into practice.

### THE FLAX CROP.

We are pleased to learn that the flax crop for 1873 bids fair to be exceedingly good. Our worthy townsman, Mr. Honeyman, has a large area of grouud under flax this year, and he called upon us the other day with a fine sample measuring upwards of 13 inches. Our friend expects a large yield, and we have no reason to think otherwise than that the fruition of his most sanguine hopes will be fully realized.

Since the above was in type Mr. John Smith, of West Zora, dropped in with a handful of flax measuring 2ft. 5in. from tip to tip, and says he took it from a field of 26 acres. John is not a great hand at bragging; he only boasts that it is the best in the county, and we believe it is.—*Woodstock Review.*

### FRUIT IN MICHIGAN.

A writer in the *Prairie Farmer* says that, with the exception of the peach belt along the shore of Lake Michigan, peaches are generally killed through the State, and it is feared that many of the trees are also destroyed, the thermometer having sunk the past winter to 38° and 40° below zero. Apples, however, promise a full crop; grapevines are badly cut down; pear and plum trees much injured.

The currant worm, which has been so destructive of late years in skeletonizing the bushes, can be certainly destroyed by using whale-oil soap water, say about one pound of soap to an ordinary bucket of water. The worm will succumb to this if to nothing else.—So will any other worm or bug that we have tried it upon. A single drop on any of them will settle the hash with them. Apply the water with a sponge or garden syringe. The latter mode is the best where there is much to be done. Whale-oil soap can be purchased at any of the agricultural stores, or at the best grocery establishments.—*Homestead.*

## POULTRY YARD

### FRENCH FOWLS—HOUDANS.

Perhaps in no country is poultry breeding made so much of a business as in France. The best English authorities that we have met with estimate the French poultry product at ten times that of Great Britain. This need not be a matter of surprise when it is remembered that the flesh of chickens is to the French what beef is to the English. Some fanciful philosophers would account for the well-known pugnacity of the French by attributing it to feeding so exclusively on capons.—Be this as it may, the official figures foot up the egg crop at something enormous.

The "Universal Dictionary" for 1866 (the latest figures that we have) says: France annually produces 7,000 millions of eggs, and estimates the whole poultry wealth at 909 millions of francs.

With such a poultry record, France may well set up for an authority in the Poultry Yard. As far as we can learn the favorite breed of France is bred near Houdan, and thence gets its name, though there are several others very highly esteemed. Houdans are especially esteemed for the table. They are of large size, with fully developed breast, short legs, and but little offal. The plumage is invariably white and black spangled, with heavy crest of same colour; the comb is triple, the outer sides opening like two leaves of a book; the inner having the appearance of an ill-shaped strawberry. The legs are strong and short, and of pale lead color, with five claws—two hind ones, one above the other. Strongly developed whiskers and beards both in cocks and hens. We have found them most excellent layers, and apparently quite hardy; they rarely ever set, however. For close quarters we should not hesitate to recommend them very highly.—*Farm Journal.*

### LINSEED OIL.

A patent has been taken out by a party in England for treating linseed and other seed and vegetable oils so as to give to them the advantage derived from boiling without having recourse to that process, and to retain other properties unimpaired which boiling destroys.

## STOCK & DAIRY

### TO ASCERTAIN THE WEIGHT OF LIVE CATTLE.

First, see that the animal stands square, then with a string take his circumference just behind the shoulder-blade, and measure the feet and inches—this is the girth. Then measure from the bone of the tail which plumbs the line with the hinder part of the buttock, and direct the string along the back to the fore part of the shoulder-blade, and this will be the length. Then work the figures thus: Suppose girth of bullock 6 feet 4 inches, length 6 feet 3 inches, which multiplied together make 23 square superficial feet, and these multiplied by 23—the number of pounds allowed for each superficial foot of cattle measuring less than seven and more than five feet in girth—make 759 lbs. When the animal measures less than nine, and more than seven feet in girth, 31 is the number of pounds to be estimated for each superficial foot. And suppose a small animal to measure 2 feet in girth and 2 feet in length, these multiplied together make 4 feet, which, multiplied by 11—the number of pounds allowed for each square foot when the cattle measure less than three feet in girth—make 44 lbs.

