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Farm Journal, Canadian Farmer and Grange Record.

VOLUME IX., No. 5.

TORONTO, MAY, 1886.

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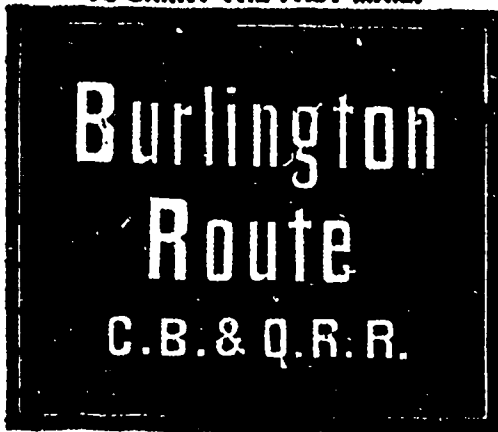
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The Rural Canadian.

VOLUME IX., No. 5.

TORONTO, MAY, 1886.

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The Rural Canadian.

TORONTO, MAY, 1886.

SPRING WHEAT.

Fifteen years ago about two-thirds of the wheat grown in this Province was spring wheat, and at the present day about three-fourths of it is fall wheat. In the Western half of the Province spring wheat has been to a very large extent abandoned, and the reason usually given for the change is that the grain has run out. It has lost both the qualities of hardness and hardiness, so that while it has become too soft to yield a good sample of flour, it has at the same time become liable to the various diseases which attack the wheat plant. To a large extent farmers have resorted to new and earlier varieties, where spring wheat continues to be grown; but, as all these are soft, they are generally regarded as inferior to fall wheat for milling purposes, besides which they run out in the course of a very few years, and the demand for new seed becomes as imperative as before. But in the Eastern counties of the Province it is found that the old Red Fyfe holds its reputation unimpaired, after many years of cultivation, without any occasion for new imports of it. In the Northern townships of Hastings, and in the counties of Lanark, Carleton and Renfrew it is grown very successfully. The yield per acre is large, the grain weighs from sixty-two to sixty-four pounds per bushel, and the flour product is forty pounds to the bushel of Strong Baker's grade. Now, why do not the farmers of our Western counties procure their supply of spring wheat seed from those Eastern sections? Would it not be better that they should do so than depend on a soft wheat like the White Russian, or even a hard wheat like the Minnesota, or the Manitoba Fyfe? These questions are suggested by a recent letter from Professor Brown on the subject, and certainly they are of sufficient importance to attract the attention of our Western farmers. Let us hope that not a few of them have this year acted on Professor Brown's suggestion, and tried the experiment of growing spring wheat from seed produced in our North-Eastern counties. And if they do try the experi-

ment, let us hope that results will be carefully noted and given to the public. If only for three or four years the high quality of our North-Eastern wheat was maintained, the test could not fail to be regarded as eminently satisfactory; for once the fact was ascertained that such seed-grain could be depended on to produce its like for even a short period of years, the supply of new seed could easily be kept up as required.

A ROMAN HARVESTER.

Now and then we come across very learned papers on the lost arts, and the little that is known of them, as revealed by relics and inscriptions found in the ruins of ancient cities, is apt to suggest to us the idea that the old world was by no means a world of crudities. In agriculture, especially, it is well known that in respect to methods and implements the farmers of two thousand years ago might compare very favourably with the farmers of a hundred years ago, and we are not sure but in some particulars the ancients had reached a stage of progress to which the moderns could make no claims. In England a hundred years ago the literature of agriculture was largely made up of the writings of worthy Romans, and whoever will take the trouble of looking through Adam Dickson's "Husbandry of the Ancients" (published in 1788, two volumes) will find much to interest and instruct them.

The modern reaping machine is regarded as a wonderful invention, and although it dates back to the close of the last century, it was not until sixty years ago that a machine was constructed which proved to be effective. This was Bell's reaper, and the principle on which its cutting apparatus was based was that of clipping by a series of shears, thirteen of which were fixed and twelve movable. By a see-saw movement to right and left the movable blades were brought into contact with the fixed ones, thus cutting the standing grain as it came between them. The reaping apparatus rested on three small rollers to keep it at the proper distance from the ground, the machinery received its motion from gearing attached to the running wheels, and the grain was gathered on an endless web and thrown off on either side. The horses were placed behind this machine, and pushed it forward against the standing grain, instead of drawing it on one side as is the case with the reapers of our day.

Now, let us see what the old Romans were capable of doing in the harvest field. Columella writes of an implement called the "Merga," which appears to have gathered the ears of the grain only. It is supposed that in use the reaper pushed it before him in the standing grain, the stalks being gathered between the prongs of the implement, when the ears were cut off by an upward movement, and thrown into a basket. Pliny

says that in the extensive plains of Gaul they used "large hollow machines, with teeth fixed in the forepart." These were "pushed forward on two wheels through the standing corn by an ox yoked to the hind part," the ears being cut off by the teeth and falling into the hollow part of the machine. A more particular description of this implement is given by Palladius, and is worth quoting in full: "On the plains of Gaul," he writes, "they use this quick way of reaping, and without reapers cut large fields with an ox in one day. For this purpose a machine is made, carried upon two wheels; the square surface has boards erected at the sides, which, casting outwards, make a wider space above. The board on the forepart is lower than the others; upon it are a great many small teeth, wide set in a row, answering to the height of the ears of the corn, and turned upwards at the ends. On the back part of this machine two short shafts are fixed, like the poles of a litter; to these an ox is yoked, with his head to the machine, and the yoke and traces likewise turned the contrary way, well trained, and who does not go faster than he is driven. When this machine is pushed through the standing corn all the ears comprehended by the teeth are heaped up in the hollow part of it, being cut off from the straw, which is left behind, the driver setting it higher or lower as he finds necessary; and thus, by a few goings and returnings, the whole field is reaped. This machine does very well in plain and smooth fields, and in places where there is no necessity for feeding the straw." There is, we think, no doubt that in this implement we have the original of the modern reaping machine; and it is a curious fact that in California at the present day the reapers used gather the heads of the wheat and barley only. A similar machine was used in Illinois twenty years ago, but in that State the self-binder is found to give better satisfaction.

It is not necessary to inquire how the Roman reaper went out of use; no doubt it was one of the results of the numerous invasions of Gaul and Italy by the northern tribes. But when we consider what the reaping machine has done for agriculture and for the world within the past sixty years—the revolution it has worked in the cost and labour of harvesting crops everywhere, and the large effects of this economy on the civilization of the world—we cannot but wonder what the present condition of agriculture, and of all the industries dependent on it, might be had the old Roman reaper survived through the centuries that have passed away since the Frank crossed the Rhine. What might not that implement be to-day with the inevitable improvements made upon it in a long course of intelligent use? What might not have been the influence upon discovery and invention in respect to all labour-saving implements; and what might not the effect be on every industry and every art?

Good pastures are the good farmer's main dependence, and he should bend every energy to make them luxuriant, rich and nutritious. They should be cared for, manured and limed as well as are the grain fields.

OLEOMARGARINE.

