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Vol. II. No. 1.

Toronto, January 1st, 1883.

\$1 per annum, in advance.

RURAL NOTES.

THE work of a farm should go on regularly from year to year, so that even in midwinter the farmer may make arrangements for the whole season. It pays to think ahead of the time for action.

To winter well, pigs should have a warm, clean bed, and as much wholesome food as they will eat. Store pigs need only enough food to keep them comfortable; they will thrive all the better when the time comes to shut them up for feeding.

A writer in the *Chicago Breeder's Gazette* does not take much stock in oil-cake as food for farm animals. The hydraulic presses in use at the mills, he says, do not leave much in the cake—not more than six or eight per cent. of fat-producing food. Corn, he claims, is richer in all the elements required in good, substantial food, and especially richer in phosphates, which go to make bone. Besides, corn is much cheaper than oil-cake.

AN authority on bee-culture says that in winters remarkable for bee mortality the air has been very moist. The reason given is, that honey is almost purely a hydro-carbon, and needing but little digestion it is readily assimilated and passes off as water and carbonic acid. The excretion being thus by respiration, the air must be dry that it may go on freely. If this is true it explains why the dry earth ventilation has been so successful. We would like to have the opinion of bee-keepers on so important a subject, and especially on the relation of dropsy or dysentery in bees to moist winter weather.

It is hard to find a farm without some blot on it—usually a bit of swamp or of springy ground. These blots are not hard to remove, and once the work is done the value of the farm is increased by a much larger sum than the improvement costs. The trouble with most farmers is that they are not satisfied to clear off the blots by degrees, they want to do the whole of it at once, and the consequence is that they cannot spare the time from other work, or that trying to do too much it is only half done. Better to finish the work piece by piece, as you have the time for it, and once well removed the blot is rid of for all time.

THE farmer who has only a small wood lot cannot be too careful of it. It is not good economy to clear away all the underbrush, or to cut down trees without any regard to their shape, size or vitality. The choicest of the young trees should not be touched, except to trim them neatly, they will take the place of the older trees by-and-by, and by a proper selection the wood lot may not only continue to give an indefinite supply, but even to increase in value. There are already many sections of Ontario in which the farmers are obliged to exercise a saving habit, in spite of the fact that ours is called a "wooden" country.

BEEF is cheaper now than it was a few months ago. There are two reasons for this. One is, that there has been a falling off in the shipments of fat cattle to England, the other is, that roots and coarse grains are abundant, and consequently every animal that

could be picked up has been stalled. But owing to the heavy drain of the last three or four years there is in Ontario a scarcity of first class animals, and while prices may be lower in Spring than now the lovers of juicy roasts and steaks must not be too sanguine of getting cuts exactly to their taste. The breed as well as the feeding has much to do in the producing of a fine quality of beef.

IN the setting out of young orchards the first thing to be considered is the hardiness of the trees. Many orchards in Ontario are decimated winter after winter because care was not taken to select varieties suited to our climate. In this matter the experience of one's neighbours is always valuable. What matters it that a certain apple is "choice" if the tree cannot endure the frosts of winter. First make choice of trees that you know are suited to the locality, and afterwards consider other qualities. Among these color is not the least important, for with, perhaps, the exception of the Rhode Island Greenings and the Newtown Pippin, red apples are always more saleable than green ones.

IF you are a corpulent body, as some bodies are, the following rules will, if followed, make you reasonably lean again.—On rising early take a cold bath and rub the body with hair gloves and exercise for half an hour. Breakfast upon lean meat, oat-meal, and tea, without sugar and milk, but with a little lemon juice in it. Dine upon plain meat free from fat, with beans, spinach, cabbage, and sourkroot, but no potatoes, sweets, pastry, or butter. Baked apples, and lemonade not sweetened may be added, and water for drink. For supper, tea, with lemon, oat-cake, and skim milk cheese. Between meals exercise must be taken until perspiration is produced. The loss of flesh should not be more than a pound a day.

THE towns and cities get their milk supply from the country. But sometimes they get more than milk; they get the proverbial peck of dirt which every man is supposed to eat in his lifetime. On emptying the pitcher which the milkman fills a sediment is often found, enough to turn a man's stomach. Whence comes it? From the udders and bodies of cows. They are milked as they rise in their stall, without any process of brushing or cleaning. If the stalls are not kept clean the milk will be tainted, and if the cows are not brushed before being milked there will be sediment in the pitcher. The farmer who is neat in the dairy will have a quick market, and get the highest prices for his milk and butter.

WINTER is a good season for farmers to recuperate. They work hard in the spring, summer and autumn months, they are out in the fields late and early, improving every shining hour. To work equally hard the year round would be a hard strain on them. They couldn't stand it many years without showing the effects in physical degeneracy. They would break down, just as merchants and business men do who never cease from their labours. But the winter is the farmers' resting time, it is his holiday, and he laughs and grows fat. But while kind to himself let him not forget that his horses deserve an equal care. They need a good accumulation of stored-up

force in the form of flesh if they are to do the heavy spring work as they ought. Don't neglect to keep the horses neat and clean, and to feed them with a generous hand.

UNITED States newspapers will persist in keeping Canada in the background, as far as they are able to do so. The old wheat figures of the 1871 census are every now and then made to do duty, and whenever an estimate is made for current years it is based on the figures of that unfortunate census. There is an article now going the rounds of the papers on the World's Wheat Crop, in which the average crop for the Dominion is given as 13,720,000 bushels, and the estimate for 1882 as 16,464,000 bushels. The statistics published by the Bureau of Industries show that for the Province of Ontario alone the wheat crop of 1882 was more than 40,000,000 bushels, or about 250 per cent. in excess of the estimate so widely published by United States journals. Why don't they publish the real facts? Is it because they are jealous of Ontario?

THE idea of an annual fat stock show, suggested by the Council of the Agriculture and Arts Association, is one that ought to be taken up heartily by the whole country. True, we cannot hope to approach the shows of the Smithfield Club, in England; but we can get up a very creditable one for Ontario, and it will continue to improve year by year as our farmers see what is attainable with good breeds and intelligent feeding. If the show is made an established institution of the Province it will be interesting to watch the competition between the Shorthorns, Herefords and Polls among cattle, between Cotswolds, Southdowns and Shropshires among sheep, and between Berks, Chesters and Poland Chinas among hogs. There is a great deal to be learned as to the merits of the several breeds for meat-producing purposes, as well as to the merits of the best systems of feeding.

THE Council of the Agriculture and Arts Association is not as wise as it might be. We fear, indeed, that it is getting into dotage, and that its usefulness is well nigh gone. The want of tact and sagacity—to speak of no higher qualities—which was shown a few days ago, when the Commissioner of Agriculture asked for advice on the propriety of establishing model creameries, is most remarkable. The matter was referred to a special committee, and the committee after a brief deliberation reported in effect that they had no time to consider it. The Council knew that the Commissioner wished to take action during the present session of the Legislature, if he was satisfied that the scheme was practicable and useful, yet they shelved the subject on the pretence of want of time and information. Why didn't they take time? and why didn't they inform themselves? Another day might have been profitably spent in deliberation, and if this was not sufficient the committee might have been instructed to continue the enquiry and report to the Commissioner before the close of the session. One of the objects for which the Council exists is, that it may give advice to the Government on measures affecting the agricultural interests of the country, and for the neglect or refusal to do so when advice is solicited it fails to justify its existence.

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Publisher.

The Rural Canadian.

TORONTO, JANUARY 1st, 1883.

THE RURAL CANADIAN FOR 1883.

We present our patrons with the RURAL CANADIAN enlarged to twenty-four pages, and otherwise improved. Our arrangements for illustrations are not yet quite completed, so that this issue of the paper is not altogether up to the high standard aimed at, but a large quantity of practical matter is given in a very readable form. We again ask our readers to help in extending the circulation of their monthly. A kind word from one and another will work wonders in this direction. A HAPPY NEW YEAR TO ALL!

The large harvest reaped in Ontario this year has not so far done much to aid the general business of the country. The reason is that, owing to the drop of prices, farmers are not disposed to sell. They are waiting for a rise, and their granaries are full to overflowing. The effect is the same as when money remains locked up in the bank vaults; trade is inactive, and a panicky feeling is created in commercial circles. Is it a wise thing for farmers to hold on for the higher prices they may or may not get? A commercial crisis at the present time would not be a surprising event, looking at the rampant speculation in stocks and at the vast sums of money that are locked up in new railways and wild lands. Wealth is not created by buying and selling stocks; as with betting and gambling, it merely changes hands, and always at the risk of driving the losing party into bankruptcy. The capital invested in new railways and wild lands is usually as unproductive as the wheat stored up in farmers' granaries.

Yet there is a possibility that higher prices may return long before the next harvest ripens. Low prices and the scarcity of other food have induced greater consumption of wheat abroad, and owing to the bad fall weather in western Europe a considerably less average of wheat land has been sown than usual. In Ontario, too, the land was in bad condition at seeding time, and much depends on a favourable winter and spring. The present supplies of wheat in England, though unusually large, are sure to be greatly reduced before March; for Russian ports are all closed by ice, and prices are too low to encourage imports from India in the face of heavy freights by railway and steamship. But then there is a very important element in the calculation—and we are not little surprised to find it—that this year's crop of wheat in the United States has been much more largely exported than the crop of any previous year during the same period. From the 1st of July to the 30th of November the total exports of wheat and flour from that country were eighty-three and a quarter million of bushels, against sixty-two and a half millions of bushels for the same period in 1881.

The figures of United States exports of breadstuffs are valuable for what they suggest as well as for the facts themselves. Reducing barrels of flour and corn meal to their equivalents (at the rate of 4½ bushels for the former and of 4 bushels for the latter) we find the following results for comparative periods of 1881 and 1882:—

EXPORTS FOR FIVE MONTHS, ENDING NOVEMBER 30TH.

| | 1882. | | 1881. | |
|-------------|------------|--------------|------------|--------------|
| | Bushels. | Value. | Bushels. | Value. |
| Wheat | 66,481,639 | \$76,026,022 | 61,569,664 | \$62,406,610 |
| Wheat flour | 15,763,990 | \$1,275,960 | 10,979,500 | \$1,933,242 |
| Indian corn | 2,878,047 | \$2,290,753 | 30,749,059 | \$19,578,939 |
| Commeal | 407,929 | \$11,942 | 636,180 | \$91,457 |

EXPORTS FOR ELEVEN MONTHS, ENDING NOVEMBER 30TH.

| | 1882. | | 1881. | |
|-------------|-------------|---------------|-------------|---------------|
| | Bushels. | Value. | Bushels. | Value. |
| Wheat | 100,345,337 | \$114,441,685 | 107,814,650 | \$123,316,378 |
| Wheat flour | 23,764,265 | \$3,961,737 | 23,402,405 | \$7,187,700 |
| Indian corn | 13,057,940 | \$9,344,633 | 70,263,454 | \$42,326,154 |
| Commeal | 835,009 | \$19,814 | 1,505,848 | \$1,151,250 |

It will be seen that while there has been an increase in the exports of this year's crop of wheat compared with last year's, as shown in the first table, there has been a decrease in the exports of corn. The average

prices also show that while wheat was \$1.24 and corn 64 cents per bushel during the five months of last year they are \$1.17 and 85 cents per bushel respectively, for the corresponding period of this year. One of the obvious inferences is, that while there is an abundance of wheat this year there is a scarcity of corn.

BUT there is a more practical inference from the statistics given, though not so near the surface as the other. In all the quotations it appears that the price per bushel has been increased by converting the grain into flour and meal. Calculating the averages for the two periods in the second table (the prices for twenty-two months) it is found that this increase is 18 cents per bushel on wheat, and 21 cents per bushel on corn. Assuming that these results are correct—and they are ascertained from data published by the United States Bureau of Statistics—they show that milling is a very profitable business. There is a good margin left after paying freight taxes, commissions, interest on capital and the price of labour. In addition, the miller has the "shorts"—a material for which there is always good demand for feeding purposes; and we need not enlarge upon the importance of converting the surplus products of the farm into beef and pork at home. These facts are full of encouragement, and we hope the lesson they teach will be carefully studied by the millers and farmers of Ontario.

A CANADIAN FARMERS' ALLIANCE.

It is an old and time honoured motto that "Union is strength." Its truth is practically exemplified in these modern days. Nations seek alliance with nations for offensive and defensive purposes. Within the borders of each nation, individuals form alliances for the purposes of commerce and industry. What in the olden time was undertaken by one individual is only now touched by joint stock companies. For the aggregation of capital has become the rule, and larger railway, shipping, and manufacturing companies from the division of labour and other advantages can drive from the field of competition, all weaker rivals. Turn where we may we find capital and enterprise uniting together to overcome the forces of nature and assist the onward march of civilization.

And the fact is true not only in the case of the capital entering into every industry, but it holds good in the case of the labour itself. There is not a single trade which has not its union. For the purposes of offence and defense, and for securing to labour its just rights, the trades-unions with all their aspects have been highly beneficial. Now what is true of almost every other industry is not true of agriculture. In our industry neither can the capital be aggregated nor the labour divided. Ours in Canada, is a system of yeoman farmers, each with a comparatively small capital. And whilst we can have co-operation we cannot in the technical sense of the term, secure division of labour. But whilst this is true we can combine to assist our mutual progress. And we have done so. Few countries in the world can show so many live and progressive agricultural societies as Ontario can. And nowhere have their beneficial effects been more strikingly felt. It would be difficult, if at all possible to find on this continent, we speak with moderation, any state where mixed farming is at so high a stage of advancement as in this Province. Every agricultural visitor who travels over America bears testimony to the fact. But these societies are the practical alliance of farmers, for increasing the products of their own industry, and advancing the industrial progress of Canadian Agriculture itself.

But more than that is sometimes needed. There are times in the history of every industry when an alliance at least for the purposes of defense, is imperatively necessary. Such a time is emphatically the present in the case of the farmers of Canada. It has been tried in the case of the Grange. But the members of that body have laid down as a rule of action, the principle of non-interference in politics. Now if by that were meant partisan politics, all would be well. But the rule has been construed to mean all questions within the sphere of politics. And it is precisely such questions, before they become and are made party questions, with which farmers are above almost every class of the community most deeply interested. None more highly than we would deprecate the action of the farmers as a class in the party

politics of the day. They act there as citizens, irrespective of occupation. And any other action would be prejudicial to themselves and to the state. But whilst this is true there are questions, at first non-partisan, in which farmers as a class are deeply interested and on which, before they reach the region of politics, and if they have reached that region, before they are made planks in a party platform, the farmers of Canada should be prepared as a class to give their unanimous and decided opinions. And that can be done we firmly believe, only by a Canadian Farmers' Alliance.

As an illustration of what we mean take the question of railway consolidation as it presents itself in Ontario and throughout Canada generally. There will be in a short time, but two lines—the Canada Pacific and the Grand Trunk. Each in its own sphere now has a practical monopoly. The effect upon the facility of shipping our own produce, and the price to be obtained for it, will in another season be keenly felt. To every one of the amalgamated lines we have given bonuses, to many of them heavy bonuses. But either we have had no guarantee or they have been useless. The effect of the railroad monopoly upon us as a class will be more direct than upon any other, and it will be found that unless we are prepared to speak effectively the two roads mentioned can check any legislative action.

Again, Canada is in for some time at any rate for a directly protective policy. We are not discussing the policy at all. But any one can see the fact. Now unless our history be different from that of any other country, the farmers will reap the least benefit from such a policy, mainly because they are not united as the manufacturers are, and able to attend to its proper adjustment as they do. Next adjustment will be an annual one. How important is it that the farmers should have an alliance that could look after their interests in adjusting the yearly incidence of protection.

But again, our sons are settling the timber lands of our own Province and the lands of the great Northwest. Their interests are our interests. Our land policy in the latter especially, is neither sufficiently elastic nor encouraging. The interests of the settler are too frequently placed in the background, and those of the railway, the colonization companies, and the speculators put first. This may not be done intentionally by the Government, but the land policy through the keenness of the three agencies named has that effect. The pioneers of the prairie are our brethren—mostly as we have said our sons. We must look after their interests. How quickly would obnoxious clauses or tendencies in such a land policy be eliminated, were a great Canadian Farmers' Alliance, having a membership as wide as the Dominion, to make its voice heard in the interests of its own class.

These are three of the questions. But they are only samples of scores of others. To their solution our legislators will be obliged to turn their attention. How important that they should know the carefully matured opinions of the very class most directly interested in their wise solution! We have but indicated the reasons, yet we hope that enough has been said to show the line along which the good of a great Canadian Farmers' Alliance can be most easily seen. May we ask our thoughtful farmers to take the subject into serious consideration during the present winter, in order that decided action may be taken before 1883 has closed.

SCHOOLS OF BUTTER-MAKING.

The proposal of the Ontario Government to establish public creameries with the object of giving practical instruction in butter-making will, we believe, commend itself to the good sense of all people. How to make good butter is not one of the lost arts, but it is unfortunately true that in a great many farmers' homes the knowledge of it has never been acquired. Those who make a good article are seldom at a loss to find a ready market for it; yet they are a small minority. The bulk of what is produced and sold at country stores is very poor stuff indeed, and it never improves under the treatment received at the store-keeper's hands. The best of it perhaps is sold to local consumers: the rest is compounded with a club, and perhaps sold to the wholesale dealer at the price of wagon grease. There is no profit to the makers of

this class of butter, and certainly no honour. If it goes abroad it is only to bring reproach upon the country—to make the country, like the butter itself, a stench in the nostrils of people in whose favour we would wish to stand well. It is therefore a praiseworthy act on the part of the Government to make provision for schools of butter-making in the Province. If the services of skilled managers are obtained there is no reason why they should not attract a desirable class of learners. The course of instruction would be largely one of routine, the care of cream, its temperature, the churning, the curing, and the packing would necessarily be the same from day to day, so that in a few weeks at the outside any observant person might learn all that could be known of the various steps in the process. Let it be shown that a good article of butter can be as easily made as a bad one, and we may depend that those at all events who take the creamery course will no longer regard this branch of the dairy industry with indifference. They will look on it from the paying side. We see in the market reports of New York city that when gilt-edged butter is quoted at 35c. to 40c. per pound, the common dairy is quoted at 15c. to 20c. Here is certainly a very wide margin, and one that is full of encouragement. An addition of even five cents a pound to the butter produced in Ontario means an extra \$2,000,000 yearly to the farmers—and all from the same quantity of raw material. The profits are always found in the margin above the cost of production; and if as the result of establishing Government creameries producers get better prices and consumers a better quality of butter, all parties will have cause to be well satisfied.

THERE are two points well established as to clover-growing on farms:—(1) The soil is rapidly exhausted if the clover is sold off the farm; (2) its productiveness may be maintained and slowly increased if clover is grown and fed on the farm.

ONE of the valuable features of the Agriculture and Arts Association's report for this year—if indeed it is not the only valuable thing in it—is the contribution by Prof. Brown of the Agricultural College, on the live stock show of the Provincial exhibition. Prof. Brown has always something interesting and valuable to say on such subjects, and his report is sure to arrest the attention of cattle-breeders.

SELL, sell, sell, all the fat bees and swine as soon as they cease to make flesh at a profit. Sell now all animals that will not gain during the winter more than the food they would consume would amount to, together with labour, interest and risk. Thousands of farmers waste hundreds of tons of good hay and grain by feeding it to cattle of inferior grade, or to beasts which are past the point of profitable increase.

FOR keeping apples, the essential requisites may be summed up thus: Pick without bruising; store without heating; winter without frosting; use one or more thermometers; preserve an unchanged temperature; guard against air currents; give needed ventilation; remove ripe specimens before decaying; separate the fruit room from all other apartments. With these precautions and care, says *Farm, Herd and Home*, such apples as the Baldwin, Red Canada, Swaar, Famous and Northern Spy may be kept fresh into June and July, as we have had an opportunity for testing.

UNITED States breeders of Shorthorns realize the necessity of having only one Herd Book for the whole country, and at the annual meeting of the American Shorthorn Breeders' Association held at Chicago a few weeks ago, an important step was taken to that end. They unanimously decided to purchase the books of three of the principal Associations in the United States, and are calling upon breeders throughout the country to support them. The advantages of having but one Herd Book are so obvious that they need not be enlarged upon; convenience of reference and cheapness of registration suffice to commend it. But when we see this course taken by breeders in the United States, what must be thought of the action of our own breeders in establishing two Associations and two Herd Books for the Province of Ontario? It was a mistake. It is a worse mistake to place the records in the hands of incompetent men. The editor of a Herd Book should know his subject, and he should be able to write in a style that would not stir the risibles of a Shorthorn.

GLEANINGS FROM MANY FIELDS.

A CURRENT story in New York city is that James Gordon Bennett, owner of the *Herald*, is on the lookout for a fast pacer, and when one that suits him is secured will christen the side-wholer with the name of his paper and enter him at the prominent meetings.

THE *London Garden* says, speaking of potatoes, "that the more abundant producers of to day, the new kinds, although a fine form, are deficient in flavour, and it is a fact that some of the old fashioned, ugly tubers, with deep eyes, stand far higher in flavour than many of the much vaunted exhibition sorts.

In favour of farming it may be truly said that a greater proportion of those who begin by working on a farm, rise to competence and moderate wealth, than in any other pursuit. Farm wages may be low, but they usually include board, while the temptations to dissipation in the rural districts are much less than in cities.

GOATS' milk is sold in London at thirty-seven to fifty cents per quart. It is preferred by many for the food of very young children. English and Welsh cottagers find the keeping of goats for their milk a profitable business at the prices paid. The yield is generally very small, but a goat picks its own living with less expense to its owner than any other animal.

THE *Chicago Times*, referring to the Bureau of Industries of this Province, organized by the Mowat Government, pays a high compliment to the Bureau and its able and energetic secretary, Mr. A. Blue. It commends the reports as being of great value to farmers, and issued in time to be of practical advantage. The promptitude shown, the *Times* thinks, might furnish a model for the United States authorities.

THIS is the time of year when a careful watch must be kept of the young apple trees. Field mice foraging for provender under the snow may ruin an orchard in a single night by gnawing the tender bark from the trunks. An easy way to check the mice is to tramp the snow around each tree, as often as a fall occurs.