Again, suppose a calf or sheep, &c., to measure 4 feet 6 inches in girth, and 3 feet 8 inches in length, that multiplied together makes 16 square feet, and these multiplied by 16—the number of pounds allowed for cattle measuring less than 5, and more than 3 feet in girth—make 356 pounds. The dimensions in girth and length of the back of cattle, sheep, calves and hogs, taken this way, are as exact as is at all necessary for common computation or valuation of stock, and will answer to the four quarters of the animal, sinking the offal. A deduction must be made for animal's half fat, of one pound in twenty from those that are fat; and for a cow that has had calves, one pound must be allowed in addition to the one for not being fat, upon every twenty.—*Pedder's Land Measurer.*

### PLEURO-PNEUMONIA IN NEW JERSEY.

Early last summer there were unmistakable symptoms of pleuro-pneumonia among the cows in some of the large dairies in Essex and Union counties, New Jersey. Since then this disease has spread rapidly, and the loss to farmers in those counties is heavier than it was 12 years ago, when the same disease created so much excitement among cattle growers in the State.—Now, the facts have been kept secret and instead of the farmers trying, as they did formerly, to cure the disease by medical treatment, another plan has been adopted. Just as soon as the disease shows itself, and before the cows lose much flesh, the diseased animals are sold to the butcher for about half price. A cow that is worth to the butcher, if in good health, $30 to $70, will bring $25 to $30.

Some idea of the spread of this disease may be gathered from the fact that during the last eight months, taking a circuit of six miles around Newark, there have been more than 500 diseased cows slaughtered in Newark, this diseased meat being sold to her citizens, while the milk from the animals affected has been consumed by the people of both Newark and Elizabeth, daily since last May. The disease exists in the suburbs of East Newark, East Orange, Bloomfield, Waverly, and other milk-raising districts. One milkman has sold 56 diseased cows and lost four by death. Another has lost 12 by death and sold 12 diseased animals. The disease is spreading rapidly in the vicinity of Elizabeth. More than a dozen farmers within two or three miles of the city have their cattle infected by it.

At a meeting of the Executive Committee of the State Agricultural Society of New Jersey, held at Elizabeth on Friday afternoon, the following resolution was unanimously passed:

Whereas, this Society has been appealed to to aid in stopping the introduction and sale of diseased cattle from other States; be it—

*Resolved*, That the Legislature of this State, now in session, be memorialized to appoint a committee with full power, to examine into the nature and progress of this disease known as pleuro-pneumonia, most fatal, and other diseases of cattle prevailing among the cattle of this State, and that they be authorized to prosecute all offending parties who may be implicated in such introduction and sale.—*N. Y. Tribune.*

Long Wool.—Mr. Hugh Love, sen., of Hay, has sent us a specimen of beautiful fine wool, measuring nearly seventeen inches in length. This wool was cut from a Cotswold ewe lamb, ten and a half months old. Mr. Love informs us that the lamb will clip at least fourteen pounds of clean washed wool of equal quality and length with the specimen referred to. He also states that he has a number of other sheep which will shear almost if not quite as much. Mr. Love has gone to much expense and trouble to improve his stock of sheep, and the above facts show that he has not labored in vain.—*Expositor.*

### THE SHEEP GAD-FLY.

Having attended to the sheep gad-fly, a few observations relative to its habits are deemed pertinent, derived from personal observation. It makes its appearance in our latitude in July, but is not numerous and annoying in August. Its presence is certain when a few sheep are seen in groups, in the middle of the day, holding their noses close to the ground, which is an instinctive defence against attacks of the fly, which, however, in an unguarded moment, deposits its eggs on the margin of the nostrils. These are soon hatched, and the larvæ immediately find their way up to the interior of the nose, till they arrive at the frontal sinus—a cavity situated between the layers of the frontal bone, and which is of considerable size in the sheep, and here they subsist on the mucus secreted. If the number exceeds the supply of mucus they crawl to the brain, when death to the sheep is certain to follow.

Having lost sheep from this cause, in one instance I opened the skull and found five or six grubs or worms attached to the brain which were half an inch in length and nearly the size of the stem of a clay pipe. The animal for a week before its death exhibited great distress, refusing to eat and constantly holding its head to the ground, which is an invariable symptom.