What to do with oleomargarine is one of the vexed questions on the other side of the lakes. Laws of a more or less stringent nature have been passed in a number of the State Legislatures; but owing to adverse decisions of the Courts it has not been found possible to do more than require the makers of the stuff to brand it by its name. The Federal Congress is wrestling with the subject this session, but even there the question is not found easy of solution. The trouble seems to be, that they are trying to regulate the trade; and regulation seems to be regarded as the proper thing in view of the fact that the manufacture of oleomargarine has grown to large proportions under the sanction of the laws of the land—or, at all events, without their interference—and that so-called "vested rights" have been created which could not now be taken away without destroying a large amount of capital employed in the industry. Like the spirituous liquor question, there are large interests at stake, and these interests are found to be more active and pushing in the lobby than all the opposing interests combined. Armour & Co., of Chicago, and a few other gigantic firms like them, are using every influence and bringing every pressure to bear to defeat any proposed legislation; and we shall be agreeably surprised if their efforts do not meet with a large measure of success. It is a hard matter to fight a "vested interest" in the Legislature, as every attempt to regulate, restrict or prohibit the liquor traffic amply proves. But in our country, fortunately, no vested interest in the production of bogus butter has yet been created, and the Dominion Parliament is taking the only proper course in dealing with it. At the first it was proposed to put a tax of 10 cents per pound on all imported oleo butters, and of 8 cents per pound on all made in the country. It was thought that such a tax would prove to be prohibitory; but when the subject came up for discussion the House was easily persuaded that if prohibition was what was intended, the law should go for prohibition straight, in as far as the imported article was concerned. Speaking of the effect of the manufacture of oleomargarine upon the export of butter from the United States, Mr. Bain, of Wentworth, said:

"The export of butter from the port of New York in 1880 was \$6,600,000, and the export of oleomargarine in the same year was \$2,400,000. But last year, when the hog had got fairly into competition with the cow, a different tale was told. It was found that the export of butter had shrank to \$3,500,000, while the export of oleomargarine had risen to \$4,500,000."

Another member of the House, Mr. Platt, of Prince Edward County, said:

"This problem has baffled the people of the United States so far; but it is presented to Canadians now almost for the first time. If their industry is allowed to establish itself in Canada, or if the use of oleomargarine is allowed to grow, the problem will constantly become more and more difficult to deal with; but if we shut out the article completely, we will take a position

from which we can retire if it is found we have done wrong."

These views have been accepted by the House, and although at the present writing the question of manufacture in the country is not decided, we think there can be no doubt that one rule of prohibition will apply. It would be a strange anomaly to regulate the product of home manufacture and to prohibit the product of foreign manufacture, especially when on all sides it is conceded that the stuff is a baneful article of food.

Dr. Taylor's test for pure butter and its various imitations will doubtless be found of great practical use to the Government when the time comes to enforce the prohibitory clause of the Customs Act, for there is little doubt but attempts will be made by persons in the trade to import bogus butter; or perhaps we should say that there is little doubt of attempts being made by the agents of American manufacturers of the bogus to supply it to Canadian dealers as genuine butter. We take the liberty of suggesting to the Minister of Customs that he take steps to place Dr. Taylor's method in the hands of those experts to whom samples of suspected butter will be submitted, for it is only upon the testimony of scientific experts that a clear case can be made out against importers.

In conclusion we quote the following remarks from the *Boston Cultivator* as showing what is thought on the subject by some of our neighbours:

The American farmer never had a worse enemy to contend with than the unscrupulous manufacturer of counterfeit butter. Unrestricted sale of bogus butter will ruin our dairy interests. Every farmer should feel it his bounden duty to protest against the oleomargarine frauds by signing a petition to Congress for the enactment of a law heavily taxing these noxious compounds and placing them under control of national authority. United for a common purpose our farmers may secure proper protection for their interests at this time, while neglect will give the victory to those who would destroy the great national industry of dairying.

A CLYDESDALE ASSOCIATION.

We are pleased to see that the breeders of draught horses in Ontario have taken steps to give character to their stock by registration. In no other way can the good name of animals be maintained, and if the Clydesdale Association which was organized in this city a few weeks ago is careful in the work it has undertaken, the results cannot fail to prove of great value. Clydesdale, Suffolk and Shire horses have been imported in considerable numbers during the past thirty years, and in the past ten years especially a marked increase has taken place. Thoroughbreds and coach horses have also been imported, and it is a well-established fact that the climate of Ontario is admirably suited for the growth of animals of fine stamina, either for the road or for the race-course. But the main interest of the country is in the production of strong and vigorous working horses, and our reputation is such that large numbers are disposed of every year for export to the United States. The breeding of good horses is no doubt a profitable

business, having regard to the export trade merely; but its chief interest lies in producing a superior class of working animals for the farm and the road. The Clydesdale Association can do much to promote the breeding of good horses, and we hope to see it managed in a way not only to attain but to deserve success. No animal should be admitted to registration that has the shadow of a doubt upon its pedigree, and no clique or interest should be allowed to exercise any measure of control. Horsemen are almost as notoriously sensitive and jealous as musicians, and in an Association of this kind the management requires to be in hands that will deal out unbending justice.

DEACONING CALVES.

The time for the slaughtering of the innocents is at hand. Thousands of calves will, during the next two or three months, be slain almost directly they are dropped. Many, a great deal too many, are killed just for the sake of the hides. The shambles in the city markets will team with veal, most of it being of such an inferior quality that the consumption of it can be productive of nothing but ill-health. The low price at which it is sold is the great inducement to purchasers, especially those among the poorer classes, of the residents of our towns and cities.

In the districts where creameries or cheese factories are established, the farmers consider the milk of too much value to be thrown away upon raising calves; they are consequently disposed of for whatever price the first jobbing butcher that happens along will be disposed to offer. The figure paid is mostly a nominal one. Oft times the offer is simply to take the calves off the hands of the farmer. No attempt whatever is made to feed the animals, which are immediately slaughtered; and if a chance occurs for disposing of the carcass cheap, it is done; if not, the hide is sufficient recompense. Much of this kind of thing could be obviated if the authorities in our cities and towns exercised more vigilance in examining all meat exposed for sale; and where a deacon carcass is found show no clemency; for any person who will offer for sale such rubbish must be utterly without principle. No language can be too strong to condemn such conduct. Frequently the meat is blown up to give it the appearance of being well-fed. Medical men all agree that veal improperly fed is most injurious, and the foundation of many diseases. In Great Britain the laws respecting exposing veal for sale that has not been properly fed are most stringent. The calves must be at least one month old before being slaughtered. The health officers are always on the alert, and the penalties imposed are so heavy that it is considered too risky a business to indulge in.

But it is to the farmers we appeal to remedy the evil; it rests entirely with them. We are well aware that most calves are dropped during perhaps the busiest season, when hands are scarce and work plenty, yet we think a little time could be spared daily for a few weeks. If properly attended to the calves will soon be ready for slaughtering, and the price realized will amply pay for

the milk consumed. Don't stint the milk, for the sooner the calf is ready for market, the sooner will the supply of milk be available for other purposes. After the first few days a daily ration of linseed, shorts, or meal, which should be well cooked and fed warm with the milk, will help hurry the animal in its preparation for the butcher. If time for feeding the calves cannot be spared by the men on the farm, hand them over to the gentler sex, with the understanding that after paying for the food consumed the profit shall be theirs, and see how readily the women will take charge! But don't, when the animals are sold, quietly put the money into your own pocket, and forget the bargain!

For really well-fed calves there is an unlimited market in Buffalo and New York; and first-class jobbers who scour the country searching for such will not look at the class of veal which is frequently brought into our markets. Even in large towns and cities we have known butchers when in possession of a really well-fed calf reserve it for the American markets, comparatively little being kept for home consumption, because so much meat of an inferior quality is placed on the market at a low price, that when first-class meat is offered the public will not pay a remunerative price for it. That it will pay to properly feed and prepare calves for market there can be no doubt. Try it.

RURAL NOTES.

THE spring season this year is one of the finest on record. For the past two or three weeks the days have been almost as warm as early June days in some recent years, and vegetation is full of promise. Wild flowers are in blossom nearly a month earlier than last year, and no frosts have occurred of a nature to hurt the tenderest vegetables. The alternate freezings and thaws, and the cold, dry east winds that are so ruinous to the fall wheat when they prevail, are wholly absent so far this year, and farmers have been able to make an early start with spring work. The only drawback has been the lack of rains; but, after the heavy snowfall of last winter, it is not possible that so far the drought has done any harm. As to the condition and promise of the fall wheat, it is, perhaps, too early yet to express a positive opinion, but the reports are not very flattering.