THE *Rural New Yorker*:—Successful farming will depend, in the future, largely on avoidance of waste. We are learning how to make land productive; how to market crops advantageously; when to sow and when to reap,—are we learning how to save? We lose from negligence, from unskilful manipulation of farm products; from keeping unprofitable stock; from wastefulness in feeding; from hiring cheap and insufficient help. These losses seem intangible, but they represent "hard cash."

A REPORTER of the *New York Sun* asked Mr Robert Bonner the other day if the trip to Kentucky, from which he has just returned, was made with the object of buying horses. Mr. Bonner said: "Not exactly. I went on a visit, and saw some twelve or fourteen stock farms, but bought one colt only. It was from Maj. McDowell's farm, a very promising colt by King Rene, a famous stallion out there. Some other purchases may follow from my visit, but none are determined yet. I have seen a report that I went out to see and buy the trotter Jay-eye-see, but it was entirely untrue. I had no such purpose."

THE *N. Y. Tribune*:—It should be generally known that THE SPROUTING OF POTATOES is prevented by a short exposure either to cold—near the freezing point—or to a scalding heat. This does not affect the appearance of the tubers, while it preserves them in a marketable and available condition until new potatoes come again, or longer, without showing a sign of a sprout. Pouring scalding water over them and drying quickly is a convenient way of distributing the necessary degree of heat equally through a mass. It is an evident corollary to this that seed potatoes must be carefully protected from such a degree of either cold or heat as might destroy their germs, from 40° to 55° being safe, which limits are not exceeded two feet below the surface during the winter, or in good cool cellars.

A CORRESPONDENT of *The Home Farm* locates himself in reference to the temperance and economic aspects of THE CIDER APPLE QUESTION in this terse way:—"With some of us farmers what little we do know we have acquired through sad experience. Twenty-five years ago it was said by nearly every farmer that apples were of 'no account' to give cattle or horses, and hardly fit to give hogs, but even the

smallest and poorest were 'plenty good' to grind up and make cider for hogs with two logs to guzzle down and make homo inebriatus. We farmers live and learn very moderately. In the last few years I have saved many tons of best English hay by feeding 'cider apples' to my neat stock and horses. The secret:—Don't give them all they want at first but increase, according to your apple pile, through the winter."

It is said by a correspondent of *The Toronto Globe* that from 30 to 60 per cent. of the farm land in the attractive fruit, grain and dairy region of Norwich, Canada, has already been TILE DRAINED, with, as was to be expected, most satisfactory results, "even on soil naturally dry."—Mr. Losee assures me that as matter of actual test his underdrained lands yield one-third larger crops than his undrained fields, although the same treatment in other respects is applied, and the land is of the same character throughout. The average wheat yield of his undrained land is twenty bushels per acre, while the tiled fields yield an average of thirty bushels. As the cost of draining on his farm is estimated at \$20 per acre, this preparation of the soil pays for itself in two years. Mr. Losee's experience is that of several others I have met, and appears to be as applicable to deep sloping sandy soil as to clay."

A FRENCH chemist, M. E. Duclaux, has made some interesting experiments in cheese making, with a view mainly to discover the causes which determine the flavour. It has often been asked why cheese made in different districts, in a precisely similar manner, vary greatly in flavour, while those of one particular spot, although manufactured in very different ways, are almost precisely alike to the taste. The researches of M. Duclaux tend to prove that neither climate, soil, food, manipulation, nor variety in the breed of cows largely affects the quality of the cheese. It would appear rather that a fungus mold, allied in some cases to yeast, in others to mold, is communicated by germs in the atmosphere to the cheese, and this it is which gives it its distinguishing flavour. Sanguine people already look forward to the time when the farmer will be enabled to inoculate his cheeses with a variety of ferments, so as to produce Cheddar, Stilton, Parmesan, or Gruyere at will.

AN old horseman says:—"If you want to buy a horse, don't believe your own brother. Take no man's word for it. Your eye is your market. Don't buy a horse in harness. Unhitch him and take every thing off but his halter, and lead him around. If he has a corn, or is stiff, or has any other failing, you can see it. Let him go by himself a little ways, and if he staves right into anything you may know he is blind. No matter how clear and bright his eyes are, he can't see any more than a bat. Back him, too. Some horses show their weakness or tricks in that way when they don't in any other. But, be as smart as can, you'll get caught sometimes. Even an expert gets stuck. A horse may look over so nice and go a good pace, and yet have fits. There isn't a man could tell it till something happens. Or he may have a weak back. Give him the whip and off he goes for a mile or two, then, all of a sudden, he stops in the road. After a rest he starts again, but he soon stops for good, and nothing but a derrick could move him."

A WRITER in the *Christian Union* says: "Comfortable barns save fodder and at the same time promote the growth and thrift of the stock. Cattle kept in warm barns require less food to keep up the temperature of their bodies than do those who are kept in cold ones. The temperature of the body must be maintained at its normal position, ninety-eight degrees. If the surrounding temperature is down to zero it is evident that there must be a great loss of heat from the animal. Every one knows that if the animal were killed the temperature would soon fall to nearly the same degree as that of the surrounding air, yet the great change that would then take place is no more rapid than is constantly going on from the body of the animal. This great loss of heat has to be supplied by the burning up in the system of some of the food taken in the fat of the body. If the animal is exposed to a very low temperature it will require nearly all the food ordinarily eaten to keep it from freezing. This is a method of keeping cattle warm that does not pay. Farmers are realizing the truth of this, and are making barns warmer than they were accustomed to formerly."

FARM AND FIELD.

PROBLEMS IN PLOUGHING.

Whether to plough during the fall or the spring is one of the problems in agriculture that gives rise to endless discussions, in a word there are two sides to the question. The requirements of different soils and localities must be met, therefore definite rules cannot be laid down by which to govern the matter under all circumstances, but each field ought to be considered by itself and broken up at a season and in a style best suited to its own peculiarities.

Two strong arguments in favour of fall ploughing are, advancing the work so as to modify the spring rush and the improvement to the loosened soil through the action of the frost; A team can plough in the same length of time a greater area in the fall than in the spring; these is more leisure time for accomplishing the work and less fatigue to both man and beast. When properly done, fall ploughing affords drainage, so that the soil is ready oftentimes at least a fortnight earlier for cultivation in the spring.

Farmers who are agreed as to the desirability of fall ploughing on most soils differ in their opinions about early and late ploughing. The more universal plan, however, is to plough late—just before the winter frosts come—so that the land will not become beaten into a compact state by the early fall rains. Soils by nature loose are best reserved for spring ploughing, as the mechanical effects from fall ploughing will only increase the fault. Therefor light sandy lands are seldom broken up with benefit during the autumn and experience appears to have demonstrated that land near the sea which is rarely covered with snow produces better when ploughed in the spring than if it is done the previous fall.

Sandy or dry soils as a rule, call for flat ploughing, as this tends to consolidate the land. While on low or strong soil the furrows are left on edge. Much is written and said every season against breaking of ground that is too wet; the other extreme is not so often mentioned, and yet, especially in heavy clay soil, running the plough through earth too dry is almost as pernicious in its effects as ploughing when it is too wet. Sufficient moisture is required to cause the furrows to fall loosely from the plough, with no appearance of packing and no lumps.

More discussions have arisen regarding the question of deep and shallow ploughing than on almost any other subject. Here again it is quite impossible to lay down any rigid rule. This question must be determined by the depth of the soil and the character of the subsoil. A sterile subsoil will not benefit the top soil by intermixture with it, hence here deep ploughing is to be avoided. Where the subsoil is porous shallow ploughing is in order, for the evident reason that the subsoil requires no loosening.

In a general way it may be said that the subsoil ought not to be brought out of its bed, except in small quantities, to be exposed to the atmosphere during the winter and spring or in a summer fallow, nor even then, except when such fertilizers are applied as are necessary to put it at once in a productive condition. Two indifferent soils of opposite char-

acter—as a stiff clay and sliding sand—sometimes occupy the relation of surface and subsoil to each other. When thoroughly incorporated and subjected to deep cultivation these will produce a soil of greatly increased value. River soils having natural drainage take kindly to deep ploughing as do the black fertile limestone soils.

Lands that are dry, with but a few inches of good soil, will not produce as fine crops by deep as by shallow ploughing. This condition is, however, susceptible of improvement by a thorough system of subsoiling and liberal manuring. Deep ploughing is ill-advised when a basin is formed below a certain line in which water will settle and remain until it can escape by evaporation. Such soil requires drainage, after which the plough can be set deep.

The whole matter of deep and shallow ploughing may be summed up briefly:—Thin soils with worthless subsoils must be ploughed shallow until the cultivator can and will afford the labour and expense of subsoiling and heavy manuring for a number of years. This extra outlay will repay him in the end with a handsome interest, not only by increased crops but continued value of the land. Deep clay loams and alluvial soils take kindly to deep ploughing. Wet lands should be drained previous to deep ploughing. The medium course, viz., ploughing from five to six inches deep, is exempt from the harmful results of the two extremes.

Experience has proven that time is lost in turning short plots; hence it is economy to run the furrows in the longest direction and so lessen the number of turns.—*New York World.*

HAULING MANURE IN WINTER.

It is a great thing to keep the men and teams profitably employed in the Winter season. In this region, says a correspondent of the Cincinnati Commercial, where corn is the main crop, too many farmers go into a state of hibernation as soon as corn gathering is done, and like bears, put in much of their time sucking their paws, or cigars, or doing things about as profitable. We have suggested to some of our corn-growing friends that the teams would be the better for daily work during the winter. But what can we do? says one of them. Well, to him we gently hinted that he could spend at least a week hauling out the manure from the stables and sheds, and cleaning out under the barn all the old trash and litter, and fertilizing material, that have been accumulating there since the barn was built. That manure can be drawn out on the fields intended for corn and spread from the waggon, as time is not so pressing as to make it a rush to get the manure out in the shortest time. When manure is allowed to accumulate about the stables or yards until after the corn crop is laid by, the care of the wheat and barley crops takes all the force till they are safely housed or threshed. When threshing is done at the barn, the tidy farmer wants the barnyard clear before the threshing is done, and if the year's accumulation of manure is yet to haul, this must be done too when the ploughs should be at work on the fallow. If one has a good pile of well turned and fine manure, it comes in just

right to top-dress the wheat land after it is broken.

But there are objections to this plan. It requires more work to prepare the manure and haul it out over the ploughed fields, and it is done in hot weather, when men and teams are fagged out with a season of hard work. The hauling too, must be done in a short time, between the ploughing and time for drilling in the grain. There can be no postponement on account of weather. The rains may have made the ploughed ground so wet as that every print of the horses' hoof or the rolling wheel will damage the land. We have seen men hauling manure over wet ploughed land, doing more damage than the manure would do good. Land tramped when wet is bad enough at any time, but especially bad in the Spring or Summer, when the land will dry quick and hard. We here, then, have harder work and less benefit from hauling manure in the Summer rather than in the Winter.

Again, the evaporation of ammonia is greater in Summer heat than in Winter. These are difficulties which are not inherent to the case of Winter hauling. If in the winter the ground should be wet or soft, the chances are that evaporation will be slow and the ground may be frozen, so that by the Spring time it will be friable again. But usually the Winter hauling can be done when the ground is solid, and heavier loads can be hauled. The hauling out of manure as fast as made keeps the stable cleaner and more healthful, and the full strength of the manure goes to the fields, and will not be lost by leaching, as when exposed to the wash and drip of the barns and sheds. The meadows and pastures that are to be top-dressed can receive it in Winter, and will be more benefited by it than if spread on in Summer.

"A MEAN BUSINESS!"

A few years since I met a gentleman, educated for the ministry, who after a few years came into possession, through marriage, of a good farm on the Connecticut River, which had been well managed by the father-in-law and his brother, who owned and improved it in common. On the death of one, the farm and stock were divided; and the homestead, a good-sized farm, with good and convenient buildings, went to this heir, who thought he could run it as well as any other person. He was young, strong and healthy, with a very high estimate of his ability. He tried the experiment. The first season he did not succeed to his expectations, although he had experienced farm helpers; the second season satisfied him, and he was heard to say, "farming is a mean business," and was only too glad to part with the farm.

The observation of this man's experience has led me to reflect upon what qualifications are requisite in a practical farmer to insure success. Given, as above, a strong, healthy body with a good education and a good farm, with all the necessary appliances of conducting it successfully—this is not all in order to meet with success, or even to make a living and not to go into debt. Good farming involves as much thought as any other vocation. No doubt had this same man put as much thought into his farming as he afterward, as well as before found essential in his profession,

he would have met with success, with time and practice; but courage and perseverance failed him.

The conditions of success in farming are quite as complex as in any other calling. No lazy, listless man, who dreads the drudgery of thinking and working, can ever become a successful farmer. Neither will a mere acquaintance with the ideas and practices of our best progressive farmers warrant success. There must be practical experience on the farm, some degree of practical work, and constant oversight and attendance by the owner. Many failures result from the lack of this, especially with men who disdain to learn the ways of common every-day farmers, in the assurance that they can do as well or a great deal better. This is a great mistake. If anything needs improving, a first requisite is to understand thoroughly its methods and management. A man who wishes to become a superior farmer must first learn how to be a good common farmer; until this is learned, it is best at first to attempt no innovations on the established ways of the neighbourhood. Undoubtedly improvements are possible, but it is better to let them be suggested by practical experience. This may possibly not accord with the ideas of "young American" progress, but it will be sure, and may save a mortifying failure. Having become a common farmer, there is more hope that one may become a superior farmer. Thought, economy and work will usually make success pretty certain. Work is only the fulfilling of the original decree passed upon man; trying to avoid it is one cause of hard times and failure, when we all work and economize to the best of our ability, we shall be a happier and more prosperous community.—*W. H. White, in Country Gentleman.*

FARMERS' HOURS OF LABOR.

If the farmer could complete his labors by working ten hours a day, he would have more time for reading, investigation and thought, and thus he would be better prepared to direct his labor in a manner to secure the largest return possible. He who works from daylight until dark has but little time and no disposition to read much, and therefore is very likely to fall behind the times, and to direct his labour in a manner that fails to secure the best results.

There are but few, if any occupations, that more surely pay for the time spent in thoughtful reading and investigation than farming; therefore he who spends so many hours at work on the farm that there is no time left for study, is wearing out his physical energies to a great disadvantage.

Some farmers have learned that less work and more thought secures larger returns at the end of the year. An intelligent farmer with his eyes open cannot visit other intelligent farmers without learning something to his advantage so great that it will more than pay for the time and expense of the visit. Farmers should be quite as independent as those who follow other occupations, and should not feel that they are obliged to work so many hours that there is no time for social enjoyment or intellectual improvement.

If it is true, as it is asserted, that it has been found by actual test that in many occupa-

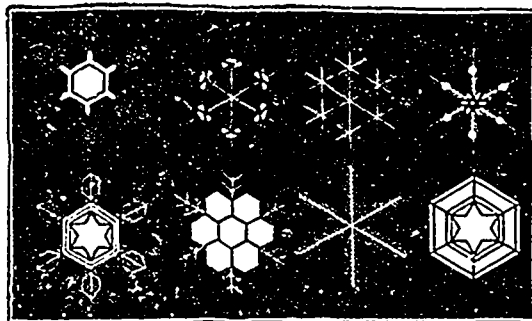
tions the laborer can perform more work in a year by working ten hours a day than he can by working sixteen, there can be little doubt that it would be better for the farmer to work ten hours, and occupy three of the six hours in reading, investigation and thought, on subjects relating to the production of crops.

With the many improved machines which have been introduced on the farm during the last few years, there is no danger but the farmer can greatly reduce the hours of labour, and still obtain a larger product from his farm than he formerly did.

The reduction of the hours of labor will not only give the farmer more time for moral, social and intellectual improvement, but it will make his calling more respected, and will keep a larger portion of the boys on the farm.—*Massachusetts Ploughman.*

THE SNOW FLAKE.

There are a great variety of forms in the snow-flake, although nearly all of them, in some respects, resemble a star. The figure below, from Muller, shows a few of the flakes or crystals, all of which belong to the hexagonal system. They vary greatly in appearance, and would furnish good patterns for embroidery. Indeed we believe, most persons observing the cut without the accompanying explanations, would refer it to the ladies'



department as figures for lace-work, much sooner than to the department of Natural Philosophy. The crystallization of liquids is a curious phenomenon, and the forms of beauty thus produced are by no means limited to snow. The frost work on the window panes surpasses all the works of art, and the salts, shooting into crystals under the microscope, have captivated many a young philosopher. Snow is a thing of infinite utility as well as beauty. Its non-conducting properties serve to retain the caloric of the earth, and prevent the frost from penetrating to a destructive depth. It wraps mother earth in its fleecy mantle, and cherishes within her bosom that spark of vital warmth which at the opening of spring starts the slumbering vegetation, into renewed life. Without a depth of snow to protect the earth, many countries, which now sustain a vigorous population, would forever remain regions of frost and desolation.

STABLE FLOORS.

As winter is at hand, farmers need to look well to their stable floors. Years ago a clay floor was adhered to by some, and such was the earnestness of its advocates and the many arguments brought to bear upon it, that we were induced, says the *Germantown Telegraph*, some twenty years ago to try it. In three or four months we had the planks back again, being satisfied of the disadvantage of clay for

this purpose. Our present floor of plank is simply inclined a little from front to rear, where the usual gutter is made to carry off the liquid voidings. We do not believe in sand, coal, ashes, sawdust, asphaltum, flags, cobblestones, or any of these modern devices to injure horses. Thus far we have never noticed that this little inclination was any way injurious, and we doubt whether the wooden gratings that we frequently see placed over the planking that some use, would be advisable, on the ground that the animal would be no more comfortable, while this movable grating or second floor might lead to accidents. When a person can keep horses in good, sound, healthy condition from five to seven years, as we have done on a carefully constructed plank flooring inclining a little to the rear, it is just as well to be satisfied with it. Do what one will, holes will be dug by the stamping of the feet in the clay, and these will be filled with the moisture, which will necessarily result in scratches, quarter-crack, etc. If the clay is levelled off and beaten down daily, it will make no difference. Some time ago we inspected a number of stables where many horses were kept, and we encountered only one which was composed of anything but wood.

WHY SOME FARMERS FAIL.

They are not active and industrious.
They are slothful in everything.
They do not keep up with improvements.
They are wedded to old methods.
They give no attention to details.
They think small things not important.
They take no pleasure in their work.
They regard labour as a misfortune.
They weigh and measure stingily.
They are wasteful and improvident.
They let their gates sag and fall down.
They will not make compost.
They let their fowls roost in the trees.
They have no shelter for stocks.
They do not curry their horses.
They leave their ploughs in the field.
They hang their harness in the dust.
They put off greasing the waggon.
They starve the calf and milk the cow.
They don't know the best is the cheapest.
They have no method or system.
They have no ears for home enterprise.
They see no good in a new thing.
They never use paint on the farm.
They prop the barn door with a rail.
They milk the cows late in the day.
They have no time to do things well.
They don't believe in rotation of crops.
They do not read the best books and newspapers.—*Southern Farmer's Monthly.*

A GOOD PASTURE.

The value of a pasture consists, first in a close, strong sward. To have this, the soil must be firm, fertile, and filled with moisture. By this we do not mean that it shall be wet; on the contrary, it must be the reverse. The moisture must be such as is held naturally (mechanically), not the moisture of saturation, but that of vaporization. Thus a permanent pasture should never be heavily cropped, until it is well set. Hence none of the tuberous rooted grasses, like timothy, are suitable to permanent pastures. They cannot stand close cropping nor constant tramping. Pasture grasses, therefore, must be the fibrous and deep-rooted varieties.

GARDEN AND ORCHARD.

ROSE MANAGEMENT.

A very successful rose-grower sends to a friend the following account of his style of managing the rose. The friend says his plants are one mass of bloom from November till late Spring. His method is as follows: "You ask me how I manage my roses to have them bloom in early Spring. I prefer two-year-old plants, but use good strong one-year-old ones, if compelled to do so. I plant my roses out in the garden in the Spring and do not allow them to bloom during the Summer. About the last week in August or the first of September I take them up with all the soil that will hang to them, pot them and place them in a very shady place for about two weeks out of doors, watering and sprinkling all the time. I now expose them to the sun, until the foliage falls off. All this time they will be making new roots and the tops will be at rest. When the leaves have fallen, prune them. Cut back the young growth a little and then cut out the centre. Place them in the greenhouse about the first of October. If you use a flue in your house I would place the plants in the middle of the house, but if they are on benches over the pipes, put two inches or more of sand or tan under the pots. Do not attempt to force them too much, but give all the air possible in the daytime. Great care should be taken not to sour the soil; syringe often. Soil is very important. If it be possible, get a lot of sods from the cow pasture, three or four inches thick, put them in a heap and add to them as one to four of cow and horse manure; turn this compost over three or four times during the Summer, breaking up the sod each time. I never screen my soil for roses, nor do I use drainage in the bottom of my pots, but simply the old fibrous roots that I find in the soil at the time of potting. Turn out all of your roses as early in the Spring as possible, prune off the long roots and follow directions as above given, and I will ensure you abundance of flowers from November until March. I prefer to have my roses too dry rather than too wet."—*Gardener's Monthly*.

KEEPING APPLES.

It is generally supposed that apples keep best in a cool and dry place, but Rusticus, in *The Farming World*, cites a number of instances where apples have been found to keep much better, with brighter skin and more juiciness and flavor, in humid atmosphere than in rooms or cellars where the dryness of the air gradually induces shrivelling, especially with open-coated russets, etc. It is common to find apples covered by moist fallen leaves in the orchard in superior condition, and the old plan of burying apples kept them as fresh and sound as when put in, none decaying unless decay had been provided for by prior exposure or maltreatment. A cellar in Woodstock containing a spring, was noted for supplying the fairest and best russets, greenings, baldwins, etc., to be bought in the neighborhood. The apples were kept in open barrels standing on timbers over the water. Other dark, damp cellars gave the next best choice. In Russia apples are said to be stored in water like cranberries, but this may apply only to

certain kinds. That favourite apple in the North, the Fameuse, has been proved to keep eminently well soaking all Winter in water. A canal boat loaded with them sunk and was frozen in before it could be raised. When this was done in the Spring, the apples, which would not have kept longer than January in the air, had preserved perfectly under water, and were the admiration of the Montreal market.