Blacklock, a distinguished veterinary surgeon, says tobacco smoke is the only available remedy, and a very good one, being easily brought in contact with the worms, and when properly administered, certain in its effects. One person scoures the sheep, holding the head in a convenient position, while another, having half filled a pipe with tobacco, and kindled it in the usual way, places one or two folds of a silk handkerchief over the opening of the bowl, then passes the tube a good way up the nostril, applies his mouth to the bowl, and blows vigorously through the handkerchief. When this has continued for a few seconds the pipe is withdrawn, and the operation is repeated on the other nostril. As nothing is more abhorrent to insects of every kind than the odor of tar the prevention I have recommended of smearing the nostrils of sheep with it at intervals during the flight of the fly will prove an effective safeguard against its attacks. Thousands of sheep die annually from this cause. Let the prevention and remedy suggested be applied.

### GOOD POINTS FOR A COW.

The subjoined stanzas have been long and popularly known to old country stock men as pointing out in a form easily remembered the good points for a cow:—

She's long in her face, she's fine in her horn,
She'll quickly get fat without cake or corn;
She's clean in her jaws, and full in her chine,
She's heavy in flank, and wide in her loin.

She's broad in her ribs, and long in her rump,
She's straight in her back, and without a hump;
She's wide in her hips, and calm in her eyes,
She's fine in her shoulders, and thin in her thighs.

She's light in her neck, and small in her tail,
She's wide in her breast, and will fill the milk-pail;
She's fine in her bone, and silky of skin,
She's a dairy without—a meat market within.

### THE OLD TYPE OF HOG.

A paper was recently read before the St. Louis Farmers' Club, by Prof. Tracy, who thus described the hog of the old type:—

You who have lived through half the allotted age of man remember well that old type of the Western hog. He looked like a bad cross between an alligator and a fence rail; a miserable, lean, lank, bony, lantern-jawed, long-faced, long-tailed, long-legged, long-haired, ugly and vicious brute, sufficiently dirty, hideous and repulsive, and but one remove above the wild boar of the old European forests. Such was the unimproved, unadulterated American hog of thirty years ago. How they ran wild through the woods and hazel thickets, their ugh! ugh! sounding like the guttural exclamation of a wild savage. You ask if they are good feeders? Excellent. A large herd of them would breed a corn famine in a whole county. But fatten! You might as well talk of fattening a child's doll by stuffing it with bran. They were so wild and restless that they could not assimilate food; and mischievous! they would root under or crawl through a fence that would turn large snakes, and do anything but climb a tree to commit depredations.

### ORIGIN OF THE DUCHESS SHORT-HORNS.

T. R. Jameson, in a recent address at the University of Aberdeen, Scotland, thus describes the origin of this famous strain of cattle :—

Thomas Bates seems to have selected his Duchess tribe on account of their combining great milking powers with an aptitude to fatten readily. I believe Bates is generally considered to have been a trustworthy man in his statements, and correct in his facts, although many thought he had an overweening opinion of his own stock. He tells us that his first Duchess cow, which he bought from Chas. Colling, gave seven gallons of milk per day, namely, fourteen quarts each milking, the practice being to milk only twice a day, morning and night, and the milk yielded eighteen imperial pounds of butter in a week. He never had a cow that to his knowledge gave more than this. This same cow was the dam of the bull Ketton, a very fine animal and an excellent sire.

As the Duchess tribe has become so famous and sells at such enormous prices, I may here give a few particulars regarding it. The first of the family we hear anything of was bought by Chas. Colling from the Duke of Northumberland's agent at Stanwick, in 1784, for the modest sum of thirteen pounds sterling. She was a massive, short-legged cow, of a yellowish red color, with the breast near the ground. She had a white back, and was a great grower.—Colling called her Duchess and had often described her to Bates as a very superior animal, particularly in her handling ; and told him that he considered her the best cow he had ever seen, but that he could not breed such a good one from her. She was descended from the old stock of Sir Hugh Smithson, of Stanwick.—Thomas Bates bought from Colling one of the descendants of his cow in 1804, for 100 guineas, being the same I have mentioned as being such a fine dairy animal, and he bought another at Colling's sale in 1810. For the latter he paid 183 guineas, and styled her Duchess 1st : and from her all the present family descended.—Bates tells us that he was induced to select this tribe from having found that they were great growers, quick feeders, with fine qualities of meat, consuming little feed in proportion to the progress they made, and also from finding that they were equally remarkable as great milkers. Bates asserts that the tribe improved under his care in regard both to growth, aptitude to fatten and small consumption of food ; but admitted they gave less milk than the first cow of the tribe which he bought from Colling in 1804, although what they did give was richer in butter. I have seen no statement of the actual produce in milk from any of them, except the first one in 1834, and am unable to state to what extent the present Duchesses excel as dairy cows.