THREE or four months ago THE RURAL published an article on the potato rot, dealing with the cause of the disease, and showing what means might be taken to lessen, if not to stay its ravages. The paper by Prof. Pantou, of the Agricultural College, is pretty much on the same lines, and it is especially valuable now in view of the planting and growing season. Nothing can be more certain than that, if diseased tubers are planted, the new crop will be affected; and it is scarcely less certain that the disease will break out if ground on which the rot prevailed last season is planted again with potatoes. In addition to the recommendations made by Prof. Pantou, we would suggest that, where possible, the crop should be planted on the side of a belt of wood sheltered from the prevailing winds, as other-

wise there is more or less danger of the disease-breeding germs being conveyed from infected fields on adjacent farms.

AN Agricultural College for the Dominion, with two or three experimental stations, is one of the projects of Minister Carling. A long and valuable report on the scheme has been prepared by Mr. Saunders, in which all the requirements of a first-class institution are presented in detail. The idea seems to be to locate the college in the neighbourhood of Ottawa, and to provide for instruction and investigation in all matters relating to agriculture—with thoroughly skilled men to take charge of such sub departments as horticulture, entomology, dairying, forestry, etc., and a director having general supervision of the whole, and responsible to the Minister of Agriculture for the work and management of the institution. One experimental station would be established in the Lower Provinces, another in the North-West, and probably a third in British Columbia; and the persons in charge of these stations would be subject to the director, and would make their reports to him. Briefly, the scheme is to make the college to a large extent what the Department of Agriculture at Washington is, with a school superadded. Our institution at Guelph will require to look after its laurels.

By the amended tariff of the Dominion, the duty on such green fruit as raspberries, strawberries, blackberries and gooseberries is increased to four cents per pound. This is a heavy duty—fully one hundred per cent. on the cost price—and while the objection to it on the part of consumers is open and palpable enough, we are not sure that in the interest of our fruit-growers the objection is not equally clear. Everybody knows that fruits come to our markets from the Southern and Middle States three or four weeks sooner than our own growers can supply them, and that by the time our fruit is ripe the competition from the South ceases because the season is over. The hundred per cent. duty, consequently, is no protection; it is purely and simply a tax paid on a very healthy and necessary article of diet. But, on the other hand, our fruit season is three or four weeks later than it is in regions farther South, and for the last three years our fruit has been admitted into the United States free of duty. This is a great boon to Ontario fruit-growers, and they have been taking advantage of it. But how long is it likely to continue, in view of the prohibitory legislation at Ottawa? This is not a political question, but it is a question of interest to a large body of our people, producers and consumers.

Few commercial fertilizers have as large a proportion of plant food as the best hardwood ashes. One hundred pounds of oak wood ashes when tested, contained: Potash, 10 pounds; soda, 3.6 pounds; magnesia, 4.8 pounds; lime, 73.5 pounds; phosphoric acid, 5.5 pounds; sulphuric acid, 1.4 pounds. But average ashes, as ordinarily collected, are not much more than half as rich in fertilizing material as this.

THE POTATO ROT—ITS CAUSE AND REMEDIES.

BY J. HOYES PANTON, M.A., PROFESSOR OF NATURAL HISTORY AT THE ONTARIO AGRICULTURAL COLLEGE.

The use of the microscope in the fields of scientific research has revealed much that is of importance to man. Many forms of disease, about whose origin little was known, have had much light shed upon them since this instrument was employed in their study, both among animals and plants. We find now that man is constantly lashed by invisible foes—some attacking himself and others the food which he eats. During the past summer and fall a striking example of this occurred in the prevalence of the so-called "potato rot," which has proved a great loss throughout the Province and in many parts of the United States. In the bulletin issued in November from the Bureau of Industries, we learn that the "rot" prevailed throughout the whole southern belt of the Province. In many cases one-half to three-fourths of the crop was destroyed, and in some it was not worth digging. With such disaster around us, the questions are naturally suggested, what is the cause of the "rot," and what remedies can be adopted?

Cause.—This disease has received a great deal of attention from botanists since the days when it became a scourge in Ireland and other parts of the British Isles; and it is now conceded to be the result of a minute fungus, *Phytophthora infestans*. This attacks all parts of the plant—leaf, stem and tubers. By those ignorant of the life history of this tiny parasitic plant little attention is paid to its appearance on the tops, and no alarm is experienced until the potatoes are affected. But being very contagious, its presence on the leaves should become a serious matter, especially when we remember that it spreads with great rapidity. It is usually indicated by the tops presenting a blotched, brownish, spotted, dead appearance. A close examination of the potatoes showing this will discover innumerable slender stems growing up out of the surface of the leaves and stems of the affected plants. These branch and swell out at the ends into pear-shaped minute bodies (spores), which are produced by millions. When ripe they separate from the stem and being exceedingly light pass into the atmosphere, where they are wafted about, many of them finally reaching the ground or settling upon plants. Under favourable conditions of moisture and heat, the contents of a microscopic spore may push out a long minute tube, which can penetrate into any part of the potato plant, and give rise to the fungus; or may separate into several distinct portions (swarm spores) which burst through the spore-wall and become the source of the parasitic plant. The mature plant which lives in the tops and tubers is very minute, and can be seen only by the aid of the microscope. It consists of many colourless, branching, thread-like structures. These penetrate the tissues of the potato and feed upon the juices, so that it soon weakens and begins to waste away. From the thread-like structures tiny stalks arise, assuming beautiful plant-like forms and

bearing upon their branches the spores already referred to. They live but a short time, but the thread-like structure is perennial and hardy, and from fragments of it new fungi may arise. It is said by some that another kind of spore is produced which can winter, and thus give rise to the organism in another season. These are the so-called resting spores, apparently for the purpose of keeping the species over certain periods, while the spores already considered are produced rapidly, so as to hasten the spread of the fungus under favourable conditions. This minute microscopic plant is certainly a low form of vegetable life, incapable of manufacturing food from the mineral kingdom, but fastening upon other plants and feeding upon their juices. A wet season supplies conditions well adapted for its development, and hence we find the "rot" associated with such weather. There is no doubt that many spores are always more or less present, but they are prevented from being a source of trouble, because the weather is not suited for their growth.

Remedies.—The "rot" usually appears about the first two weeks in August, and if the weather is favourable its spread is very rapid, for as soon as the thread-like structure which arises from the spore is developed, it immediately becomes spore-bearing. Hence the importance of examining the plants for the appearance of the brownish spots that indicate the presence of the fungus.

1. As soon as discovered, dig the potatoes. Delay will allow it to spread to the stems, and thence to the tubers. If it reaches these and damp weather comes, "rot" will certainly appear.

2. After digging, the potatoes should be put in a cool, dry place, thus surrounding them with conditions unfavourable for the growth of the fungus, if any happens to be upon them.

3. Growing early varieties is worthy of consideration, so that they may mature before the season arrives when this parasite is likely to affect the crop.

4. All potato stalks, in affected lands, should be gathered and burned, so as to destroy the millions of spores which may be upon them.

5. Use none but good seed. If at all affected, reject them; and plant in well-drained land. If the potatoes to be used for seed have been taken from cellars where affected ones were kept, they are likely to have the microscopic spores on them and escape notice. It would be best to get seed from unaffected districts.

6. It is scarcely necessary to remark that it would be injudicious to plant potatoes in the same field the following year, after a visitation of the "rot," inasmuch as the ground may retain the germs of the disease.

7. Avoid planting upon heavy clay soil, but prefer a light and dry soil. This presents the fewest conditions suitable for the growth of the fungus.

The nature of our climate is not so favourable for the development of this injurious fungus as that of Britain; yet as we are sometimes visited by it, and although scarcely viewed as a scourge, it is well that we should remember its nature and habits, and always be ready to guard against failure if it appears. As last summer was favourable for its propagation, great care should be exercised in the selection of seed this spring.

FARM AND FIELD.