LABELS FOR FRUIT TREES.

The ordinary wooden or metal labels, written on with indelible ink or pencil, and fastened with wire, are a nuisance, as all who have used them will agree. The best label is made from old sheet zinc; the older and more corroded it is the better. They can be had at any tin shop, cut to order, for about twenty-five cents per hundred. They should be cut five or six inches long, about an inch wide at one end, tapering to a point at the other. Write the name, date of planting, or anything else of special interest in connection with the tree, on the wide end of the label with a common leadpencil, and wind the tip several times around a small limb. As the tree grows, the label will unwind without injury to the tree, and it is only necessary to remove it to a smaller limb every four or five years to prevent it from falling to the ground. The pencil marks can be easily rubbed off at first, but soon form a chemical union with the zinc, and after a few months become perfectly indelible. After such labels have been in use about ten years, the writing is plainer than when first written. The zinc must be old and corroded or the writing will not show plainly.

CULTIVATION OF ORCHARDS.

The ground among orchard trees may be advantageously cropped with potatoes, rutabagas, or sugar beets. The cultivation and manure required for these roots keep the soil in good condition, and will assist also in defraying the expenses of the orchard. Grain crops, on the other hand, ought never to be planted among trees, because they deprive them of air to an injurious degree. When root crops are not cultivated the ground should be kept clean and mellow with a one-horse plow and cultivator, and about every third year, or when their growth indicates the need of it, the trees dressed with well decomposed manure or compost spread on the surface of the ground over the roots, and worked in with a fork. This dressing is best done in the Fall. Dwarf trees require more frequent manuring than do standards. When manure or good compost is not to be had, sow field peas and plow them under when they are in blossom. At the South, if the ground is not cropped, a mulch of straw, hay, or other litter, during the great heat of Summer, will prove beneficial.

"WHY is the Latin a dead language?" was asked a boy. "Because it is so much used on gravestones," was the reply.

Roots, says the *Practical Farmer*, have become a necessity. Even the owners of work and driving horses in the large cities annually buy hundreds of bushels of carrots, mangel wurzels, turnips, etc., to be fed in connection with grain food to their horses, and they are assured of the profitableness of using them.

CREAM.

A COMBINATION DESIRED.

Wanted—A wife, who can handle a broom,
To brush down the cobwebs and sweep up the room;
To make decent bread that a fellow can eat—
Not the horrible compound you everywhere meet;
Who knows how to broil, to fry, and to roast—
Make a cup of good tea and a platter of toast;
A woman who washes, cooks, irons and stitches,
And sows up the rips in a fellow's old breeches;
And makes her own garments—an item that grows
Quite highly expensive, as every one knows;
A common-sense creature, and still with a mind
To teach and to guide—exalted, refined;
A sort of an angel and housemaid combined.

NEVER marry but for love, but see that thou lovest what is lovely.—*Benn.*

SAY, for instance, a dog loses his paw, and a rooster loses his maw, does it make orphans of them?

FORNEY'S Progress claims that billiard balls can be made of potatoes. Perhaps they can, but what's the use of wasting the potatoes?

DOWN in Glengarry it is considered good luck to see a bull over your right shoulder, in case you are within ten feet of the fence.

WE are curious to know how many feet go to make a mile in the estimation of the ladies, for the reason that we never met a lady who didn't wear shoes a mile too big for her.

WHEN I was a young man I was always in a hurry to hold the big end of the log and do all the lifting; now I am older I seize hold of the small end and do all the grunting.

A PREACHER who arrived at the kirk wet through, asked an old Scotch woman what he should do, to which she replied, "Gang into the pulpit as sune as ye can. Ye'll be dry enough there."

Within each separate human soul
Live melodies that sweeter are
Than those which solemn organs roll,
Or silver-tongued singers trol;
Or morning star cries out to star;
But, chilled by the dark world's eclipse,
They die before they reach the lips.

Sidney Dickinson.

KENTUCKY is indulging in quilting bees and cat shaking. After the quilting a cat is put upon the quilt. The young folks take hold of the corners and toss the animal till it jumps off upon one of the young ladies, who is then crowned queen of the bee.

"How are you and your wife coming on?" asked a Galveston man of a colored man. "She has run me off, boss." "What's the matter?" "I is to blame, boss. I gave her a splendid white silk dress, and den she got so proud she had no use for me. She 'lowed I was too dark to match the dress."

"You can't add different things together," said a school-teacher. "If you add a sheep and a cow together, it does not make two sheep or two cows." A little boy, the son of a milkman, held up his hand and said, "That may do with sheep and cows; but, if you add a quart of water, it makes two quarts of milk; I've seen it tried."

"WILL you please pass the Shem?" asked a quiet man at the lunch counter. "Haven't any," squealed the girl in attendance. "Some Japhet?" queried the quiet man again. "Don't keep it," squeaked the damsel. "I say," chipped in a curious passenger, "What do you mean by Shem and Japhet?" "Nothing," responded the little man dolefully, "only the Ham is so old and musty that I thought the rest of the tribe might be around here somewhere, and I'd like to see 'em."

THE DAIRY.

TO CURE A KICKING COW.

It was in the heat of Summer and the height of fly time. I had just bought a cow and a calf, writes a correspondent to an exchange, which was said to be true, but it wasn't. As milk was what I wanted, the calf was taken away at once, and I proceeded to milk; but such a storm of heels as played about the stable for fifteen or twenty minutes never has been portrayed in prose or poetry! Fire flashed from her eyes, lightning from her tail, and thunder from her hoofs. In short, she was a notorious kicker, and the owner knew it. I tried hard to let patience have her perfect work, but it didn't work on the cow. Nearly disgusted, I went to the house, picked up *The Rural*, my eye caught the "Vices of Cows," by Dr. Stewart, and mentally I exclaimed "Eureka!" But, alas! it suggested only a lesson in moral suasion. However, I tried it again and again to no purpose. It was not moral suasion that she wanted, but a lesson on the fitness of things, and I proceeded to fit her in this way. She was securely fastened in a stanchion, and a stout strap with ring and rope attached was buckled around her right leg. Her leg was drawn back to the natural position and the other end of the rope fastened a few feet in the rear. Of course the kicking went on with vigor, but it did not interfere with the milking, as she could not get her foot forward of the perpendicular. She soon tired of that game, but commenced with the left foot, and she did it with such science that I could hardly keep the foot out of the pail. I then fastened that one back and let her kick it out. To her great consternation she was mastered, and I milked her with the calm assurance that she couldn't kick me or put her foot in the pail. I continued to fasten the right leg for awhile, until, like the Western emigrant's hens, she came to rather like to have her foot fastened, and would put it back to position when she felt the strap. And now she is as kind as any cow in the herd.

HOW GOOD COWS ARE RUINED.

Milking is an art, and the farm hand who knows how to milk properly is more valuable to the careful dairyman than any other help. Of course, anybody can milk, and some can milk a dozen cows before breakfast. The careful manager, however, is not so anxious for fast help as he is to employ those who are careful. The operation should never be hurried, but the milk should be drawn steadily and as it flows, naturally. Some cows have very tender teats, and the rapid milkman forgets this fact in his endeavour to make speed. The cow that is naturally impatient and fretful does not like to submit to rough handling, and her disposition is soon ruined by such treatment. With the constant irritation she will fail in quantity, and be less productive, just as any human being would fail to perform faithful service when labouring under mental affliction or trouble. As the udder becomes distended and filled with milk, the desire on the part of the cow is to be relieved of its contents, and she willingly submits to it for the relief it occasions. The constant practice of being milked at stated intervals

impresses itself strongly upon her, and she will seldom offer resistance without cause. When a cow, therefore, that has been a patient deliverer of milk becomes fractious, the fault can always be traced to the milkman. The careless dairyman is the one who complains of the failure of his cows to keep up the flow, and bloody milk, garget and other evils are the results of his own bad management. There is another point in the treatment of cows that demands attention, and that is allowing them to stand a long time waiting to be milked. With cows that give large yields it is very painful, and when the udders have been filled to their utmost, and the milkman is not on hand to relieve them, they become exceedingly nervous and restless. This will do more to cause a cow to go dry before her period than anything else, and many a good cow has been sent to the shambles through diminution of quantity, simply because nature has revolted at her sufferings and allowed her to dry up because her storehouse was not emptied at the proper times. She should also be milked to the last drop, if possible, and as the last portion of the milk is claimed to be the richest, the udder should be left with nothing in it. With regularity in feeding and milking, and kind treatment at all times, the cow will not only become gentle and remain so, but will milk on several weeks longer than otherwise. An experienced dairyman needs helps that are skillful, and he knows how to judge the milkman's work by the behaviour of his cows. When a stable of cows begin to give trouble in milking, it is only necessary to observe the manner in which they are milked in order to cure the evil. The udder of a cow is a very delicate structure, and she quickly rebels at rough usage or improper periods of milking.—*Practical Farmer*.

RICH BUTTER.

If milk and butter you would have—
A rich delicious treat—
Keep churn, and bowl, and milking pail—
Most scrupulously sweet.
With boiling water, day by day,
Cleanse each with utmost care;
Then rear them at your window sills,
To dry in open air.

A GOOD COW.

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

She's wide in her ribs, and long in her rump,
A straight and flat back with never a lump,
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 hips, and good at the pail,
She's fine in her bone and silky of skin,
She's a grazer's without and a butcher's within.

EFFECTS OF ODORS ON MILK.

Upon this question, Prof. Arnold, in the work "American Dairying," says: "The London Milk Journal cites instances where milk that has stood a short time in the presence of persons sick with typhoid fever, or been handled by parties before fully recovered from the small-pox, spread these diseases as effectually as if the persons themselves had been present. Scarletina, measles and other contagious diseases have been spread in the same way. The peculiar smell of a cellar is indelibly impressed upon all the butter

made from milk standing in it. A few puffs from a pipe or a cigar will scent all the milk in the room, and a smoking lamp will soon do the same. A pail of milk standing ten minutes where it will take the scent of a strong smelling stable, or any other offensive odor, will imbibe a taint that will never leave it. A maker of gilt-edged butter objects to cooling warm milk in the room where his milk stands for the cream to rise, because he says the odor escaping from the new milk while cooling, is taken in by the other milk, and retained to the injury of his butter. This may seem like descending to little things, but it must be remembered that it is the sum of such little things that determines whether the products of the dairy are to be sold at cost or below, or as a high-priced luxury. If milk is to be converted into an article of the latter class, it must be handled and kept in a clean place and sweet vessels, and must stand in pure fresh air, such as would be desirable and healthy for people to breathe."

FEEDING HAY TO COWS.

There are two kinds of economy in feeding cattle. As much real wastefulness may be shown in stinting the feed unduly as in feeding extravagantly. If anything, the former is the more wasteful of the two, since with a short supply of food there cannot fail to be a serious diminution in the value of the animals—a much greater loss, in fact, than is likely to result from overfeeding. But while stinginess in feeding cattle is to be avoided, there is such a thing as wise economy in portioning out the daily rations. Dairywomen often talk, says the *National Live-Stock Journal*, as if the height of skill in taking care of cows in winter was to get all the hay down that it is possible to cram into them. This it justly regards as a grave error. It is a good thing to feed cows well, but it is not a good thing to stuff them with a great bulk of hay of any quality. True skill in feeding is shown in limiting the amount of hay fed to the quantity the cows have time to remasticate, supplying their further necessities with some easily-digested concentrated food. The *Journal* lays down the rule that the quantity of hay given should not exceed what the cows will eat up clean, and twice a day is often enough to leave time for properly ruminating.

THE cattle breeders of Holland object to having their fine cattle called "Holsteins" when brought to this country. Dutch Friesian, or Dutch simply is the proper term.

GRAZING land in Friesland, "the garden of Holland," which a few years rented for \$30 to \$40 per acre, now brings but \$10 to \$15, owing, an English agriculturist says, to American competition.

THE faster and more gently a cow is milked the greater will be the amount given. Slow milkers always gradually dry up a cow, and for the reason that if the milk is not drawn about as fast as it is given down it will subsequently be withheld, and that withheld is, as a matter of course, what is known as the strippings—in fact, the upper surface of milk is the udder.

HORSES AND CATTLE.

BOX-FEEDING.

A SURE METHOD OF SAVING MANURE.

The manure of the stalls and stable may be profitably treated in three ways: it may be carried to the field as fast as it accumulates, whatever be the season of the year; it may be allowed to undergo a more or less complete fermentation or rotting in the yard; or it may be suffered to accumulate under the feet of the animal for several weeks at a time, as in the system of box-feeding. There is more or less danger of loss of fertilizing matters in following either the first or the second course: water flowing over the surface of the ground from a sudden thawing of much snow, or a heavy rain coming before the ground is thawed, would carry off soluble matters in the first case; in the second case, unless the manure pile is put on an impervious bed, unless all drainings from it are carefully saved, and unless the pile is kept from becoming dry, the loss is likely to be more serious than in the field; a pile of rotting manure must be cared for; it will not take care of itself. On the other hand, in a properly prepared stall, and with the right management of the litter, but without, after all, any more attention in this respect than the proper care of an animal in any kind of a stall requires, all the fertility there is in the manure at the outset is absolutely safe; nothing soluble need be lost even if the stall has not an impervious bed, for enough litter must be used to keep the animal dry and clean, and this will take up and hold all liquids within the mass of the manure; no ammonia will escape, because the manure has no chance to become dry or to get overheated.

Analyses of box-feeding manure made in Germany within the past two years gave results that sustain the theory in regard to this matter; although an extra large quantity of litter, which is poor in nitrogen, must be used, the manure was found to be richer in nitrogen than that which is well kept in the ordinary manner. In one of these cases, instead of a stall for each animal, the manure of seventy head of cattle, comprising milch cows, oxen and young cattle, was allowed to accumulate under foot in a large covered stall, with a few partitions dividing the animals into families of such as would live peaceably together; the manure contained 27.5 per cent of dry substance and 0.66 per cent of nitrogen, while twenty-five per cent of dry substance and 0.45 per cent of nitrogen are as much as can usually be allowed for the manure of such cattle. Professor Way, of England, found in the manure of box-fed fattening oxen almost one-third more nitrogen than in a similar manure stored in the yard in the ordinary manner. As to immediate availability of the plant nutrients in the two kinds of manure, there is no proof of any essential advantage possessed by one over the other; and to the proportion of phosphoric acid and potash there is no essential difference, if reasonable pains are taken to prevent leaching in the pile; if such precautions should not be taken, the box-manure would be not only richer in these nutrients, but its superiority in respect to nitrogen would be increased in still greater proportion.

Box-feeding is considered as specially fit for fattening cattle; the proper ration for fattening is particularly rich in nitrogen, but nearly all this nitrogen, about ninety-five per cent, reappears in the manure; and no other system of managing the manure so easily and so completely preserves this valuable nitrogen from loss. It is objected by some that the health of the animals must suffer from the exhalations of the mass of manure over which they live; but there are, I think, no authentic observations in support of this objection. A more important difficulty is found in the first cost of the stalls, since the floor must be lower than the general level of the floor for other cattle, in order to give space for the accumulation of the manure, and the cribs must be adjustable at different heights; more space must be allowed to each animal than in ordinary stalls, and it is considered as important that the floor and lower part of the box should be watertight. But these obstacles being once overcome, those who try the system are well pleased with the results. The writer of a Prize Essay on farm buildings in the Journal of the Royal Agricultural Society for 1850, says that no plan "has so completely answered the prime object of converting the vegetable productions of the earth into food for mankind in the shape of flesh as that of feeding in boxes or loose stalls," and he proceeds to give a very full account of the construction of the boxes, about ten feet square being allowed to each animal. In an Austrian Agricultural Annual for 1870 it is stated that notwithstanding the greater first cost of the stalls the system is finding increasing favour there. *Dr. G. C. Caldwell in N.Y. Tribune.*

FARROWING COWS.

PHYSIOLOGY AND ECONOMY OPPOSE THE SYSTEM.

Those who keep only a single cow, as is often done by residents of towns and cities, are, by some, advised to farrow her for the purpose of securing a continuous supply of milk. The propriety of farrowing is further urged upon those who keep a Jersey cow, for the reason that it does not pay to raise Jersey steers for beef nor Jersey heifers for farm dairies. So far as raising Jersey steers for beef has any connection with the matter, the advice is well enough. Jerseys are unprofitable animals for beef. A most essential element in beef production is muscle. An abundance of muscular tissue forms the basis not only, but the great bulk of beef. In Jersey stock this important element is deficient. There is no other breed in which it is so defective in comparison with other parts, as in the Jerseys, to say nothing of their diminutive size, which is also a serious objection. This defect is the natural result of their treatment. Reared upon an island too limited to admit of allowing them to roam, like cattle elsewhere, over the fields to graze, they have been tethered out for generation after generation and thus denied the exercise necessary to a full muscular development and size of frame. Jerseys raised in this country, where they have the liberty of the fields, are gradually overcoming the defects of their treatment at home, but it will be a long time before it would be sound advice to urge either

towns-people or farmers to raise Jersey steers for beef.

With heifers it is different. If it does not pay the townsman, it does pay the farmer to raise a good heifer, be it Jersey or any other breed. No one need feel any alarm about having his dairy injured from the presence in it of Jersey blood, whether in the veins of grades or herd-book animals. But the soundness of the advice to the owners of single cows to keep them farrow as long as they will continue to give milk, does not depend so much upon the disposition that is to be made of their calves, if they should have one every year, as it does upon the modifying influence which farrowing has on the secretion of milk. The production of milk is not a spontaneous effort of the mammary glands. Those glands constitute a part of the organs of reproduction, and the secretion of milk in them is the result of the stimulating influence of the other generative organs when in a high state of activity excited by the act of reproduction. A feeble secretion may be induced by other agencies, but the rule is—no young, no milk. It must be one of the plainest of inferences that the amount and character of the milk secreted must vary continually as the stimulating cause which has produced it dies away. It is so in fact. As soon as the mother has recovered from the shock of parturition, her milk is most abundant and most perfect in quality. It is then that the fat globules have the largest size and the highest flavour, the aromatic oils—butyryne and its associates—being then in their highest state of perfection and largest in quantity. It is then also that the albuminous matter in milk is in the most perfect state of solution and is the most easily digested and assimilated.

From this stage onward milk steadily changes, diminishing in quantity and depreciating in quality till in the end it dries down and acquires conditions quite different from those it started with. The fat globules diminish in size and delicacy of flavour, and the cheesy matter which was at first in a state of complete solution, is found, as the distance of time from parturition lengthens, to be gradually assuming a solid condition, and more and more of it to be diffused, like the fat globules, in a state of suspension through the milk in the form of minute fragmentary-appearing solid particles. If, in the early part of the milking season, we remove all the cream from milk, the serum, or skim-milk, though rich in cheesy matter, appears blue or transparent, showing that its caseine is in a complete state of solution. As the season advances, this transparent appearance of the serum, after the cream has been removed, diminishes, and the skim-milk appears thicker and whiter from the presence of an increasing quantity of solid albuminous particles. These increasing atoms of solid matter in milk, are believed to be insoluble and indigestible; at any rate, cows which have been giving milk for a year or more, generally have their milk become so difficult of digestion that infants and invalids cannot use it, when they can use that from cows which have recently come in.

The man who keeps but one cow to furnish his family with milk and farrows her for the purpose of having a continual supply, must be content to use milk depressed in flavour

and inferior in digestibility and wholesomeness, during the greater part of her term of milking. He must also expect a depreciation in yield. The liberal flow of milk which follows for a few months after dropping her calf soon begins to fall off, and continues to diminish till, sooner or later, she becomes dry, it may be two years. Perhaps one cow in a thousand may continue to give milk continuously for five or six years, but nine-tenths cease at the expiration of two years, and the yield of the second year is but half that of the first. The milk of a farrow cow costs, for the second year, double that of the same cow fresh in milk, besides being inferior in quality and wholesomeness. It is therefore neither desirable nor economical to farrow a cow to protract her season of milking to the end of two years instead of one. The short interruption in the supply which it prevents does not compensate for the greater cost and inferior quality. The writer has found by experience as well as from the study of milk, that it is much cheaper and more satisfactory when a single cow is wanted, to select one which will hold out milking through, or very nearly through the year, or till she comes in again, which is not difficult, and let her come in fresh at intervals of a year or a little more. There will be a few days just before and just after dropping her calf that the milk will not be fit for use, otherwise the supply will be continuous, and be cheaper and more desirable, whether the calf is raised, vealed, or given away.—*Prof. Arnold in N. Y. Tribune.*

HORSE CRIBBING.

Two methods of curing a horse of cribbing are going the rounds. One is that "a horse was cured of the habit of gnawing the manger and halter straps by saturating the wood-works and straps with kerosene oil. One thorough application produced a permanent cure." The other, by a correspondent of the *Country Gentleman*, is as follows: "Get some cayenne pepper (red pepper pods will do) and make a strong pepper tea. Wash the stall, manger and feed-box thoroughly with the tea boiled down very strong; also wash the neck-yoke and waggon or sleigh tongue, if driving the horse daily. Do this once a week for several weeks, and if it is a young horse it will most likely cure him. A good many old ones have also been cured."

BREAKING COLTS.

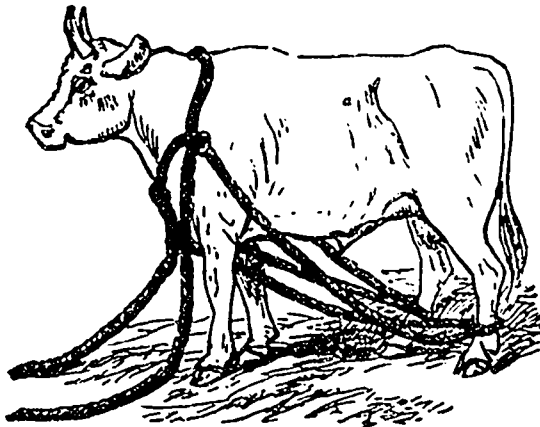
Colts should be broken to harness at three years old, and used in light work for two years, when they will become matured and fit for full work. If they are used for hard service before their joints become settled, or surrounded by a full-grown texture of muscle and sinews to support them, they are liable to become strained, causing spavins, or bony enlargements, that will destroy their future usefulness. Any imbecile can break down the colt; but it requires good sense to build them up after they have been crippled by ignorant task masters. It is not worth while to risk the experiment of converting sound colts into invalids, when they will live longer and perform more service if suffered to ripen into the full matured horse before being put to hard work.—*National Live Stock Journal.*

BARREN HEIFER.