We may readily allow that Bates improved the breed in regard to form and aptitude to fatten, for several of those he produced, especially after the cross between Belvedere, were remarkably fine animals ; and at the first show of the Royal Agricultural Society of England, which took place at Oxford in 1839, he carried off all the prizes in the Short-Horn class, except one, for which he had not an animal present. Bates' herd was sold off in 1850, shortly after his death, and the animals were dispersed, and fell into various hands. Some of the best of the Duchess tribe were bought by Lord Ducie ; and when that nobleman's herd came to the hammer in 1852, the Americans carried off several of the choicest, at great prices. At the present time, I believe, Col. Gunter's herd contains the purest representatives in England, and his Duchess 77th well maintained the fame of the breed by beating all others at Leeds and elsewhere, carrying off no less than nineteen prizes and seven challenge cups ; but the Col., having experienced some of the evils resulting from the state of fatness in which it is necessary to bring out the animals at these shows, I believe wisely declined to exhibit.

### PROFITS OF PIG-RAISING.

If I could have but three animals on my farm, I would have one cow and two hogs ; and I would feed the cow very liberally, that she might feed the hogs well.

I am very confident that if brother Smith understood the selection and management of swine as well as he does cows and oxen, and he would keep a proper number of the right sort, that he would make much more money than he does without them. When I was a hog breeder, my swine bore away the highest prizes wherever I exhibited them in competition with all that came far and near. For twelve years I was an exhibitor of swine in several States, and sold all that I reared for breed, selling them usually at from six weeks to six months. I rarely sold a pig for less than $50. When I discontinued swine breeding, some twenty years since, I sold a sow which was six years old, for $100 ; and the prizes she and her pigs received, and the amount realized from the sale of her pigs, was $1380, making, with the amount for which the sow sold, $1480, and this was done in five years, except the cost of keeping the sow for one year when she had her first litter.

Mr. Smith says that he feeds the refuse of the kitchen, skim milk, whey, etc., to his calves. Now I contend that this material fed to swine of the right age, of the right breed, and only a proper number of them, and each kept in a separate pen, will, under my hoggish treatment, make more than twice the money that any one can make by feeding it to cattle of any age.

In attempting this, I should certainly not practice the ridiculous nonsense that has been published and republished perhaps ten or a hundred times a year, for at least thirty years past, of using hogs to walk over manure piles with grain distributed through it. But the most profitable way to keep swine, is to put each in a separate pen, feed them so liberally that they will only leave their bed to come to meals ; give a clean, dry bed at all seasons, bedding in cold weather but none in hot, when they should have access at will to a bath of clean water. The bath tub should be a strong plank box, eight inches in depth, set half its depth below the floor of the pen. It should be supplied with a plug near one corner, by removing which the water may be drawn off. Charcoal, with a slight sprinkling of sulphur over it, should be kept under roof where it will be accessible at all times, and in another box salt should be kept, and none should be put in the food. All the food should be cooked. The swine should have a good scrubbing with carbolic soapsuds, using a brush, at least once a week in warm weather.

No labor or expenditure of money on the farm will give a better return than a proper number of the right breed of hogs thus kept. —*J. Wilkinson, in Germantown Telegraph.*

### KEEP SHEEP.

Farmers should all keep sheep, so should all horticulturists and market gardeners, for the following reasons :—

There are no droppings from any animal, size considered, that will enrich as much as sheep and do it as well. There is no animal that will eat as great a variety of food, let it come as grain, herbage, roots or fruit. Most kinds of weeds are palatable ; nearly all kinds of briers, cockle burrs and most other burrs cannot flourish, or grow even, in a sheep pasture. On the farms they may be turned into a weedy corn field at the proper stage of the corn, and they will destroy a great amount of weeds, very little to the injury of the corn. In a small grain field they are better gleaners than hogs. Meadows will grow good grass longer by being pastured with sheep after mowing. Pastures for horses and cattle will grow up to different kinds of weeds and become almost worthless where sheep are not kept. In orchards they are useful and dangerous ; useful in eating all fruit as it drops and destroying great amounts of troublesome insects, dangerous, for harmless as they are said to be, they will bite—the bark of fruit trees if they remain too long at a time.