WALKS AND TALKS AMONG THE FARMERS.— NO. XXIV.

My friend, of whom I spoke nearly two years ago in these "Walks and Talks," is still in the early lamb business. It pays even better now than it did then. I ventured the opinion at that time that fifty lambs at \$4 a piece could be raised more cheaply and easily than 200 bushels of wheat, supposing that to bring £1 per bushel. But it doesn't, "by a long chalk"; to use a homely phrase. Good spring lambs, however, still command \$4 a piece. There is always a market for the best goods, for commodities that are scarce, and for luxurious dishes. A taste of young lamb, after a long winter's mastication of beef and mutton, is very tempting, and most people who can afford it will have it at the earliest moment possible. Even some who cannot afford it will have it. When staple articles of food are low in price, it does not seem to affect such things as young lamb and spring chicken.

In speaking of this before, I said a first cross of any of the Down classes on good fair ewes, whether common, or with a dash of Leicester or Cotswold blood, will bring excellent lambs for the early spring market. Let me repeat this here, making "first cross" emphatic. In looking over my friend's flock with him the other day, he called my attention to the difference between first and second crosses. A first cross receives a strong impress from the sire. A second harks back toward inferiority, and shows diminished size, as well as decline in quality. I have often observed this in stock of all kinds. How great principles come out in common things. We must keep up the process of improvement when once we start, or there will be retrogression. No standing still; for better or worse we move always. Life is never a dead level, either on the farm or anywhere else. It is up-hill or down-hill. This is history; we cannot alter it.

There is hardly anything more pleasant to a healthy mind than a ramble in winter among well-kept stock, on a really fine day. It is cold, a north or north-west wind is blowing outside, but in the sheltered farmyard there is no hint of it. The sun shines benignly down, and seems to say: "Children of Earth, I am doing all I can for you." The cattle and sheep are standing contentedly around, occasionally picking up a stalk or two of straw, or chewing the cud. The colts are frisking and frolicking. Turkeys and dunghill fowls are marching around with lively step. Inside, how comfortable the fatting stock look; ignorance of the fate that awaits them is their bliss. Had they reason enough to say: "Let us eat and drink, for to-morrow we die," what a different spectacle they would present! But, all unconscious of what is in store for them, they enjoy brute happiness. You are tempted to ask: "Is life worth living in their case?" Most surely it is, if they are kindly treated, and man's self-interest, if nothing more, secures this. Cruelty of every kind is fatal to profit.

It is well when higher considerations prompt kindness to the brute creation. Man should benevolently aim to give all dependent on him the utmost happiness of which they are capable. There is a constant reward for this, in the pleasure of seeing even the inferior animals enjoy themselves.

ALL the grain, hay and straw products of my friend's farm walk to market. Often additional stuff is bought—it pays. Every year, this farmer adds to his bank account, or little pile of money at interest; sometimes more, and sometimes less, but more or less always. Not a year but brings at least a narrow margin of profit, and some years bring a wide margin of it. Ought not such a man to be contented? Farm clear, no debts, everything bought for spot cash, and I do not know how much—but a snug little sum—out at interest. This is the enviable position of many of our farmers, and might be that of more, if they would manage well. Failure to keep accounts and living beyond their means are the great causes of people not getting on in all the walks of life. There is a wise philosophy in Dickens's exhibit of Micawber's affairs. Income, twenty shillings; expenditure, twenty shillings and sixpence: trouble and misery. Income, twenty shillings; expenditure, nineteen shillings and sixpence: peace and happiness.

RIGOROUSLY live within your means, and lay up the surplus, be it little or much, is a good rule for everybody, and especially for farmers. They can always get the necessaries of life; it is the superfluous things that can be done without, if need be, that get them into straits. It is different with wage-workers. In slack times, when employment cannot be had, it is perhaps impossible to avoid getting behind. But farmers have not this excuse. It is a very exceptional thing for them to be obliged to go in debt for bread to eat. Our young people should have these lessons of care, economy and self-discipline drilled into them. It is comparatively easy to endure privation and hardship in youth. When old age comes, it is far more trying. Many people begin with ease and self-gratification, only to end with privation and hardship; even when intemperance or vice of any kind has had no hand in the process. I know a man who began life as the owner by inheritance of two farms, who in his old age is obliged to say:

No foot of land do I possess
No cottage in this wilderness,
A poor wayfaring man.

He owes little debts "all over," as the saying is. There is no chance now of his ever being able to pay them. He has no provision for old age and helplessness. He is representative of many more whom I could name: they have no "vices" in the usual sense of that term; have been temperate all their days, but want of calculation, making foolish debts, a speculative disposition, and the like have brought them to poverty, as they will all who take a similar course. And "don't you forget it!"

To return for a moment to my friend's farming. At

the time of my recent visit, fifteen head of cattle were in process of fattening, and already in prime beef condition. They were to be fed another month before being sold. All were young beasts, none I think past three years old; and most of them raised on the place. For many years, only thoroughbred Shorthorn bulls have been used, and the stock cows are all high-grade, if not of full blood. My friend thoroughly believes that the foot of the sheep brings fertility; and a sufficient flock is kept to admit of from fifty to seventy-five being sold yearly. Pig feeding is carried on to a considerable extent, though I cannot give figures. Poultry, to the amount of about \$100, is sold yearly; my friend rightly judging, that where so much grain is fed, there should be plenty of fowls around to pick up waste. The manure made by all this stock is an important factor in the profits of the farm.

Some reader will probably say: "It requires a costly bank barn to keep stock on such a scale." That is just where you are "out." The buildings are all common frames. The only stone structure is a half-cellar root-house that abuts against one of the broad sides of the cattle stable. My friend is able to build as fine a stone basement barn as any in the country. But he doesn't like stone basements for cattle or horses; he thinks they are damp, seldom well ventilated, and often too warm. The air in his cattle stable is always fresh and pure, and in the coldest weather, the animal heat of the fattening stock seems to keep it warm enough. So, reader, you need not wait until you can build an expensive barn, with lower story of stone. Get your stock together in the best quarters you have, give them good food, care, and attention; creep before you walk, and go on the maxim:

Little boats must keep near shore,
Larger craft may venture mors.

WHEN on a trip in the State of New York recently, I paid a brief visit to an old friend, Honourable Harris Lewis by name. Our acquaintance began and has been ripened year by year, at the meetings of the Ontario Dairy Associations, East and West, at which Mr. Lewis has been a long and welcome attendant. A shrewd, thoughtful, common-sense man, with a dash of mother-wit, his addresses have added much to the interest of the meetings referred to. I was glad of an opportunity to see his home life and work. For many years, he has been one of the leading dairymen of Herkimer County—"a name of fame" in connection with cheese factories. It was a treat to see his dairy herd of sixty cows in their winter quarters; a commodious frame stable, tight and snug, sawdust used as an absorbent, and the place cleaned out I don't know how many times a day. A water trough passes in front of each of the two rows of cows, and they can drink at will. The best rules as to regular feeding and milking, kindness, cleanliness and general management are enforced as of old were the laws of the Medes and Persians.

Mr. Lewis, to my surprise, has a vinegar factory in full operation, in addition to his dairying. Milk and

vinegar are a strange combination; milk and honey would be more orthodox. It is enough, however, to say that the vinegar is as good as the milk. It is made from cider, and such vinegar is a much more wholesome article than the vile concoctions often sold at stores under that name. At a recent national vinegar show, Mr. Lewis was a prominent exhibitor and prize-taker. As he is getting up in years, he is ridding himself of care, by passing his business over to his son, a fine, stalwart looking fellow, in the prime of manhood.