The cases of barrenness in heifers which are likely to yield to treatment are such as where the animal shows signs of heat at regular periods, but where impregnation is rendered impossible from mechanical obstruction, etc. Where the animal never shows any signs of heat, this may, among other causes, be due to disease or degeneration of the ovaries, etc. If the barrenness is due to a mechanical obstruction that can be reached with the hand, such as occlusion of the entrance into the womb, this may be removed by simple manipulation or with the aid of surgery. Medicines administered internally are not likely to prove serviceable.—*Breeder's Gazette, Chicago.*

HOW TO CAST AN ANIMAL.

Pass a rope first around the neck, a noose being formed in the centre of a strong rope, the ends of which are carried between the fore legs, each respectively drawn through the ring upon the hobble put upon each hind fetlock, and afterwards through the rope collar upon each side. The head being secured,



force is applied to one rope, in a line with the body, the pullers being behind, and the other at right angles, or from the side. When the animal falls the ropes must be secured by drawing them into knots at the collar or around the fetlocks of the hind feet.

FACTS ABOUT FEEDING.

The editor of *The Massachusetts Ploughman* contrasts farmers of his acquaintance in respect to the important matter of feeding all animals. Some with sixteen pounds of hay and four quarts of cornmeal per day to each cow keep their dairy herds in better condition than others on a ration nearly twice as large. Regularity is of great advantage and the proper supply is the point to be most carefully considered:

"Over-feeding results in the derangement of the digestive organs, the loss of appetite, and finally the loss of flesh. An animal thus injured cannot be brought back to as good condition as can one that has grown poor by feeding half rations. A hog that has once been overfed is rarely ever brought back to a good, healthy condition. In fattening hogs great care should be taken to never give them more than they will readily eat up clean. Whenever a hog fails to eat at once what is placed before him, it should be taken away. While it may not be as important to make other farm stock eat up clean all that is fed out, it is never good policy to permit food to

lay before any animal, after it has satisfied its appetite. We have always noticed that successful feeders of cattle are particular to clean out the cribs as soon as the cattle have done eating."

From *The Germantown Telegraph* we take this advice about feeding horses, many of which are irreparably injured by mistaken liberality with rations:

"At times horses are habitually overfed, and their systems become so disordered by it that their health suffers and the power of digestion failing, they lose flesh instead of gaining it, and will recover condition only by diminishing from one-fourth to one-half the quantity of their allowance. Frequently old horses become thin on account of their teeth wearing unevenly, so that it is not in their power to masticate their food. In such cases a farrier should be employed to file them; or the owner if he possesses the particular kind of file used, can file them himself. In this case, much less food will soon restore the horse to a proper condition. Rock-salt should of course be ever present in the manger, as a horse was never known to take too much of it."

Mr. A. W. Cheever cites, in his *New-England Farmer*, an incident in proof of the fact that "a great many animals are seriously injured by over-feeding" (and of course abused) and he refers to a point in his own successful practice:

"We know of a barn full of cattle that were fed almost nothing the past winter but good, merchantable upland hay, grown by high culture and liberal manuring. The cattle were kept warm, were nicely bedded, the stables were cleaned often, and water was freely provided, yet the cattle came out thin in the spring and made but little growth. The difficulty was that the good hay was given far too freely, or certainly too much at a time. There was plenty of hay in the barn, and the attendant wanted to make a good showing of his skill in stock feeding, so he filled the racks and mangers full at each feeding. At first the cattle, coming in from a short pasture, would eat heartily, but, with little or no exercise, there was less food called for, and the quantity given was greater than the system required. Of course, a portion would be left uneaten after the whole had been picked over and the choicest portions taken out. The rest was breathed over till nothing would eat it, when it was hauled under foot, trodden upon and wasted. We have for many years made it a practice to feed cattle but two meals per day, one in the morning, the other in the afternoon, aiming to divide the twenty-four hours as nearly as convenient into two equal periods, though the time between night and morning is usually a little longer than the time between morning and evening. A cow's stomach is so constructed that she can easily take enough good food into it to last her twelve hours, and we have long been of the opinion that food is more thoroughly digested when but two meals are given."

The following is said to be a good preparation for brittle hoofs: Beef suet, resin, Barba-does tar, of each two parts; beeswax and castor oil, of each one part. Melt over a slow fire, or in a pan of hot water.

SHEEP AND SWINE.**WINTER CARE OF SHEEP.**

In the first place give them good shelter. Then, as there are usually a few sheep that need extra care, separate them into flocks; or should there be but two or three feeble ones, they may be easily taught to come to you and receive an extra amount of food at each feeding.

Mr. L. D. Snook says you should always provide racks for feeding hay and other coarse fodder, and take care that there is plenty of space, so that each sheep may eat without crowding its neighbour. Arrange the racks so that seeds, sticks, or dirt of any kind may not fall upon the sheep's neck, as carelessness in this respect often damages the wool to such an extent that it must be sold for a lower price. Construct the rack with board sides, with a long opening six inches wide near the bottom. The sides of the rack should incline inward, so that hay, etc., may gravitate toward the opening of the bottom, thus making it "self-feeding." If possible, so arrange the yard that the sheep may be fastened out while the racks are being filled.

Some farmers manage to get through the winter with a large flock of grade sheep, feeding only straw. But it is plain that had they fed each animal a few ounces of grain each day, the increase in the quantity of wool alone would more than pay this slight expense, to say nothing of the extra value of the manure and the better condition of the sheep. It matters but little as to the kind of grain fed. Of course one will feed less at each meal of corn, wheat, or rye, than of oats. Keep the sheep shut up when scattering the grain in the feed troughs; and be regular in feeding, whether of grain or hay. If possible, give once or twice a week a meal of roots, or even apples or potatoes. The sheep will relish the change from dry food.

Some farmers do not provide water during the winter, but allow the sheep to eat snow when thirsty. This is a poor plan, either for the farmers' profit or the health of the animal. While they do not need as much as other animals, nor as often, still they should have the privilege of getting water when they want it.

Mr. Snook refers to the common practice not to clean out the sheep stables until spring. This saves much labour, and if the following points are observed but little loss will result from this careless habit: 1. Once a week scatter plaster (gypsum) over the pen, at the rate of two pounds to every ten square feet of surface; or in place of plaster scatter over twice the amount of dry muck. Either will absorb the escaping gases, rendering the atmosphere more pure and increasing the value of the manure. 2. After applying the absorbent, always scatter fresh straw over it, which is not only valuable as an absorbent, but aids to keep the wool and feet clean and dry. When the pen is small and crowded, straw should be applied twice a week, and if you never allow the manure and litter to accumulate to a depth of more than eight inches before cleaning out, you will have but little trouble from sheep pulling their wool, or any other disease or habit contracted by lying on beds of fermenting manure.—*Selected.*

AN UNLUCKY FARMER.

A neighbour was tempted to buy a few sheep, and asked me what I thought of it. "Don't do it," I replied, you are not fixed for sheep. "Oh, they will take care of themselves," said he. "Well, try it, and then you will find out." He tried it last winter. A few days ago I passed his place. "How are your sheep getting along?" I asked. "Oh, I had bad luck with them. I put them in the yard here to run with the cows, and the first day the red heifer, there, punched the buck and he died the next day. His ribs were all broke." "Well, what then?" "Well, you see I had no buck, and so I had no lambs, and the ewes kinder moped round, and the colt kicked some of them, and two got mired in the swamp meadow, and one broke its legs in the bars, and one night I forgot to bring them in, and the dogs worried some of them, and at last I had only one left out of the dozen, and that got into the horse stable last night, and I found it dead there this morning. Yes, I had bad luck; you see I wasn't fixed for sheep anyhow, and they are miserable poor stock, I guess." Alas, there are too many men, not only farmers, but men in business as well, who have just such luck; and they think how much they ought to be pitied.—*New York Tribune.*

HOW TO PREVENT RAMS FROM FIGHTING.

This may be done by fixing a broad piece of stout leather to the animal's horns, which completely covers his face. He is thus prevented from taking aim at his adversary when lowering his head to charge, and fighting to any serious extent is avoided. The visor is made with a hole sufficiently large to slip over one horn, while an opening is cut to take in the other, and the ends are tied to hold the leather in its place. The visor comes well below the eyes, but does not set so close as to injure the sheep's sight. He can walk about, and by holding up his head a little, see all around, but directly he lowers his head to fight all in front is obscured from his view, and he reluctantly gives up the contest. The visor sadly spoils the beauty of the ram's frontlet, but that is a small matter compared to the injury often done by the fierce battles that take place among rams when turned loose.

FEEDING OFFENSIVE FOOD TO PIGS.

The prevailing notion that the hog has digestion equal to any undertaking in the way of converting crude or offensive food, leads many to give, in excessive quantities, whatever refuse happens to be on hand, whether spoiled grain, putrid meat, or other refuse. The result of such a mess when given to a sow about to pig, or having a litter at her side, is inevitably damaging to the pigs. The milk glands act in such cases as an outlet for offensive substances that get into the system through the stomach, or that, through any species of disordered action, are engendered within the system. From this it will readily be seen that the milk of an animal not in a perfect state of health must contain a considerable portion of the impurities that are, from hour to hour, given off.

The fact that poison taken into the system of the young, either human or brute, through the milk, acts so promptly, generally producing disorders of the stomach and bowels within a very few hours, in sufficient proof of the virulence of the poison, as well as of the importance of guarding against such accumulations within the system of the brood sow while suckling her young. Dry corn gives a tendency to feverishness. Too much sour slops if the sow be debarred from access to the earth, ashes, charcoal, and like substances, capable of neutralizing the excess of acid, will derange digestion; the blood becomes impure, and, as stated, these impurities escape, in part, into the milk.

SUNLIGHT FOR PIGS.

What an exchange says about pigs is true also of all animals. They cannot thrive without sunlight: "Where the sun does not come the doctor does," applies to our animals as well as ourselves. A breeder asked our advice about his pigs; they did not thrive; he was always unfortunate with them, and with the utmost care they never reared their young to perfection. The stys face the North, and never get any sun; the beds are lower than the outside ground, and the bottom is of earth; of course, always damp and offensive, notwithstanding that straw is added day after day. Stys should face the sun, and be allowed plenty of fresh air; the bottom should be concreted and slightly sloping, to carry off the wet, and, although some do not like it, we approve strongly of a wooden bench at the back for the bed. The sides of the sty should be railed, not bricked or boarded, as young pigs are often crushed by the sow pressing against them.

GOATS TO PROTECT SHEEP.

The farmers of Hunterdon and Somerset counties, New Jersey, use goats to protect their sheep from dogs. The goats can drive away a dozen dogs, and two are about all each farmer puts in with his sheep. As soon as a dog enters the field at night, the goats attack him, and their butting propensities are too much for the canine, who soon finds himself rolling over and over. A few repetitions of this treatment causes the dog to quit the field, limping and yelling. Formerly, when a dog entered a sheep field at night, the sheep would run wildly around and cry piteously. Since the goats have been used to guard them, they form in line behind the goats and seem to enjoy the fun. The idea of utilizing goats in this way came from the west, where they are put in sheep pens to drive away wolves.

A SMALL quantity of ashes given to pigs while fattening is found very beneficial, as their food is generally rich in phosphoric acid and deficient in lime, which the ashes supply. In this way the phosphoric acid is made available as a food.

A CORRESPONDENT says; "I had a hog that was completely covered with lice. I was told to put black machine oil on, and I did so. I took a spring-bottom can, and with it gave the hog a good greasing. One dose thoroughly eradicated both lice and nits. That was last summer, and the hog has not been troubled with lice since. Anybody having stock troubled with lice, will find a sure cure in the oil."

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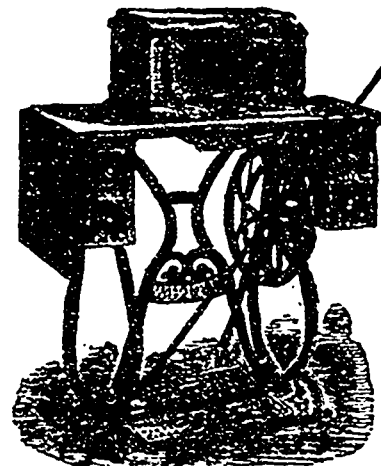
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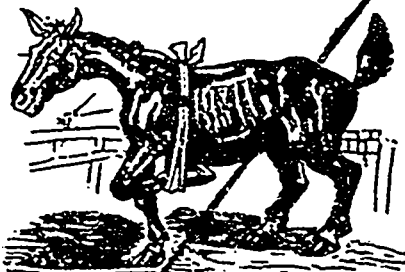
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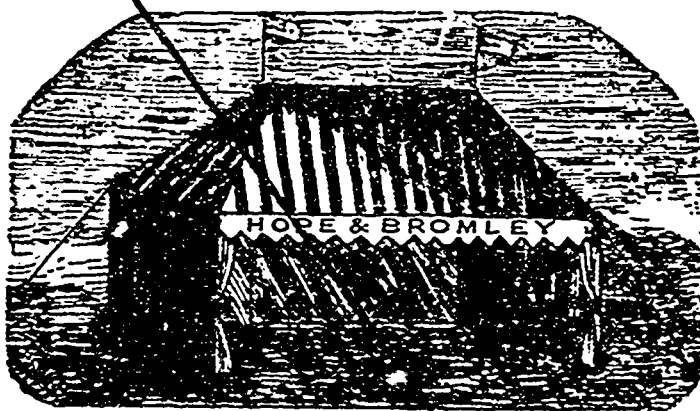
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NOTE.—Special attention given to the Manufacture of Hair Mattresses.

BEES AND POULTRY.

POULTRY TERMS AND TECHNICALITIES.

There are very many persons who are familiar with poultry, their general appearance and common habits, and yet unacquainted with the terms used in modern poultry-books and journals. As the poultry-books do not, as a general thing, explain the various terms they use, it is hard for the uninformed to understand the meaning of them. I will try to give, in as condensed form as possible, the meaning of those terms most in use.

Beard: A bunch of feathers under the throat of some chickens, such as Houdans, Polish, &c. **Breast:** It extends from the neck to the thighs, and from wing to wing.—**Bredd:** A kind of fowl.—**Broody:** Wanting to sit.—**Capon:** A male fowl that has been castrated.—**Carunculated:** Covered with small protuberances, as on the head of a turkey cock.—**Casque:** The helmet-like fleshy protuberance or comb of the Guinea.—**Chick:** A chicken under a year old; when over a year they are called *fowls*.—**Clutch:** This term is applied both to the batch of eggs sat upon by a fowl, and the brood hatched therefrom.—**Cockerel:** A male chicken under one year of age.—**Condition:** The state of a fowl as it regards health and beauty of plumage.—**Crest:** The tuft or bunch of feathers on the top of the head.—**Crop:** The receptacle in which the fowl's food is stored before passing into the gizzard.—**Cushion:** The mass of feathers over the rump of the hen, covering the tail; chiefly developed in Cochins.—**Dubbing:** Cutting off the comb, wattles, and earlobes, so as to leave the head smooth and clean.—**Dunghills:** A chicken of no particular breed, but of a mingling of breeds. Game fanciers call all fowls dunghill that are not game.—**Earlobes:** The folds of bare skin hanging just below the ears.—**Face:** The bare skin around the eye.—**Flights:** The primary feathers of the wings used in flying, but tucked under the wings when at rest.—**Fluff:** Soft, downy feathers about the thighs, chiefly developed in Asiatics.—**Gaff:** The metal spur put on over the natural spur for cock-fighting.—**Game:** A fowl that will fight until he is killed in the pit.—**Gills:** A name often applied to wattles.—**Hackles:** The long narrow feathers on the neck.—**Hock:** The joint between the thigh and the shank.—**Leg:** In the living fowl, this is the scaly part, usually denominated the shank.—**Leg feathers:** Those growing on the outer side of the shank.—**Moulting:** Periodical shedding and renewal of feathers.—**Non-sitters:** Those fowl that do not incubate, such as Leghorns, Polish, &c.—**Pea comb:** A triple comb, resembling three combs in one, the middle being the highest.—**Penciling:** Small markings or stripes over the feather.—**Poult:** A young turkey.—**Primaries:** See flights.—**Stag:** A male game chicken under eighteen months old.—**Strain:** Fowls that are bred in-and-in are said to be of a strain.—**Top-knot:** See Crest.—**Vulture Hock:** It projects two or more inches out from the joint like a spur, and is composed of hard, stiff, quill feathers.—**Walk:** The place where poultry is kept. When a stag is put with some hens, away from any old cock, he is said to be put on a walk.—**Wattles:** The fleshy protuberances hanging from the under

part of the bill and upper part of the throat.—*Cor. Germantown Telegraph.*

WHITE LEGHORNS.

This variety of Leghorn has been longest known. They closely resemble the old White Spanish, the principal difference being in the colour of the legs; those of the Spanish being gray or blue—those of the Leghorns yellow. The following description of this breed is from Tegetmeier, as it appeared in the second edition of his "Poultry Book" (1873).

"To our American cousins is due the credit of having introduced certain admirable breeds of poultry. The Brahmas are undoubtedly second to none as useful fowls, being unsurpassed for size, hardihood and fertility amongst the incubating breeds. Another race, which is equally popular in the United States as being at once most useful and ornamental, is that known as the White Leghorn. These fowls are hardly, if at all, known in this country; but, having tested their merits for



WHITE LEGHORNS.

two seasons, I can report most favourably of them, and fully indorse all that has been said in their favour on the other side of the Atlantic.

"White Leghorns are birds of the Spanish type, but with white in the place of black plumage. Their legs are bright yellow, and perfectly free from feathering on the shanks. The faces are red, the ear-lobes only being white. The comb in the cock is thin, erect and evenly serrated. In the hen it falls over like that of a Spanish hen. The tail in the cock is exceedingly well-furnished with side sickle-feathers, and in both sexes is carried particularly erect. The birds are active, good foragers, and have a sprightly and handsome carriage.

"I find them to be abundant layers of full-sized eggs; the hens rarely showing any inclination to sit, but laying the whole year round, except during the time of the annual moult. The chickens are very hardy. Unlike those of the Spanish, they feather quickly and mature rapidly.

"I regard these fowls as an exceedingly useful as well as ornamental addition to our stock of poultry. Whatever competitive shows may have done for other breeds, they have

certainly materially lessened the value of Spanish as useful fowls. In the place of the large, prolific, hardy breed which was formerly known under that name, we have a smaller race, very leggy, and feathering with such slowness that chickens are often seen in prize pens that have not produced their tail-feathers. In fact, the useful qualities of the race have been neglected in breeding for face and ear-lobe.

THE BEE PASTURES OF MT. SHASTA.

Shasta is a fire mountain, created by a succession of eruptions of ashes and molten lava, which, flowing over the lips of several craters, grew upward and outward like the trunk of a knotty exogenous tree. Then followed a strange contrast. The glacial winter came on, loading the cooling mountain with ice which flowed slowly outward in every direction, radiating from the summit in the form of one vast conical glacier—a down-crawling mantle of ice upon a fountain of smouldering fire, crushing and grinding for centuries its brown, flinty lavas with incessant activity, and thus degrading and remodelling the entire mountain. When, at length, the glacial period began to draw near its close, the ice-mountain was gradually melted off around the bottom, and in receding and breaking into its present fragmentary condition, irregular rings and heaps of moraine matter were stored upon its flanks. The glacial erosion of most of the Shasta lavas produced a detritus, composed of rough subangular boulders of moderate size, and porous gravel and sand, which yields freely to the transporting power of running water. Under nature's arrangement, the next marked geological event made to take place in the history of Mount Shasta was a water-flood of extraordinary magnitude, which acted with sublime energy upon this prepared glacial detritus, sorting it out and carrying down immense quantities from the higher slopes, and re-depositing it in smooth, delta-like beds of moraine soil, thus suddenly and simultaneously laid down and joined edge to edge, that now form the main honey-zone.

Thus by forces seemingly antagonistic and destructive, has Mother Nature accomplished her beneficent designs—now a flood of fire, now a flood of ice, now a flood of water; and then an outburst of organic life, a milky-way of snowy petals and wings, girdling the rugged mountain like a cloud, as if the vivifying sunbeams beating against its sides had broken into a foam of plant-bloom and bees.

In this lovely wilderness the bees rove and revel, rejoicing in the bounty of the sun, clambering eagerly through bramble and huckle-bloom, stirring the clustered bells of the manzanita, now humming aloft among polleny willows and firs, now down on the ashy ground among the gillias and buttercups, and anon plunging deep into snowy banks of cherry and buckthorn. . . . The Shasta bees are perhaps better fed than any other in the sierra. Their field-work is one perpetual feast; but, however exhilarating the sunshine or bountiful the supply of flowers, they are always dainty feeders. Humming-moths and humming-birds seldom set foot upon a flower, but poise on the wing in front of it, and reach forward as though they were sucking through straws. But bees, though as dainty as they,

hug their favorite flowers with profound cordiality, and push their blunt, polleny faces against them, like babies on their mother's bosom.

HOW CHICKENS GET OUT OF THEIR SHELLS.

Take an egg out of a nest on which a hen has had her full time, carefully holding it to the ear, turning it around, you will find the exact spot, which the little fellow is picking on the inside of the shell; this he will do until the inside shell is perforated, and the shell is forced outward as a small scale, leaving a small hole. Now, if you will take one of the eggs in this condition from under the hen, remove it to the house or some other suitable place, put it in a box or nest, keeping it warm and moist, as near the temperature of the hen as possible (which may be done by laying it between two bottles of warm water upon some cotton or wool), and lay a glass over the box or nest, then you can sit or stand, as is most convenient, and witness the true *modus operandi*. Now watch the little fellow work his way into the world, and you will be amused and instructed, as I have often been. After he has got his opening he commences a nibbling motion with the point of the upper bill on the outside of the shell, always working to the right (if you have the large end of the egg from you and the hole upward) until he has worked his way almost around, say within one half an inch in a perfect circle, he then forces the cap or butt end of the shell off, and then has a chance to straighten his neck, thereby loosening his legs somewhat, and so by their help forcing the body from the shell.—*American Farm Journal*.