But, joking aside, sheep of some kind should be handled on all farms. On poor, worn-out farms, if one had as many as he could pasture, and buy some winter feed, the farm would be largely the gainer and the owner no loser. There is very little inducement in ploughing and working a poor, hilly farm ; and on that kind of farms sheep of any kind will do better than on level, rich lands.

On rich lands there will be much that is wasted every year that sheep will do well on, and, if for nothing more, they serve to keep the pastures and fence corners clean.

Market gardeners can keep sheep to first rate advantage on the refuse and waste of their vegetables. The manure of sheep put in casks, watered, and sprinkled on plants will give them an astonishing growth. Sheep well cared for will always pay, though one may not handle so much money, for there is not much outlay in feeding sheep and harvesting wool, so that what you sell is nearly clear profit. Sheep, after six months old, cannot die in debt to their owner, for the wool or pelt will pay all expenses, no matter how soon they die.

The kind of sheep one should keep I will not say ; for the reason that one locality is better for one breed of sheep than another. One man is better fitted for handling one kind than he would be for others. The best plan, where one wants to begin with sheep, is to ask some experienced sheep man who is acquainted with his farm, what he shall keep. If he knows no such, write to some sheep farmer, describing his farm and location.—Wool-growers are very willing, generally, to answer all enquiries.

In conclusion I may state that it was demonstrated in England forty years ago that an area of land capable of maintaining 1,000 sheep one year, would, by being thus appropriated, maintain 1,365 sheep the next year. The same is true in other stock, though in a small degree.—*V. P. R. in Western Rural.*

## UNCLE TOM'S COLUMN.

My Dear Children :

Holidays are coming, and that is good news this hot weather. Long ago when I was a boy, I can remember how I looked forward to the holidays with as bright hopes as any of you, and I enjoyed them too. Think of fishing along a nice shady stream, or picking berries in a nice sheltered patch ; and then in the afternoon, when it was getting cool, off for a game of cricket or base ball. I tell you what it is, I could find just as much fun in it now as when I was a youngster. I like to see the old folks take an interest in the children's fun ; when they don't I always think of the cross old man who said to a little boy : "Get out of my way—what are you good for?" The little fellow, as he stepped to one side, replied very gently : "They make men out of such things as we are."

I have a pretty smart family, and sometimes like to tell about the sharp things they say.—One of my four year old nephews has a mother who is not any too liberal about giving him cakes and other good things. Well, he was teasing his mother to tell him a story, "something funny," he said. "How can I?" she asked, "don't you see how busy I am baking these pies?" "Well, you might say, 'Willie, won't you have a pie?'—that would be *funny* for *you*."

The other day one of my little nieces, who had cut her finger, ran in to her mother crying. "Tie it up, ma ; tie it up quick, for the *juice* is all running out." This reminds me of the little boy who was sweating one of those late hot days. He appealed to his mother for help, saying : "Ma, do fix me up, for I'm leaking all over."

I have not heard from any of you about your garden. This is the kind of weather to make everything grow, and I hope you all take pleasure in looking after the flowers and vegetables. Let me hear what success you are having with them. Uncle Tom.

### BABY'S ADVICE.

Don't oo never, when oor mammy's dawn to wash oo, yun off as fas' as oo know how an' hide away in 'e yunnions, coz, if oo do, oo'l ky awful. All 'e yunnions is full of kies, an' 'e more oo pulls 'em up, 'e worse 'ey kies, an' 'e yunnions keeps a-kyin' up into oor eyes like ev'ry sing—an' 'e more oo skeeze 'e yunnions for bein' bad, an' wipe oor poor itty eysies, 'e more 'ey all det a-kyin togesser.

### NEW PUZZLES.

92.—What word of three syllables contains the whole twenty-six letters in the English language?
L. Heacock.

93.—A riddle, a riddle, as I suppose,
a hundred eyes and never a nose.
Ezra Eby.

94.—Why are crows the most sensible of birds? John Hummett.