IN Mr. Lewis we have a striking example of the working out of the principles laid down in an earlier part of this paper. He began poor, worked hard, lived economically, was prudent, calculating and persevering. He succeeded in winning not only a covetable competence, but the general respect and confidence of his neighbours, who have elected him to various positions of honour; among them, that of State Senator. Talk of merchant princes; here is a farmer prince, who ranks as high as any city magnate. It is trite to say he is self-made: so are those already referred to, who have made themselves poor and needy. There may be some truth in the remark that circumstances make the man; but there is far more in the fact, for such it is, that, in dependence on a Providence which helps those who help themselves, most really successful men make their own fortunes, either by the help of circumstances, or in spite of them. Such success is encouraging, and should be held up to view in the hope that

Some forlorn and weary brother,
Seeing, may take heart again.

W. F. O.

MIDDLESEX COUNTY.

BY OUR SPECIAL COMMISSIONER.

Middlesex is one of the oldest settled and richest agricultural counties in the Dominion. The soil is mostly a clay loam well watered. The timber, of which there is still an abundant supply, is of first-class quality. Most of the farmers in Middlesex are aware of the advantage of having a good timber lot upon their farms, and therefore, cut sparingly, just sufficient to keep level with the demand, without glutting the market. As a wheat growing county, Middlesex ranks high, and is equal to the best for growing any crop. One enthusiastic resident remarked that "what could be grown anywhere else could also be grown in Middlesex." It is truly a favoured county, and numbers among its residents some of the most advanced farmers in America. The residences and buildings on the majority of the farms will vie with those in any section of the country; there is a cosy, homelike appearance to the Middlesex farms. We visited many of them during our trip; but, as we cannot afford space for a description of them all, we shall have to be content with the following as being among the most notable.

BLI-BRO FARM,

of about 400 acres, is the property of the well-known Geary Bros., famed as being the leading importers and

breeders of the Polled Angus cattle on the American Continent. Their sales are very extensive, especially to ranchmen in the far Western States. The Polled Angus cattle have proved themselves to be extremely hardy and vigorous, and therefore most suitable for improving the scrub stock to be found on the vast ranches of the Western territories. A Polled Angus bull will stamp his likeness immediately on his offspring, no matter from what sort of cows. We have inspected a great number of young grade stock, from different classes of females; yet it was difficult to believe they were only grades. No wonder, then, that our cute cousins are alive to the advantages of employing Polled Angus cattle for improving their semi-wild herds in the far West.

Messrs. Geary are, without doubt, extensive patrons of husbandry. On Bli-Bro Farm is situated a large cheese factory, which daily uses the milk from about 800 cows. The dairy herd of the proprietors consists of about sixty cows. Mixed farming is the rule at Bli-Bro. This fine farm is situated about five miles north of the city of London, and has a very decided slope to the south. On the south-eastern corner of the property stands the residence of Mr. John Geary. Few farmers can boast of such a palatial residence. It would be notable, even among the finest dwellings to be found in our largest cities; the house is superbly fitted up, most of the interior decorations being of oak beautifully carved. It contains most of the conveniences to be found in the cities, being heated by steam, and having a supply of water. It is about to be lighted with gas; the pipes for which are laid throughout the house. The gas will be manufactured in a building a short distance from the residence. This magnificent dwelling is a lasting monument to ability and enterprise in farming.

About a quarter of a mile away is the residence of another brother, Mr. Robert Geary, a fine substantial brick mansion, two stories in height; and almost hidden away by surrounding trees of nearly every variety. The proprietor is very partial to tree growing, and cannot bear the idea of having a tree cut down. Close to this dwelling are extensive barns, in which are located the large flock of Lincoln and Shropshire sheep; the former number about 150, and the latter 100 head; they are all animals of the highest quality. After examining the sheep, we proceeded to the main barns and farm buildings, situated at the back—or what might be more properly called the top of the farm. Here a grand view can be had of the city and its surroundings. This is claimed to be the highest point in Western Ontario. The principal barn is 176 x 40 feet; at one end is a root house 60 x 16. The entire floor under the large building is used as a cow stable, the stalls are placed across, an alley way running in front of each set of stalls, the floors are block paved. In troughs before each animal there is a constant stream of water, which is forced up to a reservoir from a large creek by a hydraulic ram of great power. Messrs. Geary have thus a complete system of waterworks of their own. The food is all prepared at the end of the large stable, and conveyed by means of tram-cars all over the premises;

this is a great consideration, as there are about 200 head to feed. At one corner of the yard is situated a substantial brick building, which might be styled the mill. Here is contained the engine and apparatus for grinding the grain; for it is ground, not chopped, two sets of millstones being used. Mr. Cook, the foreman, informed us that this important part of the work has only to be done twice each week. Shafting connects the engine with machinery in the barn, where the fodder is all cut by steam power. Most of the cattle at this establishment are stores and milch cows, only a few of the Polled Angus being located here, Messrs. Geary having a large farm of 1,850 acres at Bothwell, where most of the blacks are kept. We hope to give a description of that place in a future issue. Among the Angus cattle kept at Bli-Bro are "Etta," an imported cow, and one of the highest bred of the "Erica" family, which occupies the same position with regard to Polled Angus cattle as the "Bates" does to the Durhams. "Etta" is a very fine specimen of her breed, "Princess Erica," her daughter, is a beautiful heifer; "Miss McCombie of Bli-Bro" is another splendid animal. "Maid of Culter" is a very fine creature, weighing about 1,700 pounds, and anything but fat. "Waterside Mayflower," is another heavy cow; she is very truly shaped, straight, and square. "Nightingale of Bli-Bro" is a very good youngster, and a typical Angus; although the great majority of Angus cattle are black, yet Messrs. Geary have a couple of red. A heifer, "Nightingale 13th," is a remarkably fine animal; and there is a bull calf which promises to be a wonder if he only keeps on growing as he does at present. The young stock are very choice; only two males are kept for breeding purposes, both of them are massive animals.

Shire horses are a specialty at Bli-Bro, three stallions being kept. "Lord Warwick" is just the stamp of animal required by the farmers of Canada for general purposes. The others are "Shire Lad," and "Enterprise," of Bothwell, both first-class animals. Our next move was to Delaware, west of London city, to visit

BELVOIR FARM,

so named after the seat of the Duke of Rutland, on the borders of Leicester and Lincoln, in England, Mr. Richard Gibson, the proprietor, having spent his childhood days in that locality.

Nearly every person interested in breeding cattle is familiar with the name of Richard Gibson. He is one of the most extensive importers we have on this continent, having crossed the Atlantic no less than thirty-three times. Belvoir is about fourteen miles from the city, and is most romantically situated on the banks of the River Thames, which forms a border to the estate, and nearly surrounds the entire property; the exception being a narrow portion fronting the ancient village of Delaware. The farm consists of two sets of flat lands almost level; the lower are generally covered by the floods in springtime. The soil is very rich, being an alluvial deposit, and capable of producing enormous crops. The lower flats are exceptionally rich for pasturing purposes. Mr. Gibson is famed all over the

United States as a champion Shorthorn breeder, his animals always being of the choicest and most fashionable families. Once, Mr. Gibson took several prize animals on a tour of the principal fairs in the Western States, and succeeded in winning the handsome sum of \$1,750 before he quit showing; and sold off all the animals he had with him. Mr. Gibson's annual sales in Chicago are attended by all the great stockmen of the West. The average at the sale by public auction in 1883, was \$1,873; and in 1884 the average price was \$1,040; and last year the average was again the highest ever brought in America. So famous is the Belvoir herd that breeders have actually had to come from the Old Country to purchase particular animals of certain families, wherewith to improve their own stock. The Belvoir herd numbers at present about fifty head. Among the notables are "Countess of Darlington 2nd," one of the best. She has had five calves, three females and two males. The females sold for \$400 each, and the males for \$200 a piece. A red cow, "Wild Windsome 4th," bred by Lord Farnham, is a perfect model Shorthorn. "Countess of Darlington," a red and white, is a beauty. Mr. Gibson sent her dam to New York State for service, paying all expenses of the trip, and \$100 for the use of the bull. "Rosy Princess 6th," a beautiful roan, by "7th Lord of Oxford," has been a most profitable cow; several of her progeny having been sent to Europe. "Seraphina Duchess," red, out of an imported cow is a grand animal, by "22nd Duke of Airdrie," a bull that was sold for \$4,900 by public auction, when six years old, to go to Vermont State. "Rosy Princess 5th," a roan, is a fine level sample of a Shorthorn. The bull at the head of the establishment is "Lord Kirklevington of Erie," out of imported stock. He is a grand animal, roan in colour, two years old, and as quiet as an old cow. His sister was a great prize winner at the leading shows in England; "Wild Eye Laddie," a red and white, a yearling, is a massive brute. Another yearling, a grand animal, bred by the Rev. Philip Graham, of Over Darwen, and imported to this country, is bound to make his mark and take a high rank among Shorthorns. The young stock were numerous and in splendid condition, as were likewise the older animals.