FATTENING TURKEYS.

An old turkey raiser gives an account of an experiment in fattening turkeys as follows: Four turkeys are fed on meal, boiled potatoes and oats. Four others of the same brood were also at the same time confined in another pen and fed daily on the same articles, but with one pint of very finely pulverised charcoal mixed with their food—mixed meal and boiled potatoes. They had also a plentiful supply of charcoal in their pen. The eight were killed on the same day, and there was a difference of one and one-half pounds each in favour of the fowls which had been supplied with charcoal, they being much the fatter, and the meat being greatly superior in point of tenderness and flavour.

WARMING HENS' FOOD.

After an experience of several seasons, says the *Poultry Monthly*, we have adopted the system of warming the food all through the winter and cold weather, both morning and evening, and we attribute the excellent laying qualities of the fowls, in a great measure, to doing this. This food, whether whole or broken, grain or other food, either dry or moistened, should be warmed well before feeding. Some breeders as well as farmers make a practice of parching their whole corn, and are assured it is beneficial. Where new unseasoned corn is used for chicken food, this parching is a decided benefit, for it makes it equally as good for feeding as old-seasoned corn.

SKETCHES OF CANADIAN WILD BIRDS.

BY W. L. KELLS, LISTOWEL, ONT.

THE BAY-BREADED WARBLER.

This species is five inches in length. The plumage on the head is reddish, or chestnut, sides of the head dark, breast bay, and belly white, upper parts brownish. It generally frequents wild swampy woods, but not low bushy places, as it seems to prefer to glean its insect prey among the lower branches of trees rather than near the surface of the ground. It forms its nest among thick leaves, or where a cluster of small branches project from the stem, or in the top of a small hemlock; this is formed of small roots, strips of bark, moss and hair. The eggs are three or four to the set, are of a whitish hue, dotted towards the large end with reddish spots.

THE CHESTNUT-SIDED WARBLER.

This species is also about five inches in length. The crown of the head has a greenish yellow hue, the back and wings are marked black and gray, lower parts also gray, sides of the breast chestnut. It frequents low, thick hardwood shrubberies, where, during the summer season, it finds its insect food in abundance, and here in some low thick bush, or cluster of raspberry vines, it makes its nest. This structure (not very neatly formed) is composed of small dry vines, grass and hair. Its set of eggs, three or four in number, are of a white hue, dotted towards the large end with reddish spots.

THE ORANGE-CROWNED WARBLER.

This bird is five inches long, the plumage on the upper parts has an ashy-green hue, the crown of the head is bright orange, and the sides of the head and wings are marked with bars of white. Its nest is formed in the fork of a small bush, and composed of woolly matter, dry weeds, and fine dry grass, not, however, very neatly put together. The eggs, three or four to the set, are of a white hue, with dark dottings towards the large end. It is an active bird, and though its cricket-like notes may often be heard, as it gleans its insect prey among the green foliage of the summer woods, yet from its small size and quick movements it is not often easy to catch a glimpse of the warbler itself. Like the rest of its genus it departs southwards with the advent of the autumn frosts, and returns again when the woods and fields of Canada assume the emerald garb of summer.

THE MYRTLE BIRD.

This species—known also as the yellow-rump warbler—is a little over five inches in length. The plumage on the upper parts is light black, with a few whitish spots on the wings; the throat also is white, with a dark spot on the upper part of the breast, and the lower part has a yellow hue. It frequents swampy woods near the margins of the clearings, where there is a mingling of black ash timber and low balsam, and on the borders of small creeks. Here, in some small balsam, it forms a nest much like that of the red-cap, or chipping sparrow. This is constructed of fine dry stalks of weeds, small fibrous roots, spiders' webs, and hair. The eggs—four to the set—are white, with a ring of pale reddish spots towards the large end, and a few

dots of the same hue over the centre. Its food and migratory movements are similar to that of the other warblers.

THE DUSTY WARBLER.

This bird is four inches long, the colour on the back and wings has a dusty brown hue, with a tinge of olive; beneath, the colour is ashy. The male utters a low, but pleasant warble; its common notes are a simple "chip," peculiar to and varying but little in the warblers. Its habitation is the outskirts of hardwood-timbered lands, where there is low, thick underwood, in some thicket of which—sometimes a small evergreen—the nest is placed. This complicated structure is formed of dry stalks, fine strips of bark and other woody matter, and fine hair. The eggs—four to the set—are white, with a sprinkling of reddish spots on the large end.

THE YELLOW-THROATED WARBLER.

This species—sometimes called the linnet—is four inches in length. The plumage on the upper part of the body, wings and tail, is of a dusty-purple hue; the breast is yellow, with a dark crescent-shaped spot on the upper part. It frequents the margins of the woods where there are low, thick bushes, fallen timber, and raspberry vines. Here the female conceals her nest, formed of moss, fine dry grass, and hair, and generally placed in a crevice of a mossy bank, or old log. In this are deposited five or six eggs, of a white hue, mottled with pale reddish spots on the large end, and a few over the surface. And here the pleasant warbling notes of the male are often heard, while the bird itself is concealed amid the deep foliage of the brushwood. Its habits are retired and solitary, and but few of them are ever seen together. The male has two kinds of song notes, one of which, a kind of murmuring warble, is frequently uttered as he gleans his insect food among the leafy surroundings of the nesting place; the other, a more musical melody of many notes, is only repeated as he rises skyward upon quivering wings, and as the last cadence expires upon the summer air, he darts downwards to the thickets, where he loves to dwell.

THE YELLOW WARBLER.

This very common summer visitor—called also the summer warbler—appears to be found in most parts of the American continent, from Florida to Quebec. It is between four and five inches in length. The greater part of the plumage is bright yellow, tinged with green, golden, and brownish hues. It is a lively, but familiar bird; and its bright, golden hues render it conspicuous as, in pursuit of caterpillars and flirting insects, it pries and darts among the blooming shrubs and orchard trees. It is partial to thick, shady groves, and forms its compact, downy nest among the thick branches of shrubs, willows, or fruit trees, often quite near human dwellings. The eggs—generally four—are white, with a bluish tinge, mottled with pink spots. It is strongly attached to its eggs and young, and when the latter begin to show signs of leaving the nest the scolding notes of the parents are constantly uttered as they flirt around.

For working oxen, no breed can compare with the Devon. They are quick, large, docile, and easily kept. The colour is uniformly red, and they can be easily matched. On heavy roads the oxen of this breed are equal to horses in many respects, and at times superior.

HOME CIRCLE.

THOSE WHO NEVER DO WRONG.

'Tis hard to labour from morn till night,
To plough the furrow and pluck the weeds,
For those who poorly the task requite,
And care but little for all our needs;
But the hardest work is to get along
With those who never do anything wrong.

You're sure to meet in the course of life
With men and women who freely state
Their own opinion, with yours at strife,
And you may endeavour to set them straight;
But you'll find it wiser to jog along
Than argue with those who never do wrong.

They go their way, with a smile, no doubt,
At us who suffer such pains and aches
And mental torture, at finding out
That we've committed some grave mistakes;
With pride unbroken, erect and strong,
Are those who never do anything wrong.

You may note their faults and attempt to prove
Wherein they err, but as well essay
With a cambric needle that rock to move
That fills the passage and blocks your way;
You may talk by the hour with tears in your eyes,
But they'll never confess nor apologize.

They never come with a tearful face,
And tender kisses, to make amends
For wounds inflicted; or say with grace,
"I'm sorry! forgive me, and let's be friends!"
But stern and unyielding they move along,
Convinced they have never done anything wrong.

This is a work-a-day world we're in,
And toils and troubles their round repeat;
But out of the tangles some gold we spin;
And out of the bitter extract some sweet;
But the hardest work is to get along
With those who never do anything wrong!

TENNYSON—MACDONALD—LOWELL.

BY REV. A. McLEOD, D.D., OF BIRKENHEAD.

A sense of the spiritual realities and chances for doing good, as present and near to us, is a favourite mood with Lowell. It prevades his early and beautiful poem, "Sir Launfal." And as this poem gives me an opportunity of bringing American and English poetry into comparison—at least, at one fair testing-point—I shall dwell for a little over it. The subject is the search for the Holy Grail. This Grail is the cup out of which Jesus drank at the Last Supper. According to the legend, it was brought into England by Joseph of Arimathea, and was kept by his descendants for many generations, until, in the lapse of years, through the infidelity of its keepers, it disappeared. Then it became a favourite enterprise of heroic people—knights of Arthur's Court and the like—to go forth in quest of it. We have three descriptions of this quest—one by Tennyson, one by George MacDonald, and one by Lowell. It is these I mean to compare.

Tennyson's first poem on the theme is "Sir Galahad." And this is what the blameless knight describes:

"Sometimes on lonely mountain meres
I find a magic bark;
I leap on board; no helmsman steers—
I float till all is dark.

"A gentle sound, an awful light—
Three angels bear the Holy Grail
With folded feet, in stoles of white,
On sleeping wings they sail."

He next handles the subject in the "Idyls of the King." And there it is the nun, Percival's sister, who finds it. Coming to her brother one day, her eyes all aglow—

"And, O my brother Percival, she said,
'Sweet brother, I have seen the Holy Grail.'"

Then she tells of a heavenly music she had heard at the dead of night:

"And then
Streamed through my cell a cold and silver beam,
And down the long beam stole the Holy Grail—
Rose red with beatings in it, as if alive—
Till all the white walls of my cell were dyed
With rosy colours leaping on the wall."

Now what Tennyson exhibits is the very cup—charged, glorified, and living, it is true—but still the thing itself. Listen now to George MacDonald:

"Through the wood, the sunny day
Glimmered sweetly sad;
Through the wood his weary way
Rode Sir Galahad."

He rode past churches, through forests, through villages
with human crowds in them, then—

"Galahad was in the night
When man's hope is dumb.
Galahad was in the night
When God's wonders come.
Wings he heard not floating by,
Heard not voices fall,
Yet he started with a cry—
Saw the San Greal!"

The vision passed. Galahad gave up, and then resumed
the quest:

"But at last Sir Galahad
Found it on a day,

Took the Grail into his hand
Had the cup of joy,
Carried it about the land
Gladsome as a boy."

But what had he found? What did he hide from all
human seeing in his bosom? What did his friends search
for when he died?

"When he died, with reverent care,
Opened they his vest,
Seeking for the cup he bare,
Hidden in his breast.
Nothing found they to their will,
Nothing found at all;
In his bosom deeper still
Lay the San Greal."

There can be no question that this is a clear advance on
Tennyson's treatment of the subject. Tennyson's is literal,
MacDonald's spiritual. The San Greal with the latter is
that Word of God, which the young man in the Psalm,
finding, hides in his bosom, that he may, in the power of it,
cleanse his way. Let us now turn to the ethical treatment
of the theme. Sir Launfal has long vowed to find the Grail.
On a bright day in June he dreams that he is still young,
and setting forth from his castle to fulfil his vow:

"It was morning on hill, and stream, and tree,
And morning in the young knight's heart."

But as he stepped out of the gloom of his gateway into
the light—

"He was 'ware of a leper crouched by the same,
Who begged with his hand, and moaned as he sat;
And a loathing over Sir Launfal came,
The sunshine went out of his soul with a thrill.
The flesh 'neath his armour did shrink and crawl.
And midway its leap, his heart stood still
Like a frozen waterfall.

For this man so foul, so bent of stature,
Rasped harshly against his dainty nature,
And seemed the one blot on the summer morn,
So he tossed him a piece of gold in scorn."

In Sir Launfal's vision long years of toil and suffering go
past. At length, one Christmas, he returns from what has
been a bootless search. Winter is on all the land. It is
winter also with himself. He is old. A usurper has seized
his castle in his absence, and he is turned away from his own
gate. But standing there, musing sadly on the past, in the
presence of the gate that will not open for him more, he
hears a long-forgotten voice. It is the voice of the same
miserable leper who sickened him years before when he was
setting out, and who now again begs, for Christ's sweet
sake, an alms. But Sir Launfal is of another spirit now,
and divides his one remaining crust with the sufferer, and
breaks the ice at the streamlet near by, that he may bring
him a drink, saying as he did so:

"I behold in thee
An image of him who died on the tree:
Thy also hast had thy crown of thorns,
Thou also hast had the world's buffets and scorns:
And to thy life were not denied
The wounds in the hands and side.
Mild Mary's Son, acknowledge me—
Behold, thro' Him, I give to thee."

Then the soul of the leper stood up in his eyes, and the
past came back to Sir Launfal, and he remembered with
shame how he had loathed this poor object before. But
as he mused, a light shone round about the place:

"The leper no longer crouched at his side,
But stood before him glorified,
Shining, and tall, and fair, and straight,
As the pillar that stood at the Beautiful Gate;
Himself the Gate, whereby men can
Enter the temple of God in man."

And listening to him, lo! the voice becomes the voice of
Christ, and this is what he says:

"Lo, it is I, be not afraid!
In many climes without avail,
Thou hast spent thy life for the Holy Grail;
Behold, it is here, this cup which thou
Didst fill at the streamlet for me but now;
This Crust is My Body broken for thee,
This water His blood that died on the tree;
The Holy Supper is kept indeed,
In whatso we share with a brother's need.
Not that which we give, but that which we share—
For the gift without the giver is bare;
Who bestows himself, with his alms feeds three—
Himself, his hungering neighbour, and Me!"

Then Sir Launfal awoke from his dream. He had found
the Grail at his very door, in his very hand. He acted out
the teaching of his dream. His castle became the refuge of
the children of sorrow. He shared all he had with the poor.

"And there's no poor man in the north countrie,
But is Lord of the Earldom as much as he."

Do I require to say that we have here a handling of the
old legend, higher than either of the other two?

THE NEW ENGLAND QUAKERS.

Mr. John Fiske in "Harper's Monthly" for December
shows why the Puritans of New England were so strongly
opposed to the Quakers of that region:

"The Puritan laid no claim to the possession of any pec-
uliar inspiration or divine light whereby he might be aided
in ascertaining the meaning of the sacred text; but he used
his reason just as he would in any matter of business, and
he sought to convince, and expected to be convinced, by
rational argument, and by nothing else. It followed, from
this denial of any peculiar inspiration, that there was no room
in the Puritan commonwealth for anything like a priestly

class, and that every individual must hold his own opinion
at his own personal risk.

"We can now see what it was that made the Puritans so
intolerant of the Quakers. The followers of George Fox
did lay claim to the possession of some sort of peculiar or
personal inspiration. They claimed the right to speak and
act as 'the spirit moved them,' and they sometimes sought
to exercise this alleged right to an extent that, in the eyes of
the Puritans, threatened the dissolution of all human society.
Nor were these obnoxious claims confined to the decorum of
written or spoken discussion. The Quakers, who so aroused
the wrath of Boston in the seventeenth century, were not at
all like the quiet and respectable Quakers whom one meets
to-day in Rhode Island or in Pennsylvania. Many of them
were very turbulent and ill-mannered, to say the least. They
were in the habit of denouncing all earthly magistrates and
princes, and would hoot at the Governor as he passed along
the street. They would allude to the Bible as the 'Word
of the Devil,' and would rush into church on Sundays and
interrupt the sermon with untimely and unseemly remarks.
A certain Thomas Newhouse once came into one of the
meeting-houses in Boston with a glass bottle in each hand,
and, holding them up before the congregation, knocked
them together and smashed them, with the discourteous re-
mark, 'Thus will the Lord break you all in pieces!' At
another time a woman named Brewster came to church with
her face smeared with lamp-black. And Hutchinson and
Cotton Mather relate several instances of Quaker women
running about the streets and coming into town-meeting in
the primitive costume of Eve before the fall. Such proceed-
ings were called 'testifying before the Lord'; but one can
well imagine how they must have been regarded by our
grave and dignified ancestors, who could not have forgotten,
moreover, the odious scenes enacted at Munster by the Ger-
man Anabaptists of the preceding century. It is not strange
that the Puritans of Boston should have made up their minds
that such things should not be permitted in the new com-
munity which they had endured so much to establish.
Several of the Quakers were publicly whipped, or stood
in the pillory. They were forbidden to enter the colony
under the penalty of death; and at last three of their num-
ber, who had twice been dismissed from the colony with
words of warning, and had twice been 'moved by the spirit'
to return and 'testify,' were hanged on Boston Common.

The persecution of witches by the Puritans has been mag-
nified most unduly, and their treatment of the Quakers has
been greatly misrepresented. The researches of the historian
are doing much to relieve their memory from the odium that
has been heaped upon it in many ways by those who have
sought in this way to bring discredit upon their religious
character.

THE EDITOR AND THE COBBLER.

One day an editor hard at work, trying to devise a plan to
make his delinquent subscribers pay their dues, was called
upon by a shoemaker who dropped in to give the editor
some hints on running a newspaper. The editor, pleased
at the opportunity, gave the man his best cane-seat chair,
honoured him with a cigar, and listened attentively to what
he had to say. Quoth the shoemaker, as he lit the weed—
"Your paper needs a hundred improved features; you do
not grasp the topics of the day by the right handle; you
don't set the locals in the right type; your telegraph news
is too thin, even the paper itself is poorly manufactured,
not thick enough, and of too chalky white; you don't run
enough matter, and what you do run ain't of the right sort;
your idea on Disestablishment is wrong, and in regard to
'We Colin' you stand bad. I tell you these things be-
cause I want to see you succeed. I tell you as a friend. I
don't take your paper myself, but I see it once in a while;
and as a paper is a public affair, I suppose I have as good a
right to criticize it as anybody. If a man wants to give me
advise, I let him; I'm glad to have him, in fact."

"That's exactly it," said the editor, kindly; "I always
had a dim idea of my short-comings, but never had them so
clearly and convincingly set forth as by you. It is impos-
sible to express my gratitude for the trouble you have taken,
not only to find out these facts, but point them out also.
Some people, knowing all these things, perhaps nearly as
well as you, are mean enough to keep them to themselves.
Your suggestions come in a most appropriate time. I have
wanted some one to lean on, as it were, for some weeks.
Keep your eye on the paper, and when you see a weak spot,
come up." The shoemaker left, happy to know that his
suggestions had been received with such a Christian spirit.

Next day, just as he was finishing a boot, the editor came
in, and picking up the mate, remarked: "I want to tell
you how that boot strikes me. In the first place, the leather
is poor; the stitches in the sole are wide apart, and in the
uppers too near the edge. These uppers will go to pieces in
two weeks. It's all wrong, my friend, putting poor leather
in the heels, and smoothing it over with grease and lamp-
black. Everybody complains of your boots; they don't
last, the legs are too short, the toes too narrow, and the instep
too high. How you can have the 'gall' to charge 22s.
for such boots beats me. Now, I tell you this because I like
to see you succeed. Of course I don't know any more about
shoemaking than you do about a newspaper, but still I take
an interest in you because you was so well disposed towards
me. In fact I—" Here the exasperated cobbler grabbed
a lapstone, and the editor gained the street, followed by old
knives, pincers, hammers, and awls, cent after him by the
wrathful cobbler.

SPEAK TO INDIVIDUALS SINGLY.

In an address recently given by H. L. Hastings of Boston,
he says: "It will be well for us to learn to speak to indi-
viduals singly. 'A congregation of one' may be large
enough to call forth all our powers in proclaiming the great
news of salvation. Often we may save sinners one by one.
If you had a bushel of bottles, and wanted to fill them with
water, you would not think the quickest way would be to
get a fire engine and hose and play over the heap—especially
if the corks were all in—but you would be likely to take a

single bottle by the neck, extract the cork, and then by means of a funnel turn in a little water at a time until it was filled; and then take another and repeat the process. You would get more bottles filled that way than with a hose and fire-engine playing upon them. So you may be able to accomplish more by working single-handed than in crowds. You may preach the word by the wayside or by the fire-side, for people need the same Gospel indoors as out."

We need to have the peace of God in our own hearts before we can do much good to other people's heart; and unless we can rule our own spirits, we shall not accomplish much in moulding the spirits of others. We notice a blacksmith uses a cold hammer to bend a hot iron; and after working with his tools a little while he plunges them into cold water. So, if you are to influence others, you must keep cool yourself; if you get your hammer hot you will not be able to bend the iron. It is useless to undertake to fight the devil with fire; but if you have the joy of God in your hearts you can smile at Satan's rage. You know the story of the old French General, who when he had besought the king to spare the Christians from persecution, and had been refused, said: "Sire, God's Church is an anvil that has worn out a great many hammers." Now, if you are filled with the Holy Spirit, you can stand a great deal of hammering, and the world will mock and sneer at you in vain; if you keep near the Lord you will ever triumph in His grace.

THE COVENANTER'S PRISON.

It was now that the cup of the suffering Presbyterians was filled to the brim. The Government, eager to improve the advantage they had obtained on the fatal field of Bothwell Bridge, struck more terribly than ever, in the hope of effecting the utter extermination of the Covenanters before they had time to rally. Twelve hundred had surrendered themselves prisoners on the field of the battle. They were stripped almost naked, tied two and two, and driven to Edinburgh, being treated with great inhumanity on the way, and on arriving at their destination, the prisons being full, they were penned like cattle, or rather like wild beasts, in Greyfriars Churchyard. What a different spectacle from that which this famous spot had exhibited forty years before! Their misery was heart-rending. The Government's barbarity towards them would be incredible were it not too surely attested. These 1,200 persons were left without the slightest shelter; they were exposed to all weathers, to the rain, the tempest, the snow; they slept on the bare earth; their guard treated them capriciously and cruelly, robbing them of their little money, and often driving away the citizens who sought to relieve their great sufferings by bringing them food or clothing. Some made their escape; others were released on signing a bond of non-resistance; others were freed when found to be sinking under wounds, or diseases contracted by exposure. At the end of five months—for so long did this miserable crowd remain shut up in the graveyard—the 1,200 were reduced to 250. On the morning of the 15th of November, 1679, these 250 were taken down to Leith, and embarked on board a vessel to be transported to Barbadoes. They were crowded into the hold of the ship, when there was scarce room for 100. Awful were the heat, the thirst, and other horrors of this floating dungeon. Their ship was overtaken by a terrible tempest of the coast of Orkney. It was thrown by the winds upon the rocks, and many of the poor prisoners on board were drowned. Those who escaped the waves were carried to Barbadoes and sold as slaves. A few only survived to return to their native land at the Revolution.—*Dr. Wylie.*

SHADOWS.