95.—What two towns in France does a small boy with his father's coat on represent?
Maggie Ingram.

96.—What is the most dissipated city in the world? Mary Davidson.

97.—If a Jew owed you money and came to pay it, which two of Shakespeare's characters would he maintain in doing so?
Annie Hogen.

98.—If you bit the end off a man's nose, what would the judge oblige you to do?

99.—Why does not a cock robin like to be called a pheasant? Alfred J. Wright.

100.—GEOGRAPHICAL PUZZLE.

Where is the E. L. O. C., and why is it so called? F. K. Chittenden.

101.—Write a sentence of forgiveness in five letters. Iola Miller.

102.—Look through the Alphabet and try
If you the letter can descry,
Which added to those placed below,
A small poetic verse will show.

H n l d t w e r s t h u g h m y n l
T h n l v e s t t h t, t h u l v e s t t h n l.
R n l d a k s y n r h l l w t n e
S l s t s s l e m n, s u n d s a l n e
S m u r n f u l n n e l v e s t g
R f y u r h t i n g h n l t k n w.
Maggie M. Potter.

### ANSWERS.

Answers have been sent in by Melissa Ostrom, Moira ; James Hughson, Dawn Mills Elston Lawson, Battersea ; Lizzie Elkington, Paris ; Iola Miller, Markham ; Hattie Haviland, Ingersoll. Several of my nieces and nephews ask for another of those Geographical Puzzles like No 91. Certainly, we will have another next month. I like them very much, as they are *useful* as well as amusing.

New Puzzles have come in from Alpheus R. Pike, Markham ; James Hughson, Dawn Mills ; F. K. Chittenden, Cainsville ; Lizzie Elkington, Paris ; Iola Miller, Markham ; Thomas Freathy, Robroy ; Melissa Ostrom, Moira ; Hattie Haviland, Ingersoll. Thank you very much, Hattie, for this fine lot of puzzles. My thanks are, in fact, due to all of you. Iola says she has already *fell* in love with me. Now, I want you all to understand that any love between us must be *grammatical*. Iola sends a nice lot of puzzles.

### ANSWERS TO JUNE PUZZLES.

84.—14 apples. 85.—Uncle Tom. 86.—Minnie May.

87.—She first filled the 5 qt, measure, and from it filled the 3 qt. measure ; then emptied the 3 qt. measure, and put into it the two qts. that remained in the 5 qt. measure. She then filled the 5 qt. measure again, and, after filling up the 3 qt. measure, she had exactly 4 qts. left in the 5 qt. measure.

88.—Inch, chin. 89.—13 days, 8 hours (it is a kiss for every four minutes ; that is the catch.)

90.—He has been to see (sea.)

91.—ANSWER TO GEOGRAPHICAL PUZZLE.

During the month of March, dressed in a full suit of Nankin, which was lined with Cashmere, and wearing shoes made of Morocco, having Cork soles, trimmed with large brass Buckles, and attended by a Negro, I said Farewell to my friends Charles and Henry, and started to form an Alliance with a girl who had refused an offer of marriage with a rude fellow who, being angry with his father, had threatened to Bag-dad. When I arrived, her mamma being filled with Wrath, was Schwerin at two noisy Guinea hens. When I met her I called her Ma-deria and gave her an Orange. Then she set before us a Turkey, which was

very full of Greece, and then retired to milk the Cowes. When I spoke to her about being her Man, she said I was Scilly, which was not Flattery, so I told her to go to Halifax, and put on my Panama, and went home, feeling worse than I had ever felt before since the day I was Borgne.

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There were imported into Colorado in the last year eighty-seven pedigree Short Horn, Jersey, Hereford, Devon and Galloway bulls ; twenty-one stallions, and four hundred and fifty-six Merino, Southdown and Leicester bucks.

At a recent sale of Leicester sheep from the flocks of Lord Polwarth, an English breeder, one ram brought $850, with one exception the highest price ever paid for a Leicester sheep. The average of the sale was $185.

# Miscellaneous.

TELEGRAPH PUMPS.