The residence at Belvoir is a stately mansion, erected by the late Dean Tiffany, and is one of the finest in the county of Middlesex. It is approached by a long carriage drive, along which evergreen trees have been planted. The farm buildings are extensive and commodious. Mr. Gibson stores most of his hay in stacks which are properly thatched in the same manner as is practised in the Old Country.

THOMVILLE

is another fine farm of 200 acres, south of London, and the property of Frank Shore & Brother, well known as breeders of Shropshire sheep and Shorthorn cattle. The residence is a fine brick one, and is almost hidden from view by stately elm trees; a large stream, called Digman's Creek, flows in front and nearly around the house. The buildings are remarkably fine, and the arrangements for keeping the stock very complete. A

belt of pine trees shelters the house and outbuildings from the cold north-west winds. The stock kept by Messrs. Shore are very select. The roan cow, "Ruby Hill," is a very level and true animal. An imported cow, a roan, named "Whin Blossom," is a Cruikshank of extra good quality, grandly fleshed. The imported cow, "Clementina," a red, bred by Campbell, is a perfect specimen, being level and straight. "Scottish Lass" is another beauty; she is a roan, only nine years old, and has had eight calves. "Duchess of Gloucester," roan, a pure Cruikshank, is a very heavy cow. She weighs something like 1,800 pounds, and is not fat; she has just dropped a fine bull, by imported "Vermilion." "Buchan Lassie," got by an imported bull, is full of Cruikshank blood, she is a fine animal; level and straight. "Mina 13th" is a beautiful heifer, a red, and two years old, and is very compact.

There were many other animals of high quality, but for the description of which we cannot spare space. At the head of the herd stands the bull "Vermilion," a red, a splendid creature, and pronounced by good judges to be almost faultless. He is an imported Cruikshank, very closely related to the sweepstake bull of the Western States, "Van Tromp." "Vermilion" is not fat and yet weighs over 2,000 pounds, and is considered about the most valuable bull of the Cruikshank strain in Ontario.

Messrs Shore are famed as breeders of Shropshire sheep. Their flock is not so large as in former years, but still they have about sixty-five head on hand, all of high quality. These gentlemen, along with other leading sheep men of the Dominion, report that the demand for sheep is steadily on the increase. A few miles south of Messrs. Shore's place is

HAWKHURST,

a neat farm of 117 acres, the residence of Mr. W. G. Hawkshaw, a progressive farmer and breeder of Shorthorn cattle and Shropshire sheep; the latter are mostly imported stock, and secured many prizes in the show ring for their owner. Among the cattle is a red and white cow, "Countess of Hawkhurst," with a male calf. She is of a very straight level stamp, and has won several first prizes. The red cow "Mina," a Cruikshank, is a good sample of a pure bred Shorthorn. A Bates cow, red, with a little white, is a very handsome animal; so also is a two-year-old roan heifer by "Duke of Northumberland." A white heifer, a pure Cruikshank, is a model Shorthorn. The roan heifer, "Ury," a Cruikshank, only four years old, has her third calf at her side. This cow would have developed into a large animal if she had not been bred from when so young, though even now she is of average size, and is very square built. Mr. Hawkshaw has laid over 20,000 drain tiles on his farm.

When driving through the township of Dorchester, we could not help noticing the great quantity of hurdle fences. Numbers of farmers used that description of fence along the front of their farms. It gives the places a neat appearance, and is an example well worth following. Tree planting is extensively practised, although not to the extent we should like to see. Underdraining is going on to a great extent. Last year there was a difficulty in getting tile, although manufacturers are numerous. The Middlesex farmers are a progressive and enterprising class.

HORSES AND CATTLE.

JERSEY CATTLE.

"PRINCE POGIS, 10,682."

The Jersey bull, "Prince Pogis, 10,682," a cut of whose photograph we present to our readers on this page, is the only son of "Mary Anne of St. Lambert," Mr. Valancey E. Fuller's great Jersey cow, and was for some time in service in the Oaklands herd. He is a very long deep bodied bull, straight as an arrow, solid silver gray in colour with dark shadings, and resembles his dam in individual appearance as far as it is possible for a male to resemble a female. All his get at Oaklands bear the characteristics of the "Stoke Pogis Victor Hugo" strain, and it would indicate that the prepotency of "Mary Anne of St. Lambert" would be demonstrated through the offspring of this her only son.

At the request of several American gentlemen, Jersey breeders, he was sent into the United States for service at a very high figure, namely \$500 a service, and was so much admired both for his individuality and his breeding that Hon. Henry L. Pierce, ex-Mayor of Boston, purchased him for use in his own herd at a very long price; namely, with service fees paid, for \$12,500.

"MERMAID OF ST. LAMBERT, 9,771."

The Jersey cow whose picture we present to our readers in this issue is "Mermaid of St. Lambert," from the celebrated Oaklands herd, owned by Mr. Valancey E. Fuller, at Hamilton, Ont. "Mermaid" was bred by Mr. Romeo H. Stephens, of St. Lambert, Quebec, the breeder of "Mary Anne of St. Lambert," and most of the animals of this great "Stoke Pogis 3rd Victor Hugo" family, he having had these bulls in use in his herd for some time.

"Mermaid," who is herself a great butter-maker, having made twenty-five pounds thirteen and a half ounces of butter from 307 pounds of milk in seven days, in the summer of 1884, by a test under a committee appointed by the American Jersey Cattle Club, has for her sire "Stoke Pogis 3rd," who has sired twenty-four daughters with tests over fourteen pounds, and whose average is slightly over nineteen pounds fourteen ounces for seven days. She is almost full sister to "Mary Anne of St. Lambert," and made thirty-six pounds twelve and a quarter ounces of butter in seven days under official test, and 867 pounds fourteen and three-quarters ounces in less than a year.

"Mermaid of St. Lambert" milks forty-eight pounds of milk per day when fresh.

FOR THE RURAL CANADIAN.

WHAT STOCK TO RAISE.