Many things can be learned from a shadow. Let us make an example or two. First, suppose we are in a part of the country with which we are not much acquainted, and we want to know the direction in which we are travelling; we can tell by the direction in which the shadows are thrown. We have simply to note the time by our watch, and bear in mind that the sun rises in the east, and sets nearly south by midday, after which he goes west. We must, at the same time, bear in mind that the shadow is thrown in exactly the opposite direction, so that when the sun is southeast, as it always is before midday, the shadows are thrown northwest. We need not compare the direction in which we are travelling with the line cast by our shadow. Again, suppose we are out walking, near midday, in the summer, and we have no means of knowing the exact time, nor the direction in which we are walking. Take a stick—a walking-stick will do very well, indeed—plant it upright; its shadow will be thrown by the sun, providing it is shining at the time, and, as it is near midday, its shadow will be short, and we can tell whether it is before or after noon, for, if before midday, the shadow will become shorter and shorter; if just after, it will increase in length. So that in this experiment we get both an indication of the time of day and the means of telling the four points of the compass. In this lies the whole secret of the sundial.

LOVE PASSING KNOWLEDGE.

The Rev. William Arthur, that blessed Wesleyan author and preacher, said in a recent address:

"The Apostle, speaking for people just like us—people certainly not worse than we are, and perhaps not much better, but at all events men of flesh and blood, and with just the same temptations, and dangers, and weaknesses as we have, prayed that the Lord would grant them according to his riches in glory. It is not according to their deserts, but according to what he is, according to his riches in glory, 'that ye being strengthened with all might by His Spirit in the inner man, may be able to comprehend with all saints what is the breadth, and length, and depth, and height, and to know the love of Christ which passeth knowledge.' You say, 'I cannot know what passeth knowledge.' That is a paradox. No, it is not a paradox, and when you say, 'I cannot know what passeth knowledge,' you say what is not

correct. You don't know what passeth knowledge! The eye knows the sun, but the sun passes the knowledge of the eye, and the eye, by a fullness of light, can never make a day, but the eye may be so filled with the fulness of the sun that the whole body shall be full of light. And so the sailor knows the sea, but the sea passes his knowledge; and the botanist knows the plants, but the plants pass his knowledge; and every baptized child of God, upon whom has come the Spirit of the Saviour, knows the love of Christ, but the love of Christ passeth his knowledge—passes all knowledge. So may we comprehend this love of Christ which passes knowledge, that we may be filled with all the fulness of God—filled out of His fulness, filled by His power, filled so full that God should pronounce us full.

COMPENSATION.

It was the time of Autumn,
When leaves are turning brown,—
Green to yellow and pied and black;
And some were tumbling down.

It was the time of autumn,
When fruits are gathered in,
Some for the press, some for the vat,
And some for the miller's bin.

Then poor men fell a-playing,
For that their work was o'er;
And rich men fell a-sighing,
That they could play no more.

For the summer-time is a merry time,
If a man have leisure to play;
But the summer time is a weary time,
To him who must work all day.

Then thanks to God the giver,
Who loves both great and small;
To every one he something gives,
But to no man gives all.

The rich who careth for himself
Finds after pleasure pain;
But the toiler whom God careth for,
Rests and is glad again.

HER ONLY ONE.

"Good dame, how many children have you?"
Then with a loving and troubled face,
Sadly she looked at an empty place:
"Friend, I have two."
"Nay, Mother," the father gravely said;
"We have only one; and so long ago
He left his home, I am sure we know
He must be dead."

"Yes, I have two—one a little child,
Comes to me often at evening light;
His pure, sweet face, and garments white,
All undefiled.
With clear, bright eyes, and soft, soft hair,
He climbs upon his mother's knee,
Folds baby hands and whispers to me
His evening prayer.

"The other, he took a wilful way,
Went far out West, and they link his name
With deeds of cruelty and shame.
I can but pray,
And a mother's prayers are never cold;
So in my heart the innocent child
And the reckless man by sin defiled,
The same I hold.

"But yet I keep them ever apart;
For I will not stain the memory
Of the boy who once prayed at my knee,
Close to my heart.

The man he grew to will come again;
No matter how far away he may roam,
Father and Mother will bring him home—
Prayers are not in vain."

The stranger stood in the broader light.
"Oh, Mother! oh, Father!" he weeping said,
"I have come back to your side, to tread
The path that's right."
And so the answer to prayer was won;
And the Father wept glad tears of joy,
And the mother kissed and blessed her boy—
Her only one!

—Mary B. Burnett.

A MISUSED TEXT.

Whenever a man wishes to make a decent apology for the growing secularization of the Lord's Day, he is likely to begin or end by quoting our Lord's words, "The Sabbath was made for man, and not man for the Sabbath." If the quotation is made in the same spirit in which the devil quoted Scripture to Jesus, not from reverence for the Scriptures, nor with any thought as submitting to them as "the testimony of God," but only as a missile convenient to himself and possibly embarrassing to a Christian, it may be no less our duty to rescue it from such misuse.

"The Sabbath was made," instituted, not by man, but "for man." By whom made? Is it not plainly intimated that it is a divine institution? The Sabbath, then differs (by the divine intention) from other days, for man's sake. It is not committed to men, to do with it as they will, but it has certain characteristics, adopting it to man, which belong to it by the authority and sovereign appointment of God. That this is so is manifest by the inference which the Sa-

viour draws for us. "Made for man,—therefore the Son of Man is Lord of the Sabbath." There are those who appear to reason,—It was made for man, and therefore it is lawful on the Sabbath to do our own pleasure. But our Lord says, the simple fact that the Sabbath was made for man makes it plain that it is the Lord's Day.

But there are those who admit that the Sabbath was given by God—to the Jews, and contend that Jesus, Himself a Jew, "of the seed of Abraham," was here reasoning with Jews on grounds common to Him and them, but of no wider application. This cannot be admitted. "The Son of Man"—the Messiah—"is Lord of the Sabbath." The Sabbath is, then, something pertaining to the Kingdom of Christ, to the new as well as to the old dispensation. He, speaking of Himself by the title which expresses His mediatorial character and His headship over the Church, declares the guardianship of the Sabbath to be within the lordship of the Christ. It is a Christian institution, and binding upon Christians.

This text, then, when examined with a very moderate degree of attention, is seen to lend no countenance to the too common notion, that men are at liberty to pervert the day to anything they like. Man is to accept it as the gift of God, for the purpose for which he designated it, to be used according to the will of Him who is "Lord of the Sabbath." So far from abolishing it, He virtually re-enacts it, as no longer a part merely of the law given to Israel by Moses, but an appointment under "the law of Christ." And all who are loyal to the King in Zion, the Son of God and Son of Man, are called upon to revere and protect the sanctity of the day He has blessed and sanctified.

QUESTIONS TO A FRETFUL WIFE.

"Hester!" exclaimed Aunt Susan, ceasing her rocking and knitting, and sitting upright, "Do you know what your husband will do when you are dead?"

"What do you mean?" was the startling reply.

"He will marry the sweetest-tempered girl he can find."

"Oh! Auntie!" Hester began.

"Don't interrupt me until I have finished," said Aunt Susan leaning back and taking up her knitting. "She may not be as good a housekeeper as you are—in fact, I think not; but she will be good-natured."

"Why, Auntie—"

"That isn't all," composedly continued Aunt Susan. "To-day your husband was half-way across the kitchen-floor bringing you the first ripe peaches; and all you did was to look on and say: 'There, Will, just see your tracks on my clean floor! I won't have my floors all tracked up.' Some men would have thrown the peaches out of the window. To-day you screwed up your face when he kissed you, because his mustache was damp, and said: 'I never want you to kiss me again.' When he empties anything, you tell him not to spill it. When he lifts anything, you tell him not to break it. From morning until night your sharp voice is heard complaining and fault-finding. And last winter when you were sick, you scolded him about his allowing the pump to freeze, and took no notice when he said: 'I was so anxious about you that I did not think of the pump.'"

"But Auntie—"

"Hearken, child. The strongest and most intelligent of them all care more for a woman's tenderness than for anything else in the world; and without this the cleverest and most perfect housekeeper is sure to lose her husband's affections in time. There may be a few more men like Will—as gentle, as loving, as chivalrous, as forgetful of self, and so satisfied with loving that their affections will die a long, struggling death; but in most cases it takes but a few years of fretfulness and fault-finding to turn a husband's love into irritated indifference."

"But Auntie—"

"Yes, well you are not dead yet, and that sweet natured woman has not been found; so you have time to become so serene and sweet that your husband can never imagine that there is a better tempered woman in existence."—*Selected.*

FOURTEEN GREAT MISTAKES.

It is a great mistake to set up our own standard of right and wrong, and judge people accordingly; it is a great mistake to measure the enjoyment of others by our own; to expect uniformity of opinion in the world; to look for judgment and experience in youth; to endeavour to mould all dispositions alike; not to yield to immaterial trifles; to look for perfection in our own actions; to worry ourselves and others with what cannot be remedied; not to alleviate all that needs alleviation, as far as lies in our power; not to make allowances for the infirmities of others; to consider everything impossible which we cannot perform; to believe only what our finite minds can grasp; to expect to be able to understand everything. The greatest of all mistakes is to live only for time, when any moment may launch us into eternity.

COMMON QUOTATION ERRORS.

"God tempers the wind to the shorn lamb" was long attributed to the Psalms of David, until oft-repeated corrections have convinced people that the sentiment belongs to Maria in Laurence Sterne's "Sentimental Journey." The epigram, "Spare the rod and spoil the child," is still often quoted as one of the Proverbs of Solomon, and is rarely attributed to its author, Butler (see "Hudibras," Part II., canto 2, line 843). The nearest approach to any such phrase to be found in the Bible is the text, "He that spareth his rod hateth his son."—Prov. xiii: 24. The reference to "pouring oil on troubled waters" is often supposed to be Scriptural, though the Bible does not make any such allusion. "Man wants but little here below," is an expression no older than Goldsmith's "Hermit," though it is generally quoted either as Scripture or from a line of an ancient hymn. "Mansions of the blest" are mentioned in the Revelations not of St. John the Divine, but of the Monk of Evesham (A.D. 1496).

WHEN IS THE TIME TO DIE?

I asked the glad and happy child,
Whose hands were filled with flowers,
Whose silvery laugh rang free and wild
Among the vine-wreathed bowers.

I crossed her sunny path, and cried
"When is the time to die?"
"Not yet, not yet"—the child replied,
And swiftly bounded by.

I asked a maiden back she threw
The tresses of her hair;
Grief's traces o'er her cheeks, I know,
Like pearls they glistened there.

A flush passed o'er her lily brow,
I heard her spirit sigh—
"Not now," she cried, "Oh, no! not now!
Youth is no time to die!"

I asked a mother, as she pressed,
Her first-born in her arms,
As gently on her tender breast
She hushed her babe's alarms.

In quivering tones her accents came,
Her eyes were dim with tears—
"My boy his mother's life must claim
For many, many years."

I questioned one in manhood's prime,
Of proud and fearless air,
His brow was furrowed not by time,
Nor dimmed by woe or care:

In angry accents he replied,
And flashed with scorn his eye—
"Talk not to me of death," he cried,
"For only age should die."

I questioned age—for whom the tomb
Had long been all prepared—
But death, who withers youth and bloom,
This man of years had spared.

Once more his nature's dying fire
Flashed high, and thus he cried—
"Life—only life—is my desire,"
And gasped, and groaned, and died.

I asked a Christian: "Answer thou—
When is the hour of death?"
A holy calm was on his brow,
And peaceful was his breath,

And sweetly o'er his features stole,
A smile, a light divine,
He spake the language of his soul—
"My Master's time is mine!"

THE HOUSEHOLD WRECK.

BY MINNIE MYSTLE.

And so the pretty farm is sold, and the house which has been tenanted by those of the same family name for nearly a century, has passed into other hands. Strangers are seen going to and out, and the garden and terraced walks echo the footsteps of those to whom it is not dear as the birth place of their fathers and fathers' fathers for many generations. The pretty farm is sold! And what caused the ruin of a household—deprived the sons of an inheritance, and the daughter of a home? Ah, it is a sad story of many thousand in our land! It has all been mortgaged by inches to buy rum!

He who owned it, inherited it unincumbered. There was a rich meadow of many broad acres, whose banks were washed by the river which wound lazily round, beneath the shadows of tall elms and spreading oaks, and the soil yielding abundantly with only the ordinary labour of the husbandman.

Over on the hill side were the densely wooded timber lots, from which the winter fires might have been supplied for centuries, and still left the forest in all its grandeur. At its feet stretched the sunny pastures, where cowslips and clover grew in rich profusion, and the sheep and lazy herds grazed all the summer months, and slacked their thirst in the pebbly brook which meandered along its borders.

The house was an antique, and stood upon the brow of the gently sloping hill. It was built in the olden time, when convenience was little studied by designers and builders, but the site on which its foundation rested overlooked all the surrounding country. From the windows the owner could look far away over the fields he cultivated, see the river winding among the intervals, and the brook gleaming through the tasselled shrubbery that hung over its silvery surface—the road, with its many curves and windings, along which the harvest men jogged merrily, with their loaded carts of mown hay or golden sheaves—the blue hills in the distance and the green hills near by, making a landscape such as a southern valley can present, and a southern farmer may behold with an honest pride.

The garden lay smilingly out in the sunshine; and a professed horticulturist could not have planned it more tastefully, or manifested more pleasure in trellising the delicate

tendrils of that grape-vine that climbed over the latticed bower, or pruning the stems of the gay and parti-coloured flowers that decked the borders of the beds, and made a pleasant contrast with the bright green tufted mounds. How many times have I passed it, long after the shades of evening had gathered around the valley, and seen its useful owner smoothing the terrace, adding some beauty to the hill-side, though all the day he had toiled in the field, and would have only a little time to rest ere he must again go forth to labour.

He married young, a farmer's daughter of a neighbouring county, and never had a young farmer a better prospect in the beginning of life than he. He was industrious and frugal, but his wife did not prove either efficient or economical. "O how much depends on the wife!" is repeated till it is trite, but it is not half realized. She was not so refined in her taste, not so high-minded or intelligent as her husband. All her influence went to drag him down. He would have preferred companionship with the cultivated, and might have been led by a gentle voice had a loving heart gave up all that was degrading. One who understood her mission and was willing to study in all things to be a helpmeet to her husband, who was also capable of improvement herself, might have won him to self-denial and a higher life. But she cared for no society but the low and gossiping. She surrounded him with those who were fond of wine and strong drink. She enjoyed the coarse jests, and vulgar ribaldry of his companions; and never on any occasion spoke a word to dissuade him from his downward course.

The Sabbath was a day of feasting, and their house the resort of idlers, who had no respect for things sacred. In a few years they were almost as much isolated from all refined and cultivated society as if they had lived in the desert. Children grew up with soured embittered feeling toward all around them. They were taught to look upon those who cultivated their minds, and adopted a style of living in accordance with good taste and refinement, as proud and aristocratic, and encouraged to avoid instead of imitating them. The store and tavern, where the vulgar herds convened, were their places of diversion.

In the meantime the poison was at work, and he who dealt it out, and allured the unwary to destruction, was growing rich upon the spoils. Day by day he poured out the liquid fire, which he knew was burning into the very heart's core, destroying mind, and soul, and body, withering every energy, taking the bread from the mouths of children, and desolating a hearthstone around which children and children's children had so long gathered, and exulted in his inhuman traffic. Houses and lands were added to his possessions—he grew rich and was crowned with honours, such as the vulgar are so ready to lavish on those who hoard money—no matter if it is coined from the very life-blood of the widow and the orphan, and stamped with the tears of those who are perishing with hunger and nakedness. Oh, why do not the stones cry against such injustice, or the earth open and swallow up those who thus pollute its surface.

But though the destroyer was silent, and surely at work, there were no evidences of his ruthless hand upon the premises. The land was faithfully tilled, and the crops faithfully harvested, and though he who toiled diligently from morning to night often reeled to his work, the little garden exhibited no signs of neglect; the flower-beds were as neatly bordered, and the honey suckles and morning glories were trained and pruned as tenderly as if the mind had not been shattered, and the body wasted of its strength. The tall shade trees interlaced their gigantic stems, and formed a lofty bower about the dwelling, but never were they left to look scraggy and old. All without was neat, and trim, and tasteful, but alas, all within was without beauty, or taste, or method. The fireside was never bright and cheerful. There were no evidences of the skillful hand of woman on the wall, or the mantle shelf or the work table.

Everything had a sombre and repulsive look, and the atmosphere a chilly and unwholesome dampness. You could not enter the house without feeling that the ennobling influence of a pure-minded woman had never shed its radiance there.

Now and then, conscience, or rather the fear of an untimely death, awoke the slumbering energies of the self-destroyer, and he would resolve to "touch not, taste not, handle not," and for a little while would keep his resolution, and then would come the tempter with his soft speech and flattering tongue, and resolution, and thought and energy would be drowned in the bewildering draught, and another step would be taken down into the deep pit of destruction.

The grave-yard was often passed as he went to his daily labour, and one evening, as he was staggering by, his companions pointed him to a fresh mound, beneath which had recently been lain one who had been their companion through all the days of boyhood, and youth, and ripening manhood, and they had dearly loved. In the vigour and prime of life he had gone down to a drunkard's grave! "Yes," said his companion, "and ere another winter's

snows shall have melted from the green sward, you will have followed him, unless you retire on your downward steps. He might have lived a hale old man, of three score years and ten, gathered like a shock of corn fully ripe, had he lived a temperate man. But he was cut down in the midst of his days, and his death was not the less anticipated because it was produced in years instead of an hour.

He who listened had already experienced the horrors of delirium tremens, and this terrible disease had terminated the life of the friend upon whose grave they were now gazing, and there he made a new resolution that he would cast off the fetters that bound him, the chains which were dragging him to perdition, and lead a new life. For a year the maddening cup did not touch his lips. But there was no kind voice to cheer him on, or command his noble efforts. His fireside was no brighter, and the face of his wife no less gloomy. His former companions deserted him, and there were no new ones of a better class in their place. He was prostrated without his usual excitement, and could not perform his ordinary amount of labour. So he returned to his idols, and never again attempted to cast them away.

He loved his children, and was proud, as fathers often are, of his daughters, who were pretty, and more than ordinarily interesting. But he had not the means of educating them, though they were fully impressed by their ignorant mother with the vulgar idea that their birth and lineage made them ladies. They endeavoured in many little ways to brighten their home and make it more cheerful; but the voices of their parents, which were like a weight upon their spirits, drove them very early in life, to efforts for self-support, and they went forth among strangers to toil as common servants to earn the bread which their father sold for rum. His sons were without ambition, and grew up coarse and grovelling in their tastes; and having no healthy incitement to labour at home, or pleasure in the family circle, they too, early went forth into a world of temptation to be corrupted and destroyed.

So, day by day, and inch by inch, the meadow and pastures, and hill-side were bargained away, and still almost unconsciously; for no mention was made of accounts, and the long column of debt and credit was now exhibited, and no warning words were spoken, till the vultures were ready to swoop upon their prey.

The farm, the homestead, and all his possessions had been bartered, and he had in return a shattered constitution, and an utterly debased and ruined mind. The cup of ruin had been drained to the dregs, and he who, only a little while ago was the owner of a proud domain, might have lived to a good old age, comfortable and independent, and left a pretty inheritance to his children, went forth a beggar, and is fast degenerating into a helpless vagabond. He is only yet in middle life, and without home, or friends, or comfort, the victim of a depraved appetite, and soon for him also will open a drunkard's grave.

The pretty farm is sold, strangers are strolling leisurely in the shadows of those tall old trees, with no reverence for the hand that planted them and only contempt for him who, for worse than a mess of pottage, sold his birthright. They may be happy within those grey old walls, on which he who built them fondly hoped that no name but his would ever be inscribed, and within which none of those in whose veins should not flow his blood should ever dwell; but no more justly did they come by their ill-gotten gains than the midnight thief and the unprincipled marauder.

They have no more reverence either for the God who avenges, and no fear of retribution; yet it may come, for there is woe pronounced against those who lay snares for their neighbours' feet, and who put the cup to their neighbours' lips, and who lay wait to destroy. But may mercy be dealt out to them instead of judgment, for a terrible doom would be theirs, who had done, not only one, but all these things.

But their little household is wrecked, and their inheritance passed away forever. Oh, it is sad to see a home blighted, and the fire upon an ancient hearthstone go out in darkness and woe. But how many have been thus desolated in our fair land by this insidious foe. How stealthy are his footsteps as he creeps over threshold, where he comes to spread the blight and the mildew, to give poverty for riches, and for bright hopes and light hearts, crushed and broken spirits, wretchedness and woe.

It is the monster evil, and comes in a thousand forms to charm its victims to the very verge of the pit. But though I have often seen it enter the cot of the humble, make the poor poorer, and the desolate utterly forsaken, it never before seemed so terrible as when I saw the proud family of this old homestead go forth bowed and stricken, with not a lingering look upon the meadows, the woodlands, the garden, or the hill side, to take shelter in the hut of poverty, and live henceforth upon the pittance which the day labourer, paralyzed and broken, might be able to command.

I turned away in bitter anguish from the sight, and may it be a lesson which shall encourage the humble and prove a timely warning to the proud; for whose estate the bread of industry shall in due time reap an abundant reward, and whose wasteth his subsistence in riotous living shall be brought low.

CATTLE RANCHING.

FORTY THOUSAND HEAD AT THE FOOT OF THE ROCKIES.

THE WONDERS ACCOMPLISHED OUT WEST.

THE SETTLERS AT CALGARY SEND A MEMORIAL TO OTTAWA.