The editor of the *Practical Farmer* thus describes the Telegraph Pumps, which he says are very common in parts of Pennsylvania:

Wherever there is a stream of water, or strong spring gushing out of a hill, sufficient to turn a small wheel, there is the material for a telegraph pump. This is nothing more than a heavy wire set on poles about ten feet high (like telegraph poles, whence its name), which wire is operated by the small wheel and connected at the other end with the piston-rod of an ordinary lift-pump, over a well. It works slow, but goes night and day, and there is nothing to get out of order. It saves hard labor in doing all the pumping for the house, the overplus going to the barn, if needed to water stock. These telegraph rods operate and are used 50 to 250 or 300 yards between the wheel and the well. We have known them to be as long as the eighth of a mile or even one-fourth of a mile. Who first thought of them, or where they came from, we do not know—but they save labor, and their application to pumping uses was a happy thought.

VALUE OF OUR FISHERIES.

The report lately issued contains the following:—

"The total value of produce of the Canadian fisheries in 1870 was $6,577,392; in 1871, $9,455,243; 1872, $9,570,117. In 1872 Nova Scotia yielded $6,016,835; Quebec, $1-320,189; New Brunswick, $1,965,459; Ontario, $267,633. About one thousand decked vessels, and seventeen thousand open boats are now engaged in fishing within these provinces, employing some forty-two thousand men. The estimated number of persons supported almost entirely by this industry in the various fishing communities exceeds 200-000 souls."

A PLEA FOR TEMPERANCE—TOBACCO POISONING.

The trembling which is one of the usual symptoms of the acute, is also a common result of chronic nicotism. A very distinguished Parisian had hands which shook so much that he could not write. When he remained without tobacco for any length of time the tremblings disappeared.

Another case mentioned by Blanton is noteworthy. A man of forty-five years consulted him respecting violent and numerous attacks of vertigo. When he felt them approaching he was obliged to lie down, wherever he might be, in order to avoid falling. In the country, where he had plenty of exercise, they were less frequent than in the town where his occupation was sedentary.—Cessation from tobacco and a tonic regimen, quickly restored him.

A physician of fifty-two was afflicted with similar disagreeable symptoms, and was also cured by abstinence. Habit had become so strong that he could not resist the temptation to slight indulgence. Finding that these returns to tobacco were immediately followed by his old painful attacks, he renounced it forever.—*Jefferson Farmer.*

THE FARMERS OF THE WEST OPPOSED TO AGRICULTURAL COLLEGES.

The Agricultural Congress, at its meeting at Indianapolis, put its seal of condemnation on the college land grant scheme. The subject was introduced by a representative of the College interest, Professor Reid, of the Missouri Agricultural College, so called, and failed to receive favorable consideration in any other quarter. In fact, it soon became painfully evident to the mover that it would have been far better never to have introduced it.—*Prairie Farmer.*

A new horse disease has appeared at Portland, Me. It affects the legs, making them so weak that it is difficult for the animal to stand. There have been no fatal cases.



## Farmers' Markets.

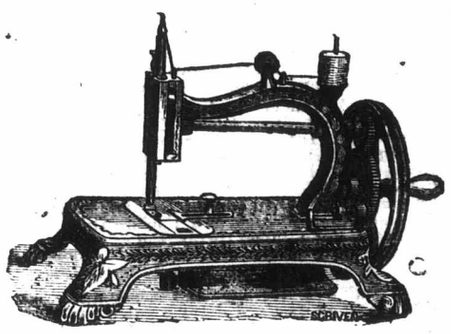
English markets remain unchanged. Montreal, quiet, but steady, with a moderate business. At New York flour was dull and heavy, and wheat without any decided change. Milwaukee closed 1c. lower.

LONDON MARKETS.

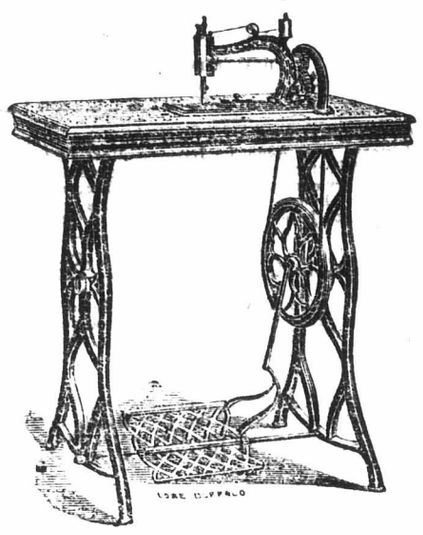
Wheat—White, $1.10 to $1.32; Red winter, $1 to $1.12½; Spring, $1.15 to $1.18.
Barley—45c. to 60c.
Peas—55c. to 63c.
Oats—37c. to 39c.
Corn—55c. to 65c.
Buckwheat—55c.
Butter—keg, 13c. to 14c.; Roll, 15c. to 16c.
Cheese—9c. to 11c.
Lard—8c. to 9c.
Eggs—per doz., 12½c. to 14c.
Wool—36c. to 37c.
Flour in Chicago—Minnesota extra, $6.50.