With our long winters this is the question of questions for us, and more difficult to solve than the cranky surd to the High School boy, and, like the adfected quadratic, must always have two roots in the answer, namely, beef or butter. Between these we must choose, for all modern experience proves that we cannot have both in anything like perfection. We make a poor imitation at a combination of both, and may succeed for home consumption, but can never succeed for foreign supply. Those who attempt to show that beef and butter in quantities sufficiently large to pay for cost can be made from the same class of animal will only establish a natural impossibility; for our breeds of cattle that are now acknowledged to be good beefers have been selected and bred for that special purpose for generations with a basis for that quality long established in the stock whence they came. To pretend that fat and muscle

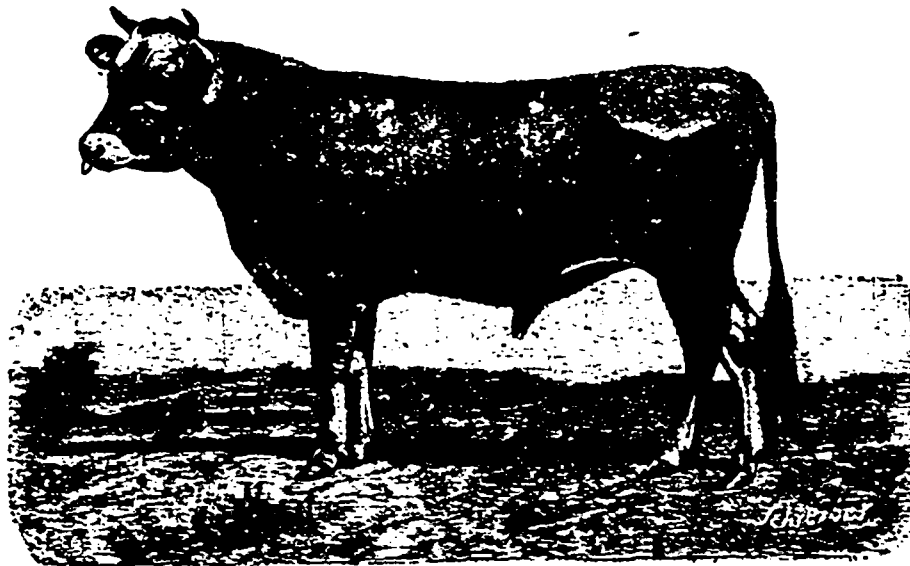
can be produced in the same animal at the same time, with fat as butter, is something like saying that we could eat our loaf and keep it; or, that the same food can supply double its own constituent elements in one class of animal and only single equivalents in another. Such is contrary to natural laws, and nature will not be contradicted with profit to those concerned.

The sooner we draw those lines distinctly, the sooner we will arrive at certain results.

The time must come, and may not be far distant, when the palates of foreign epicures will reject the form of surfeited overgrown veals, which have of late been sent to England under the name of beef; when quality will consist in flavour and fineness of tissue rather than quantity and grossness, when a fine boned mature animal covered with tender young muscle, will take the place of heavy surloin made up from a surfeited two-year-old Durham; when shipping from Canada will not be hampered by *underling speculators*, who make stock dealers pay an extra rate for deck accommodation. When these changes take place, as present indications point, we can make stock raising pay expenses, and give the capitalists of England a slice of beef and a roll of butter that will make them smack their lips, which, in the meantime, the tricks of trade and heavy freight prevent. We advise and invite farmers to give free expression on these points through THE RURAL.

S. H.

SUBSCRIBE FOR THE RURAL CANADIAN. Only \$1 a year in advance.



"PRINCE POGIS, 10,682."

CARE OF BROOD MARES.

Most of our farmers, says an exchange, are expecting some of their mares to drop foals at this season of the year. They consider a good mare a very profitable investment if she regularly produces a foal every year, but although this is the case, they do not care for her as she deserves. We do not refer to pedigreed mares at present, but to the average work mare of the farm, for as a rule the former receives all the care and attention possible. With the farm mare it is different. At this busy season of the year every available horse is required, and the mare, heavy in foal, is often made to do work which is far too hard for her. We have known of many a case where the mare and foal were lost by this over-exertion. The mare should do no work for a period of at least two weeks before her time, but should be well exercised or allowed to exercise herself in a suitable grass lot. When the time of her foal is up, she should be placed in an airy, snug, roomy loose box, supplied with a proper amount of clean straw for bedding, where she can lie down when she pleases. A man should visit the mare every hour at night when she is expected to foal, as where this is neglected we often find in the morning a dead foal, and mayhap the mare also. 'Tis often said: "No man ever saw a mare foal," but this is not correct. Doubtless

when a mare is in good health, and especially if she has had previous foals, the birth is accomplished very quickly, but from the symptoms, a practical man can always manage to be present when the event happens. It is best when this can be done, as even in easy cases of labour, a little assistance may often be beneficial both to the mare and foal. After birth the foal should be assisted to drink for a time or two, as weakness frequently makes standing up difficult.

If the weather is comfortably warm the mare may be turned out, after say three days, into a small field where good grass is plentiful.

On no account should she be worked in harness before two weeks have elapsed since foaling, and even after that period, she should only have light work for a short time daily. When the mother is at work the foal should be left in a loose box, and must never be allowed to follow the mother to the field, as bad results may follow from drinking her milk when she is heated, or receiving a kick or tread when, as is usually the case, the foal gets in the way.

In the West, farmers allow the tender foal to trot to

town beside its mother when she takes the waggon or buggy to market. This is bad management, and will do the foal harm that can never be got over. When it is absolutely necessary for the mare to work in harness, she should be quietly walked to the barn after she has been working for two hours or so, that the foal may have a meal and the mare a rest.

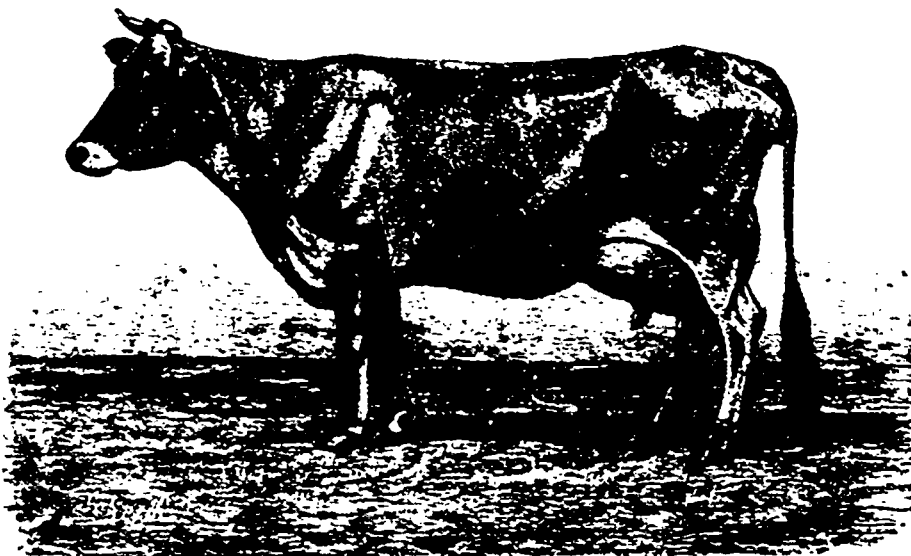
The above precautions are only necessary in cases where the mare must work, for the most natural and proper management is to turn the mare and foal to grass where her whole strength will be concentrated on the work of raising her colt.

SCRUB COWS AGAIN.

A visit to any of our stock markets, or a drive in the country, no matter in what direction, will astonish any person at the number of farmers who will persist in raising and keeping scrub stock, much of which is of the very poorest description. It would almost lead many people to suppose that there were no thorough-bred bulls in the country; and yet, go into any locality and thoroughbreds can be found; but the prices charged for their services are invariably so high that the ordinary farmers, sooner than pay such exorbitant charges, content themselves with breeding inferior animals, arguing that if the calf is a male, it

most likely will go to the shambles, and the butcher will give no higher price for a well bred calf than for a common one; and if a female, well, the cow is a good milker, so the heifer is sure to turn out the same. Whereas, they overlook the fact that a sire may have come from very inferior stock. Then, again, probably there is no good bull in the immediate neighbourhood; and sooner than trouble taking the cow any little distance, they will use the services of the nearest bull, no matter how poorly bred. Our farmers should remember that in breeding stock, no matter of what description, the prepotency of the male is greater than that of the female; and the offspring are more likely to take after the sire than the dam.

To make a mare own her colt, take some milk from the mare and rub it on the colt's nose; then let the mare smell it, and she will own her colt at once. I knew this to be tried several years ago, and it acted like a charm. My father had a mare that would not own her colt, and on consulting an old German neighbour, he told him of this remedy, and it brought the answer at once.



"MERMAID OF ST. LAMBERT, 9771."