A reporter of the *Daily Sun*, one of Winnipeg's brightest journals, interviewed Mr. J. E. Chapman, of the Halifax Cattle Ranching Company, one day recently. This gentleman was one of the famous Cochrane party, and this is the narrative he relates:

"We got out on the Bow River early in July, 1881, and stayed there six or seven weeks. I selected 100,000 acres on the Kootanie river, near Fort McLeod. It is just at the foot of the mountains. The Kootanie valley is famous as one of the richest stock grazing districts yet found north of the Union Pacific. I got back to Halifax, and afterwards completed arrangements with the Government for the lease of the land. We were one of those eight companies, you will remember, who got in under the first regulations. After completing all the preliminary arrangements I again left last April to purchase a supply of stock and take them through to the range."

"How long do you propose to keep the animals in Canada before selling?"

"The average age of a marketable beast is three years. It used to be four, but the demand is so great that we can't keep them beyond three years. And a three-year old western ranche-fed animal is superior to a four or five-year old beast raised in the east, so that we sell three-year-olds as soon as we get them on the ranche, and sell the others yearly as they attain that age."

"How long do you keep cows for breeding purposes?"

"There is a diversity of opinion on that point, and we are not yet decided as to which of the systems we shall adopt. Some ranchers turn their cows into beef before they become aged, others think it more profitable to allow them to breed as long as they can, and then let them die from old age. They breed every year, from two or three years of age up to twenty. A cow costs, say \$50 on the ranche. When ten years of age she has bred seven calves, which, when three years of age, realize say from \$300 to \$350. If turned into beef, the cow is then worth \$50. If continued as a breeder, at the end of another five years she has raised five more calves, which would realize say \$250. This is calculating at the lowest rate. On the one hand, the amount realized is, say \$350; on the other, it is \$600."

"How does the Canadian grazing ground compare with the stock raising American States and territories?"

"I wanted to purchase a superior herd, and therefore went to the best stock raising States in the Union. I met several Canadian ranchers there, among them, Stimson, managing director of Sir Hugh Allan's Company, Capt. Stewart, of the Stewart Ranche Company, Ottawa; and young Jones, son of D. F. Jones, ex-M.P. for Leeds and Grenville. We had no ranches to buy or sell there, and were not interested in exaggerating in the slightest degree. We were unanimous in coming to the conclusion that one acre in the Bow River

country would feed more stock than five acres in the most famous of the American districts. But when we again returned to our own ranches, with the grass in many places up to the horses' girths, and nowhere below their knees, we were convinced that one of our acres was fully equal to ten of theirs. And any disinterested Americans, after seeing both the countries, would frankly admit that."

"How many acres to each animal is supposed to be sufficient in the States?"

"About fifty."

"And in the Bow River district?"

"The government calculation is ten acres, but in most of the districts it will require more than one animal to eat all the rich grass found on three acres."

"What number of cattle do you estimate are in the Bow River country now?"

"When I went there just fifteen months ago there were less than 1,000 head all told. There was then no ranch in existence. These 1,000 head were owned by squatters. Now there are fully 40,000 head, and the whole country from beyond Fort Calgary on the north to the boundary line on the south, a distance of about 200 miles, and from the foot of the Rockies fully one hundred miles east, is now taken up, and I am told that cattle can be grazed all the year round as far east as the Cypress Hills, over 250 miles from the Rockies. These 40,000 cattle represent a value of \$2,000,000. And all this has been accomplished within the last fifteen months! Besides the cattle, there are over 1,000 horses up there, worth \$150,000."

"If you have accomplished this within fifteen months, what will the next three years show?"

"Nobody can even guess. Look at the progress of Winnipeg within the last three years. Just think of what the last fifteen months has accomplished in cattle ranching. There is not one-twentieth of the ranches yet stocked. Ten thousand head will be raised this year from the cattle now there. The men who brought in 40,000 head this year will bring in at least 30,000 head next year. Then the new ranches have to be stocked with imported cattle. I think I am under the mark when I say that there will be 100,000 head there next year. That means at least 250,000 head at the end of three years."

A PROTEST FROM CALGARY.

A copy of the *Fort McLeod Gazette* of Oct. 24th, shows that the people of Calgary do not approve of the system of letting out large tracts of land for cattle ranches, as the following resolutions show:—

"Resolved,—That whereas the Dominion Government has seen fit to grant leases for cattle ranges already covering nearly all the good agricultural land in the best portion of the proposed Province of Alberta, and whereas it has seen fit to absorb nearly all the remainder of it in Indian reserves and town site reserves, it is the opinion of this meeting that the reservation of three and a half townships in and about Calgary has not only been unwise, but manifestly unjust to the many settlers and pioneers who have come hither to make their homes, while it cannot but act as a check upon the settling up of this portion of the northwest territory. That it is also the opinion of this meeting that the provision in the leases empowering and compelling the lessees of cattle ranges to prevent the location of settlers upon the land so leased, is objectionable and contrary to the best interests of the country. That it is also the opinion of this meeting that the plan of granting timber licenses in a country so destitute of timber, is calculated to retard the settlement of the country and very seriously embarrass the settler. That whereas, the Government have given a reservation to the Sarcee Indians in the heart of one of the most important sections of agricultural country between the Elbow and Fish Creek, it is the opinion of this meeting that the Sarcee Indians should at

once be removed to their own proper reservation, which has never been taken from them, and which is laid down in Treaty Seven."

A resolution was also passed asking the Government to give the notice required for the termination of the leases in two years, with a view to the adoption of the ranching system which has proved such a pronounced success in Montana.

THE TERRITORIES.

PROPOSED DIVISION INTO SEVERAL NEW PROVINCES.

The question of the subdivision of the North-West into new provinces, or rather, territories, is not very clearly understood, and with a view to making it intelligible to our readers, the text of an Order-in-Council passed some time ago is reproduced: The new names and locations are as follows. Assiniboia, containing about 95,000 square miles, is bounded on the south by the International boundary, on the east by the western boundary of Manitoba, on the north by a line drawn near 52° latitude, and on the west by a line drawn between 111° and 111° west longitude; Saskatchewan, containing 114,000 square miles, is bounded on the south by Assiniboia, on the east by Lake Winnipeg and Nelson River, on the north by a line drawn near 55° latitude, and on the west by a continuation of the line marking that boundary of the previous district; Alberta, containing 100,000 square miles, is bounded on the south by the International boundary, on the east by the Assiniboia and Saskatchewan, on the west by British Columbia, and on the north by the continuation of the line bounding Saskatchewan; Athabasca, containing about 122,000 square miles, is bounded on the south by Alberta, on the west by British Columbia, on the east by the line bounding Assiniboia to the west until it intersects Athabasca River, then by it and the lake of the same name, and following Slave Lake to a line near 60° latitude, which forms the northern boundary. To sum up, the Saskatchewan district includes Battleford, Carleton, and Prince Albert. Assiniboia includes Qu'Appelle, South Saskatchewan and Souris rivers, and forts Pellee and Elice. Alberta includes the Battle, Bow, and Belly rivers, the cattle ranche district; and Athabasca takes in the celebrated Peace River districts. This division of the vast country, hitherto known as the North-West, will have the effect of localizing points which hitherto were very indefinitely comprehended, and, by having each its capital assigned it, will form nuclei for settlements more compact than the straggling homestead of prairie squatters.

The occupants of the eastern reserve of the Mennonite lands in Manitoba are carrying out an enterprise of considerable magnitude to render their farms productive in wet seasons. This is a drain which when finished will be fifteen miles in length, twelve feet wide, and in many places six feet deep. Six miles have already been dug. Another drain will be commenced when this one is completed. The Mennonites pay for this work by taxing themselves \$3 on every homestead occupied, which is but a trifle, although enough to make the low land of farms in a few years the very best and richest.

YOUNG CANADA.

A WINTER SONG.

Oh, Summer has the roses
And the laughing light south wind,
And the merry meadows lined
With dowy, dancing posies;
But Winter has the sprites
And the witching frosty nights.

Oh, Summer has the splendour
Of the corn-fields wide and deep,
Where scarlet poppies sleep
And wary shadows wander;
But Winter fields are rare
With diamonds ev'rywhere.

Oh, Summer has the wild bres,
And the ringing, singing no'is
In the robin's tuneful throat,
And the leaf-talk in the trees;
But Winter has the chime
Of the merry Christmas time.

Oh, Summer has the lustro
Of the sunbeams warm and bright,
And rains that fall at night
Where reeds and lilies cluster;
But deep in Winter's snow
The fires of Christmas glow.

BUFFALO HUNTING IN THE
NORTH-WEST.

The buffalo is a strong and fierce-looking animal. Though terrible in appearance, it is nevertheless very gentle in disposition. There are people, both old and young, who imagine that bullying and bragging are signs of strength. This is a mistake. True strength is usually combined with gentleness, and it is a fine combination: the strength dignifies the gentleness and the gentleness beautifies the strength. When pursued and driven to bay by the Indians, buffaloes will turn fiercely on their pursuers, and sometimes inflict severe injuries on rider and horse. To the Indians of the North-West the buffalo is of the greatest use. Many tribes are almost entirely dependent on the animal for their food and clothing. They use the dressed hide of the buffalo in making their tents. The parts of the animal that the red men esteem as delicacies are the hump, the tongue, and the marrow bones, which they cook in their own peculiar fashion.

Long ago these animals roamed over what is now the Dominion of Canada as far east as

the Ottawa River, though they were not to be found on the eastern sea coast. To witness the actual scene depicted here our readers would have to go thousands of miles to the westward. Then possibly they might not see many Indians using spears and bows and arrows while hunting buffalo. Many of these wanderers of the boundless prairie are now provided with rifles.

Buffaloes and Indians both are diminishing in numbers. Even in the middle ages buffalo were to be seen in various parts of Europe, but from that continent they have entirely disappeared, and unless the authorities, sustained by the people, take measures to prevent it, the total destruction of these natives of the great west will be complete in a short time. The picture represents a pursuit that is passing away. War and the chase will be replaced by the pursuits of peaceful industry, and a mighty nation will dwell where hordes of In-

to see their paths, which were to be the spokes of the wheel. But alas! there was only one straight track.

"Charlie," said the others, "how did you keep your track so straight?"

"Why, that is easy enough to tell," said Charlie. "I took that pole for my mark and kept my eyes on it, and never looked down once."

"But," said Joe, "I took that bush for my mark, and didn't get my path as straight as yours. Why was that?"

"Because you kept looking at us," said the others, "instead of keeping your eyes on the mark."

So remember this, boys, and girls too. You all have a path to make, and the steps are your actions. They will show more plainly than you think. Better begin right, then, and make a determination to live a Christian life; asking help from the Lord, and doing all the good you can. Then you will make straight paths in life, as Charlie did in the snow. Instead of looking at others' imperfections, keep your eyes on your perfect mark.

GIRLS ON THE FARM.

A great deal has been said and written concerning the rights of farmers' boys, but nothing about the girls. It is a common thing for farmers to pay their sons fair wages for their work; yet the daughters do not receive a dollar from month to month. Why should this difference exist between the farmer's girl and the boy? The former is quite as much entitled to a reward for services as the latter. In truth, the farmer's girl is frequently the more valuable of the two. She is expected in many cases to arise very early, get breakfast, clean up the house and prepare the other meals required

through the day, or if not, to at least largely aid in all these household duties. In addition she is looked upon by father, mother and brother to entertain company—to act the hostess at least as a creditable second to the mother, and while she may be the pride of the family, and regarded as a sort of privileged character, yet much is expected from her in ten thousand smaller features of home life. Why, then, should she not be encouraged with at least as much pay as the boy? In addition to that, the farm house should be made as attractive as possible—with a piano, plenty of books, newspapers and pictures; cultivate a taste in the girls for flowers, etc. These features, with a moderate amount of work, should produce a happy and contented home farm life.

LIVE to be useful; live to give light; for those who are enabled through grace to shine as a light here, shall in the world to come, shine as suns and stars forever and ever.

A LITTLE boy wanted his parents to take him to church with them. They said he must wait until he was older. "Well," was his rather sharp reply, "you'd better take me now; for when I get bigger I may not want to go!"

dian tribes spent their energies in chasing game or in fighting each other. What a blessed nation it will be if it takes Christ for its light and life.

STRAIGHT PATHS.

Some of my readers, no doubt, never lived out on the prairie; so perhaps you would like to hear a short story about some of the little folks who live on the prairies of Western Iowa.

When I commenced teaching, my school consisted of quite a number of boys and girls who were always busy, in fact I never knew one of them to be idle. The time of which I speak was early in the winter, and cold weather had just begun. One evening a light snow fell, and next morning the children were very busy making snow-balls or snow-men, and were all having a very good time, when Johnnie cried out:—

"Let's make a wheel!"

So at it they went. Selecting a hazel bush as the centre, they all started out in different directions, each taking twenty steps from the bush. This being done, they looked behind

HOW TO BE A MAN.

Not long since a boy of some seventeen years called on a merchant doing a large business in New York. He was poorly clad, and showed evidence of pretty hard work, but his face indicated honesty and common sense, with a firm and energetic manliness under the somewhat rude exterior. When at liberty, the merchant said, "Well, my young friend, what can I do for you?"

"I called, sir," he replied, "to ask you for a situation as an engineer. I was told you were having a new engine built, and I want you to give me the place. I'd like to run it for you."

"Are you an engineer?" asked the gentleman.

"No, sir; but I can be," he answered, setting his lips firmly together, standing up squarely before the gentleman, and looking him fully in the face. "I don't understand the business well; I know something of it, though. But I can be an engineer—and will be; and I wish you would give me a chance."

His modest but determined, yet quiet demeanor pleased the merchant. He was having a new engine built for a certain department of his business, and could of course have as many experienced operators as he desired. It was no object to him to take an inexperienced boy and attempt to train him—no object except to help the boy. Such deeds he was noted for, a fact which had no doubt encouraged the boy to make this application.

"What are you doing now?" he asked.

"Working in a machine shop in Brooklyn. I have been fireman, and have often worked the engine. I think I could get along pretty well with one now, if anybody would have a little patience with me."

"What wages do you get?"

"Four dollars a week, sir."

"What do you do with your money?"

"Give it to my mother, sir."

"Give it to your mother? Humph! What does your mother do with it?"

"Well, you see, there is mother and sister

and me, and mother takes in sewing; but it goes pretty hard, you know. They don't give much for sewing, and it's pretty hard work, too. And then, with all the other work she has to do, you know, she can't get along very fast at that rate, so I help all I can. If I could get an engineer's place, I could get more wages, and it would make it easier for her."

"How do you spend your evenings?" asked the gentleman.

"I attend the free school at Cooper Institute and study mechanics," he replied.

the dust of the floor with his foot, and then replied, "No, sir."

"Why not?" asked the gentleman a little sharply.

"I haven't any clothes fit to wear," he replied. "It takes all the money I can get for us to live, and I can't have any clothes." He looked down at his coarse and well-worn suit; "It didn't use to be so when father was living. I was brought up to go to church and Sunday school. If I can get to be an engineer, we shall go again. I know that I can run an engine."

Telling him to call at a certain time, when he expected his engine would be ready for use and he would talk further with him, he dismissed him.

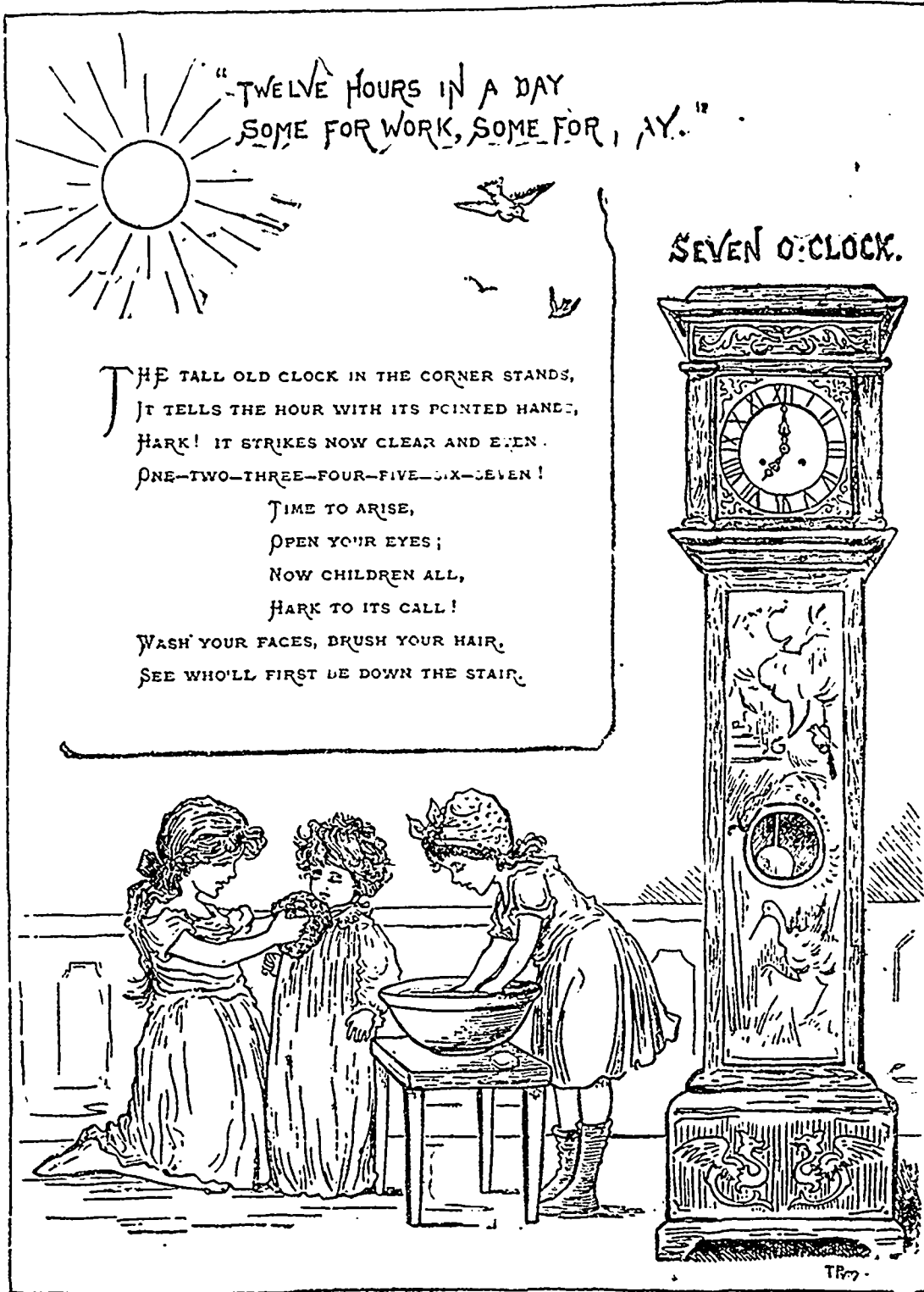
"But he must have the engine," said the merchant to a friend to whom he related the circumstance. "He will make a man, that boy will. A boy who is determined to do something, who gives his mother all his money and spends his evenings in study, is bound to succeed."

And, dear reader, he *did* succeed, and the good man put him in charge of his new engine.

A FATHER and his little son were once riding along a familiar road with a gentle horse. To gratify his child, his father placed the reins in his hands, but at the same time, unseen, retained his own hold on them. As they rode on they saw approaching them, at a terrific speed, a runaway team. The danger was great and imminent. But the father guided his horse so that a collision was avoided and the danger escaped. When all was over, the little son looked up to his father,

and with choked utterance said. "I thought I was driving, but I wasn't, was I, papa?" So often does the child of God, when some peril has been escaped, or some deliverance has been vouchsafed in ways unforeseen and unthought of, have occasion to say, "Father, I thought I was driving, but I wasn't." It is blessed to feel that the reins are in the hands of One mightier and wiser than we are.

"My defence is of God, which saveth the upright in heart."—Ps. vi. 10.



"Do you ever drink liquor?"

He looked up with an air of astonishment on his countenance that such a question should be asked, but answered firmly, "No, sir."

"Do you chew or smoke or go to the theatre?"

"Never; can't afford it. Mother needs the money, sir; and if she didn't, I could make better use of it. I would like to have some books, if I could spare the money to get them."

"Do you go to church or Sunday school?"

He held down his head, pretending to brush

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If you are wasting away with any form of kidney disease, stop tempting death this moment, and turn for a cure to

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In short, they cure ALL Diseases of the Stomach, Bowels, Blood, Liver, Nerves, Kidneys, etc., and

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will be paid for a case they will not cure or help, or for anything impure or injurious found in them.

That poor, bedridden, invalid wife, sister, mother, or daughter, can be made the picture of health by a few bottles of Hop Bitters, costing but a trifle.

Will you let them suffer? Cleanse, Purify, and Enrich the Blood with Hop Bitters,

And you will have no sickness or suffering or doctor's bills to pay.

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COMMON SODA is excellent for scouring tin, as it will not scratch the tin, and will make it look like new. Apply with a piece of moistened newspaper, polish with a dry piece. Wood ashes are a very good substitute.

THOUSANDS of ladies cherish grateful remembrance of the **Balm** derived from the use of Lydia E. Pinkham's Vegetable Compound.

LEMON PUDDINGS.—One pint of sweet cream; six eggs, beaten very light. Mix with the cream one large cup of sugar, grated rind of two large lemons; juice of one lemon. Line a dish with paste; pour the mixture in, and bake.

OLD-FASHIONED JOHNNY-CAKE.—Pour boiling water on as much corn-meal as is needed to make a stiff mixture, and let it stand until morning, then stir in a beaten egg. Mix well, and bake on a hot griddle in oval-shaped cakes or tin rings. This is the way in which our grandmother made them.

DECLINE OF MAN.

Nervous weakness, Dyspepsia, Impotence, Sexual Debility, cured by "**Wells' Health Renewer**." \$1.

REMEDIES FOR BURNS.—Peppermint and sweet oil are standard remedies for burns. In doing up a burn the main point is to keep the air from it. Flour sprinkled over a dry cloth and bound on will keep out the air until other remedies can be procured if not at hand.

"MAN" silly people despise the precious, not understanding it! But no one despises Kidney-Wort after having given it a trial. Those that have used it agree that it is by far the best medicine known. Its action is prompt, thorough and lasting. Don't take pills, and other mercurials that poison the system, but by using Kidney-Wort restore the natural action of all the organs.