The FARMERS' ADVOCATE, edited in London Ont., D. C. Terms, 1 per annum, if in advance; $1.25, if in arrears; postage prepaid. Advertisements 10c. per line, agate space. Communications and advertisements should be in the office by the 15th of the month to ensure insertion in the following number Postage and all other expenses charged on collection of accounts, if in arrears.

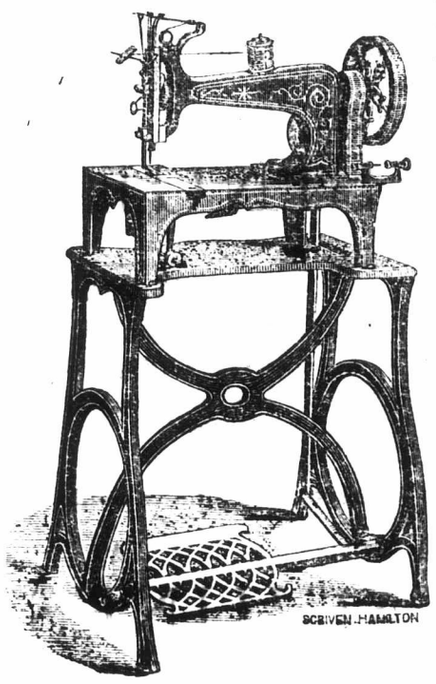
# The Lockman Patent



**Hand Machine. Price $25.**



**No. 1. Plain Top. Price $32.**



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HAMILTON ONT. 8-tf

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JAS. M. WILSON. | JNO. HASKETT. 3-tf

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ONE HORSE PLOUGHS, TURNIP CUTTERS,
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*Local Agents Wanted.*
Toronto, April 25, 1872. 5-tf

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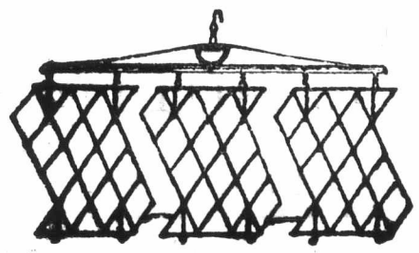

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THIS Harrow is superior to all others, because it is the most complete. It covers 14 feet of land. It leaves the ground finer, works freer, and adapts itself to uneven land. It does not bend, and choke less than any other Harrow. It is so constructed as to draw either end. The teeth being so set as to tear the ground up to a good depth, or to pass slightly over the surface, as the teeth are beveled on one side. It can be worked with a span or three horses, or it may be unjointed and worked with one or two horses, in one, two or three sections.

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Price of Harrow complete, with three sections, treble-tree, and two coupling-trees, $35. Price of two sections and one coupling tree, $22.

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WHAT IS CLAIMED FOR IT:

1st.—It is the best ever offered to the public for the following reasons, viz: It will do its work quicker, easier, and better than any other machine, cleansing effectually and perfectly, no hand rubbing being necessary, and without the slightest injury to any article submitted to its operation, neither breaking nor misplacing buttons or other fastenings.

2nd.—Its range or scope of action is greater, acting singly upon a lace or linen collar, and accommodates itself to the heaviest article of bedding without change or adjustment of the machine.

3rd.—It is durable, not likely to get out of order, and when so, easily repaired, being constructed in such a manner that any of its parts can be supplied by the manufacturer without the presence of the machine, and adjusted to its place by any person, which is evident at first sight of the machine.

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AT THE
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| No. 1 Bell, | 15 | inches | diameter—yoke & crank... | | $ 8 |
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This Rake is the result of steady and repeated experiments. They are manufactured from good material and are well finished, being nicely painted, striped and varnished.

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