PEACH BUTTER.—Pate ripe peaches and put them in a preserving kettle, with sufficient water to boil them soft; then sift through a colander, removing the stones. To each quart of peaches put one and one-half pounds of sugar, and boil very slowly one hour. Stir often, and do not let them burn. Put in stone or glass jars and keep in cool place.

FLIES AND BUGS.

Flies, roaches, ants, bed-bugs, mice, gophers, chipmunks, cleared out by "**Wells' Rat**." 15c.

PERUVIAN SYRUP has cured thousands who were suffering from Dyspepsia, Debility, Liver Complaint, Bile, Humours, Female Complaints, etc. Pamphlets free to any address. Both W. Fowle & Son, Boston. Sold by dealers generally.

TOMATOES STUFFED WITH CORN.—Set large, smooth tomatoes in a greased pudding dish, cut a slice from the top of each, scoop out the seeds, leaving the walls thickly lined with pulp. Have ready a cupful of corn grated from the cob and seasoned with butter, pepper and salt. Fill the tomatoes with this, put on the upper slices and pour a little gravy over all. Bake, covered, one hour in a moderate oven. Serve in the dish.

HAVE **WISTAR'S BALSAM OF WILD CHERRY** always at hand. It cures Coughs, Colds, Bronchitis, Whooping Cough, Croup, Influenza, Consumption, and all Throat and Lung Complaints. Fifty cents and \$1 a bottle. Sold by dealers generally.

INDIAN PUDDING.—One quart of milk; one large cup of sifted yellow corn-meal; one large cup of sugar; eight medium sized sour apples; or half-cup of sugar, eight medium-sized sweet apples. Put two-thirds of the milk on the stove to boil. Grease an earthen pudding dish well, one that will hold about two quarts. Put the meal into it, then add the sugar and salt, mix thoroughly. Peel and core the apples, chop them fine with a chopping knife. When the milk has boiled pour it over the meal and sugar, and mix these together well. Now stir in the apples, and lastly add the remainder of the milk cold. Mix all the components thoroughly, and bake in a quick oven for one hour and a half.



Yours for Health,
Lydia E. Pinkham

LYDIA E. PINKHAM'S VEGETABLE COMPOUND.

A Sure Cure for all FEMALE WEAKNESSES, including Leucorrhoea, Irregular and Painful Menstruation, Inflammation and Ulceration of the Uterus, Flooding, PROLAPUS UTERI, &c.

Pleasant to the taste, efficacious and immediate in its effect. It is a great help in pregnancy, and relieves pain during labor and at regular periods.

PHYSICIANS USE IT AND PRESCRIBE IT FREELY.

FOR ALL WEAKNESSES of the generative organs of either sex, it is second to no remedy that has ever been before the public; and for all diseases of the KIDNEYS it is the Greatest Remedy in the World.

KIDNEY COMPLAINTS of Either Sex Find Great Relief in Its Use.

LYDIA E. PINKHAM'S BLOOD PURIFIER will eradicate every vestige of Humors from the Blood, at the same time will give tone and strength to the system. As marvellous in results as the Compound.

Both the Compound and Blood Purifier are prepared at 233 and 235 Western Avenue, Lynn, Mass. Price of either, \$1. Six bottles for \$5. The Compound is sent by mail in the form of pills, or of lozenges, on receipt of price, \$1 per box for either. Mrs. Pinkham freely answers all letters of inquiry. Enclose 3 cent stamp. Send for pamphlet. Mention this Paper.

LYDIA E. PINKHAM'S LIVER PILLS cure Constipation, Biliousness and Torpidity of the Liver. 25 cents. Sold by all Druggists. (1)



Cures Dyspepsia, Nervous Affections, General Debility, Fever and Ague, Paralysis, Chronic Diarrhoea, Boils, Dropsy, Humors, Female Complaints, Liver Complaint, Remittent Fever, and all diseases originating in a bad State of the Blood, or accompanied by Debility or a low State of the System.

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BY REV. JOHN McEWEEN.
Every Sabbath School Teacher, as well as every intending teacher, should have a copy of this work.

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For Family or Manufacturers' use. **KNITS SOCKS OR STOCKING** complete from top to toe without seam, with regular heel and made heel. Also knits

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Sets up its own work, narrows and widens the same, and is the most complete and perfect Knitting Machine made.

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Money to Lend at lowest rates of interest. Mortgages bought.

Farms Bought, Sold, Rented or Exchanged. Charges Moderate.

I have a large quantity of MANITOBA and UNITED STATES LANDS for sale. As investments or speculations these are worth looking at.

A. W. HARRISON,
30 Adelaide St. East,
TORONTO, ONT.

NOTES AND QUERIES.

Under this heading we shall endeavour to answer any inquiries of a legal or practical nature sent us by our subscribers.

BLACKMAILING.

"A. B. H."—A threatens to expose B for certain misconduct unless money is paid to A. Is A liable for making such an offer, and to what extent?

ANS.—A is not liable unless the misconduct referred to be a crime punishable with not less than seven years in the Penitentiary. Money paid under threats would be extortion, and could be recovered back in a civil action.

"WHAT'S IN A NAME."

"X. Y. Z."—A promissory note which reads, "Twelve months after date I promise to pay William Jackson one hundred and fifty dollars (\$150), with interest at eight per cent. per annum until paid," was signed by John Smith, James Smith, and Henry Robinson. The first named utilized the money, he is not worth anything. Can either of the other parties be held responsible to its value?

ANS.—Yes.

PURULENT OPHTHALMIA.

"F. H."—The description of symptoms you give in your letter very plainly indicates the ailment of the eye to be purulent ophthalmia, for which the following treatment will be found adapted and practically indicated: Apply with a soft feather or fine camel's hair brush a stimulus composed of five grains of nitrate of silver and one half fluid ounce each of rose-water and fresh caught rain-water to the conjunctive and corner of the affected eye morning and evening. In fifteen minutes after using the stimulus, apply a lotion composed of one drachm of chloride of zinc dissolved in one pint of fresh-caught rain-water or distilled water. Wet the eye several times daily with the zinc lotion. Give the colt the following laxative drench five or six times, allowing five days to intervene between each dose: Two fluid ounces raw linseed oil, thirty grains pulverized Cape aloes, and ten grains of tartar emetic. Incorporate well together, and administer slowly down the throat by means of a smooth-necked champagne bottle. Throw loose in the grain bag a small, single handful of Glauber salts daily. Do not feed the animal any corn or other heavy grain food, whole or ground, but give small quantities of oats and bran, the larger part bran, made into a mash properly seasoned with salt. The provender indicated in all cases like the one now under consideration is green grass, but when this cannot be obtained vegetable roots should be substituted as much as possible, such as cleanly washed and sliced carrots or Russia turnips. Please write the results of this treatment after giving it two or three weeks' thorough trial.

CATARRH.

"S. N."—Your sheep are afflicted with common catarrh. The primary cause of it is exposure to storms and cold, chilly and unpleasant weather. The disease develops its character by a defluxion from the nostrils of a muco-serous discharge, accompanied by frequent sneezing and more or less cough. As soon as these symptoms are developed and observed, the animals attacked should be separated from the well ones and be placed in comfortable but well-ventilated quarters. Then prepare a drench composed of two ounces

of composition powder and one quart of boiling water. Pour the boiling water on the powder, cover the vessel over with a thick cloth, then place the vessel and contents in a warm place for one hour, and let the mixture stand undisturbed; then pour off the clear fluid and add four ounces of sugar of milk. Dose, a wineglassful morning and evening daily, unless the attack proves to be malignant epizootic catarrh. In the latter case four drachms of chlorate of potash should be dissolved in each wineglassful; dose above prescribed. I would not add the chlorate of potash, however, until you have thoroughly tried the composition powder and sugar of milk combined, and they have failed to do their work satisfactorily. Then add the chlorate of potash as herein described, and you will no doubt accomplish a cure. You will please note that the cure depends greatly upon the dietary management and care you give your sheep. If these important rules are neglected and unobserved, medicine will not avail much towards effecting the cure you desire.

SPRINGHALT.

"O. W. K."—Springhalt is not by itself a disease, but a symptom of specific lesion of some parts of the hind leg. The seat of these lesions is yet a cause of different opinions among veterinary pathologists. While some men claim that it is due to disease of the foot, others hold it to be a nervous affection. Again, some authorities place the lesion in the joints of the hind leg, especially in the hock, where the articular surfaces of some of the bones of that joint are more or less ulcerated. The last opinion, which is most generally admitted on the continent of Europe, brings the veterinarian to the conclusion that occult spavin is the general termination of the springhalt. This spasmodic action of the leg, indeed, very often disappears, or certainly, at least, diminishes as soon as the union or ankylosis of the bone of the hock has taken place. This stiff joint being then the principal point to reach, the first thing to do is to put the animal suffering with springhalt in the best condition possible, by stopping all work with him and turning him out for two or three months, and if with the symptoms of the springhalt there is much inflammation to be detected about the joint the application of blisters will prove beneficial in removing it and in hastening the formation of the ankylosed articulation.

SCAB IN SHEEP.

"G. L. S."—Among the very many baths and washes which have been recommended for scabby sheep, the following is probably one of the simplest and safest to apply:—Take 1,500 parts of impure carbolic acid, 3,000 of quicklime, 3,000 of carbonate of soda and 3,000 of soft soap. These substances when mixed form a thick paste, which when dissolved in about 260 parts of tepid water is sufficient for a hundred sheep. The animals are immersed in the liquid in a large tub, and their bodies well rubbed by a cough-grass brush. The sheep which are seriously affected are dressed again in three days. As infection may take place indirectly by the buildings, grass or corrals where sheep are kept, thorough disaffection of these places ought to be carried out.

THE GLANDERS.

Dr. Hinman, an undoubted authority on all

diseases affecting horses, says that there is no cure for the epidemic which has recently been affecting the horses in some portions of the country. He says the only proper way is to destroy the horses at once.

A YEAR'S EXPERIENCE.

Another year's experiment in developing the resources of our country has been a decided success. At least 40,000 immigrants of a very superior class have come to take possession of the great wheat fields of the West. The land for hundreds of miles to the west of us has been taken up by the pioneer settler. Large tracts of the soil have been ploughed and sown and have yielded most abundant returns. The wheat crop is reported at more than thirty bushels to the acre, potatoes more than 300, and oats and barley over seventy bushels per acre. The construction of the Canadian Pacific Railway has been pushed forward with most commendable vigour, and already the locomotive is awakening the activity of pioneer life across 700 miles of the great prairies that lie to the west of our city. Settlements, town, and cities are growing up as if by magic all along its track. And now about 1,200 miles of this great national highway, which is to connect the Atlantic Ocean with the Pacific, has been opened for traffic. Within the year our city has doubled its dimensions. About \$5,000,000 have been expended in the erection of buildings during that time. Our trade has increased immensely. It is said that the returns for the year will show the value of our imports to be not less than \$15,000,000. Business has been brisk. Wages for labourers have been good, and, on the whole, the history of the year has been marked by wonderful growth in the city, and surprising progress in the country.

THE Morton Dairy Farming Company, whose farm is about 65 miles south of Brandon, intend next year milking 3,000 cows.

REFERRING to the leading features of the degenerated agricultural fairs of the period—including horse-racing, circus performances, "montebanks" and gambling booths—*The Western Farmer* remarks that the managers should "advertise them for what they are before inviting the honest industry and morality of the country to sustain them."

A NUMBER of samples of vegetables grown this season in Manitoba have been received at the Department of Customs, Ottawa. They include, potatoes, turnips, cabbages, carrots, mangolds and parsnips, and are of a very large size, and of excellent quality. On one stock four heads of cabbage grew. The carrots are not large, but very good. The vegetables were grown on a farm owned by Mr. Corrigan, of Whitemouth.

"ARBITRATORS in the North-West" is the title given to the last batch of officers created by the Dominion Government. What the duties are is not clearly stated, but the *Fredericton (N.B.) Reporter*, in speaking of the appointment of a citizen of that place, says it is a lucrative and responsible position. The *Reporter* adds that "the appointee is the possessor of several hundred acres of good land in the vicinity of the prairie city, and will probably soon make his pile." No doubt.

HINTS FOR THE HOUSEHOLD.

To render shoes waterproof, warm a little beeswax and mutton suet until it is liquid, and rub some of it slightly over the edges of the sole, where the stitches are.

If you put soda in the water with which you are to wash windows, you will find that finger-marks, putty stains, etc., will be much more easily removed than if clear water alone is used.

If you dip your broom in clean, hot suds, once a week, then shake it until it is almost dry, and then hang it up, or stand it with the handle down, it will last twice as long as it would without this operation.

For a damp closet or cupboard, which is liable to cause mildew, place in it a saucer full of quicklime, and it will not only absorb all apparent dampness, but sweeten and disinfect the place. Renew the lime once in a fortnight, or as often as it becomes slaked.

COFFEE-grounds make a highly successful filling for a pin-cushion. They must be dried perfectly before using. Put them in a bag and hang them behind the kitchen stove until you have enough that are dry to fill the cushion. They do not gather moisture, and consequently do not rust the needle.

To protect the ironing boards from dust, take two paper flour sacks, cut the bottom off from one, and paste this one to the top of the other, to make the required length; when done slip this over the board. The outer covering of the board need not be taken off after using, if this care is taken, and much time is saved.

A GOOD way to regulate a child's stomach and bowels is to give him a little bowl of oatmeal and milk every day for breakfast or dinner; see that it is well salted, as salt promotes digestion. The ailments of a child who is in a normal condition almost always proceed from the stomach, and much may be done for our children by paying some attention to their diet and so avoid giving medicine as much as possible.

FRESH air is important. The house should be well ventilated at all times, and in warm days thrown open, for a time, to give all the air possible. The matter of ventilation is quite important, and the best mode is yet to be found. A good way is to have openings at, or near the top of the room, and to keep some of them open, more or less, at all times. When the wind blows hard, causing a strong draft through the building, those openings to the wind-ward side should be closed tight.

PICKLED CABBAGE.—The following is an excellent way of pickling cabbage: The cabbage to be sliced in very thin shreds and put into a large stone jar; strew among it a pennyworth of bruised cochineal to colour it. Take two ounces of mustard seed, one ounce of whole black pepper, two ounces of unbleached ginger and a few cloves. Cut the ginger up in small pieces and bruise the pepper a little. Divide the spice into two portions, which tie up in two muslin bags, putting one at the bottom and the other at the top of the jar. Do not boil it at all.

THE DECLINING WHEAT CROP.

Already, in so young a State as Minnesota, with its big bonanza farms, and immense crops, the lessened yield of wheat excites concern, as it well may. The United States Department of Agriculture, not long since, published a special report on the condition and needs of wheat culture in the North-West, prepared by Hon. C. H. Andrew, of St. Paul. It is the old story of soil-exhaustion by a too extensive grain cropping without manure. Deterioration of seed is also considered, no doubt correctly, to have something to do with the undesirable result. The *Pioneer Press* gives the pith of Mr. Andrews' report in the following brief statement, which contains important lessons for wheat-growers everywhere, and which those of the Canadian North-West will do well to heed in time:

"First, the exhaustion of the alkali in the soil, either by cultivation or otherwise. Up to the time when the country began to be settled, annual prairie fires spread over it, depositing each year a layer of ashes on the surface. The result was that a large amount of alkali was at length left upon the soil, which, as we all know, is an important factor in wheat growing. In cultivated fields this alkali has been exhausted, while in the uncultivated section the prevention of fires has stopped the deposit, and that which was in the soil, either by evaporation or washing, has largely been eliminated from it. Hence, even in old sections of the State, where their are prairies which have never been broken up, the virgin soil if put to wheat fails to show the returns in yield of other years.

"Another cause is the deterioration of seed. The reports of the different ones as published in the work before us indicates that Lost Nation and other varieties seem to better at first than the old Scotch Fife; but in a few years the yield is not as large even as the latter. This plainly shows a loss of vitality and calls for a change of seed. With our Scotch Fife, after twenty-five years of constant sowing without any renewal, could it be expected that it would have all the strength and vigour it once had? Supposing, then, we practise a rotation of crops; supposing we try to restore the alkali to the soil by the liberal use of manures, and where practicable by spreading the straw over the surface and burning it; supposing, also, we renew our seed by sending to the north of some outside section for it. By these means we certainly would take a long step in the direction of right farming, and settle the status of wheat growing in the North-West forever."

SALTING STOCK.

The fault is one usually of underfeeding salt rather than giving an excess. Fed upon hay, straw, and grain diet a grown animal will consume an ounce of salt daily without injury, but rather benefit. A little salt daily is far better than to have it as an extra feed once a week or at longer intervals. A farmer of well-informed ways always feeds salt with each ration of meals summer and winter, whether fed once or twice per day, of course giving but a sprinkling of salt with the meal.

If grain is not fed the salt may be mixed with sulphur, the two combined being one of

the best remedial agents for the prevention of vermin, besides it is a good promoter of digestion and pure blood, two elements of success in feeding cattle.

THERE are many more profitable crops than those usually grown by farmers, and it is within the power of any farmer, young or old, to learn the secrets for their successful production. Young men at home on the farm are always glad to go into new things, and to a reasonable extent this should be encouraged. In thousands of cases it will save to farm life the active, enterprising young man, who, if kept in the unvarying round of routine drudgery, would drift into other and perhaps to the youthful mind more congenial pursuits.

HORTICULTURE seems to be at a discount here in the North-West. Much is said, and truthfully enough, about the wonderful growth of Winnipeg, but there are few indications of it, in the way of vegetables, fruits and flowers. For a city of its size, there is less of horticultural taste and industry here than we ever remember to have noticed in the course of our travels. Few dwellings can boast of anything in the shape of a garden. Lawns are scarce. Tree-planting has received very little attention. It is a rare thing to see house plants in anybody's window. A button-hole bouquet is a phenomenon. Vegetables, with almost the sole exception of potatoes, are scarce and dear. Fruit is costly, being all of it imported. There is hardly an evergreen to be seen anywhere. To all this it will be said that land is too valuable to be devoted to gardening, and that people are too busy to give any attention to rural ornament, or the culture of lettuce and radishes. Yet it is undeniable that there are untilled areas quite large enough to make pleasant and useful little gardens, door-yards in which there is room for a multitude of shrubs and flowers, while our busiest people might find time enough to do something in these directions, if the disposition were not wanting.—*North-West Farmer*.

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The undersigned announces the publication of Vol. I. of the "Ontario Agricultural Commission Report," which is a condensation of the facts as given at full length in the five remaining volumes. In this volume, complete in itself, will be found the results reached by the Commissioners; in fact, in its pages is given in accessible form and conveniently arranged for ready reference the cream of what is contained in nearly three thousand pages.

A glance at the table of contents will at once show that this book covers a wide range of topics—all of exceeding interest to the farmer, dairyman, live stock dealer, fruit grower, bee keeper, gardener, etc. The following subjects are treated in detail, viz.:—Fruit culture; forestry and agriculture; insects injurious and beneficial; insectivorous birds; bee keeping; poultry and eggs; general farming; dairying; horse breeding; salt in connection with agriculture; artificial manures, special crops—including flax, tobacco, beans and sorghum; agricultural education and farm accounts; meteorology; the Muskoka district; diseases of stock; stock laws and minutes of the several meetings of the Commission. The whole forming a work

Indispensable to every Farmer, and which only requires to be seen to be appreciated.

The London "Advertiser," in noticing the book, says:—"So specific are many of the details entered into that each chapter may almost be considered a text-book or hand-book on the particular subject concerning which it treats. It is profusely illustrated, and the engravings will no doubt be useful in guiding many readers to a clearer comprehension of the text than they would otherwise obtain."

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TORONTO WHOLESALE MARKETS

OFFICE RURAL CANADIAN, Toronto, Jan. 1st, 1883.

FLOUR AND MEAL.—The market for flour has been steady all the week, but transactions have been light. Superior Extra is held at \$4.25, but is very dull of movement indeed.

GRAIN.—These are manifestly holiday times in this trade, the week's business has been small. The British breadstuffs market has been quiet and steady, as it usually is at such a season.

HIDES AND SKINS.—Hides are in fair demand, and there is no accumulation of stock; prices remain unchanged. For Sheepskins \$1.90 continues to be paid to city butchers, and skins are offering very freely.

PROMOTIONS.—There is almost no movement, the transactions since our last have been quite of a holiday character. There may be quoted firmer, Liverpool having advanced to 66 1/2.

WOOL.—Domestic fleeces continue to be a drug, it cannot be bought here at 18c to 20c, but no one wishes to pay 20c for it. Indeed there is a quantity in store here whose owners have long tried in vain to get that price for it.

SPECIAL INDUCEMENT! A HANDSOME Christmas Card Album, CLOTH, GILT, AND 50 BEAUTIFUL CHRISTMAS AND NEW YEAR CARDS.

Nicely Assorted—No Two Alike, Mailed Free for \$2.75. THE 50 CARDS FOR \$1. (Regular price of the cards alone being \$5.)

THE CATHOLICITY OF THE Presbyterian Church, By Rev. Professor Campbell, M.A., Presbyterian College, Montreal.

It is well recognized throughout, contains passages of great eloquence, and proves its author to be a master in Eloquent Ministry. It is in the form of a neat little Pamphlet of thirty-two pages, being the first of a series of "Tracts on Presbyterian Topics" which the Publisher intends printing to the world; and we trust that he has made a good beginning.—CANADA PRESBYTERIAN.

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Head Office, 30 Adelaide Street East, Toronto. CAPITAL AUTHORIZED BY CHARTER, The attention of Capitalists, Managers of Trust Funds, and Investors generally is invited to the CURRENCY DEBENTURES issued by this Company, furnishing a REAL INVESTMENT AT A FAIR RATE OF INTEREST, AND UNDOUBTED SECURITY. For further particulars apply to R. H. TOMLINSON, Manager. Toronto, 12th September, 1882.

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A MINISTER'S EVIDENCE.—The prevalent malady of civilized life is Dyspepsia. Rev. W. E. Gifford of Bothwell, was cured of dyspepsia and liver complaint that rendered his life almost a burden. The cure was completed by three bottles of Burdock Blood Bitters.

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