IMPORTED PERCHERON STALLION "BRILLIANT, 3867 (2706)

Property of SAVAGE AND FARNUM, Island Home Stock Farm, Grosbe Isle, Wayne County, Michigan.

SHEEP AND SWINE.

SHEEP: THEIR DISEASES AND TREATMENT.

BY JOHN SPENCER.

In our last issue we treated of the digestive diseases. We now pass on, and notice the more important diseases of the

RESPIRATORY ORGANS.

The first in order and frequency comes catarrh, which is a discharge of mucus from the nose. This is met with mostly in wet, cold weather, and in such animals as are poorly fed and sheltered. It consists of an inflammation of the mucous membrane of the nasal chambers and sinuses, accompanied by a thin discharge from the nose which soon becomes thick.

Causes: These are predisposing and exciting. The predisposing are debility, loss of flesh, etc.; the exciting are sudden changes of temperature, exposure to cold and wet weather, low wet pastures and pens.

SYMPTOMS.

Animals are duller than the rest of the flock, do not feed as well, discharge of mucus from the nose, which is usually abundant, discharge of tears from the eyes, temperature more or less increased.

Treatment: Warm shelter, good food, tonics such as iron salts, and allow plenty of tar, which should always be easy of access to the sheep. Mixed with salt it will entice them to lick it, which they will do readily. If not attended to, this disease is apt to run to

BRONCHITIS,

which is much more serious, and is distinguished by more or less cough, marked dulness, quickened pulse, and increased temperature. Of this disease there are two kinds, simple and parasitic. The latter is not so frequent as the former and is due to the presence of a parasite, the *Strongylus filaria*, in the bronchial tubes, causing great irritation. It can be distinguished from simple by examining a portion of the mucus under a magnifying glass of low power. The mode of access to the lungs is a subject upon which a good deal has been written, and upon which a considerable difference of opinions existed in former years, some claiming that it passes in by way of the larynx, others that it bores its way from the digestive canal, and others are of opinion that it enters through the circulation, which sounds most reasonable.

Causes: It has been said that the disease attacks lambs pasturing on clover upon which sheep have been pastured the year previous, or that if such clover is cut and dried and fed as hay, it will produce the complaint. But it is oftener noticed in wet than dry seasons. The symptoms vary according to the location of the parasite: if in the lungs only, then there will be a cough, discharge of mucus from nose and mouth, restlessness, rubbing the nose against wall or ground; if parasites are in the alimentary canal as well, in addition to the above there will be great irritation of the bowels, dysentery, frequent passing small clots of blood.

Treatment: Professor Williams says this naturally

divides itself into preventive and curative. To prevent, avoid pasturing on second or third crops of clover upon which sheep have been previously pastured. Therefore put the lambs on fresh pasture. If the season be a wet one, see that the location be a high one; a hillside is best, and if the pasture be poor make use of artificial food.

To cure: Inhalation of chlorine gas is one of the best, which is done by penning lambs in a close box, liberate chlorine from the action of sulphuric acid on manganese black oxide and common salt, taking care not to suffocate the animal. Turpentine and oil are also recommended; follow up by tonics, good food, etc. Turpentine hypodermically may be tried.

PNEUMONIA

is an inflammation of the parenchymatous structure of the lungs. This very frequent disease is caused by neglected bronchitis, exposure to cold and wet weather, washing and shearing too early in the spring, and not proper after care, and is very often caused by attempting to force fluids down the throat from a bottle, for sheep are easily choked.

Symptoms usually commence with rigors and dulness, difficult breathing and cough, slight heaving at the flanks, grinding of the teeth, desire for cold water, disinclination to move, pulse becomes quick and weak, great tenderness over the loins if pressed on, cough becomes weaker, discharge from the nose, eyes become clouded, and a countenance expressive of suffering and despair, becomes half unconscious and death soon closes the scene.

Treatment: If taken in the earlier stages when the pulse is full, a few doses of aconite may be beneficial. A drench for such cases, from which I have seen many good results, consists of tinct. aconite, three minims, tinct. lobelia, two drachms, tinct. belladonna, two drachms, given in water or gruel, and repeated every four hours; follow by plenty of cold water, in which small doses of nitrate of potash are dissolved. If the bowels are costive no harm can arise from a dose of sulphate of magnesia; but care must be taken in each case that the pen be well bedded with good dry straw, and pure air with no draughts. In convalescence tonics can be administered with advantage.

(To be continued.)

The ease with which a sow farrows depends upon the width of her pelvis, hence never select for a brood sow an animal that is narrow over the hind parts.

The hog that stands up square and strong upon his feet should be chosen as a breeder, in preference to a gouty, weak-kneed animal.

Fresh air-slaked lime thrown over places occupied by hogs for their sleeping-berths is a very good precautionary measure, looking to the preservation of the animal's health.

Give the pigs plenty of range upon pasture and feed less grain. That will certainly improve the quality of the pork. This does not mean that they must be managed on the "root hog or die" principle, for that is neglect or abuse, and neither of these pay.

POULTRY AND PETS.*POULTRY HINTS FOR THE SEASON.*

BY REV. J. J. QUINN, EMERSON.

If you would succeed with young chicks they should be fed for the first week hard boiled eggs chopped up. After that give stale bread soaked in milk mixed with some boiled egg.

The size of common fowls can easily be increased by a judicious cross with a male selected from Light Brahmas or Plymouth Rocks. Such a cross will produce a bird that will furnish you with early broilers, and pullets will make good winter layers if hatched in April or May.

When hens are kept in stables they are sure to become lousy, and the lice will get on the horses. Keep your hens in a house entirely devoted to themselves. The cost of a comfortable hen house will be more than repaid by hen fruit—eggs—when they are well attended to.

Do not attempt to keep hens unless you are fond of the birds, otherwise they will be neglected.

Farmers who complain that their poultry is not paying them should consider whether they have given their fowls the same attention so heartily given to horses, cattle and swine. By actual experience it has been found that there is more money in raising poultry to sell eggs for twelve cents per dozen, than in raising hogs at eight cents per pound.

It does not matter how well arranged your fowl houses are, if you do not feed well and judiciously your fowls will bring no profit. See to it that your fowls have always easy access to material from which to make their egg-shells—broken oyster-shells, ground bones and lime—during the hatching season.

TO PREVENT CHICKEN CHOLERA.

Our experience has been this: By keeping the house clean from droppings, giving plenty of fresh air, not too many birds in one room, using Douglas's mixture in the drinking water every morning, and introducing new blood into the flocks every year, we have avoided this scourge.

It is said that a pullet or a one-year old fowl is not so liable to disease as a two or three-year-old fowl. Seek to improve your stock every year. Market your old fowls, and keep young ones on your farms and in your poultry yards, and you will have no chicken cholera.

It may interest you to know how to make Douglas's mixture. It is composed of one pound of copperas and one ounce of sulphuric acid. Put the copperas into a jug holding two gallons of water. Let it dissolve, and shake up well before using, and use one tablespoonful of the mixture to one quart of water.

THERE is a man in the West who has moved so often, that when a covered waggon comes near the house, the chickens fall on their backs and cross their legs, ready to be tied and carried to the next stopping place.

POULTRY NOTES AND MAXIMS.

THE time has gone by when men sneer at poultry-raising as a small business.

A LAYING hen should not be fed so high that she will get fat. Better to be a little too lean than a little too fat.

A SMOOTH, glossy plumage is a very great desideratum in exhibition birds. To obtain it feed sunflower or hemp seed.

TEACH your hens to break eggs and eat them by throwing egg-shells to them in large pieces, whenever opportunity occurs. This is a good way to do it.

FOWL-KEEPING is one of the best employments for children. There are very few young persons, indeed, without a fondness for the occupation, and it affords them excellent lessons in industry.

USE medicines and stimulants very moderately among your poultry. Remember, true strength and recuperation come from the digestion of nutritious food, and can come from no other source.

THIS filling up our breeding flock with only moderately good or poor fowls is entirely wrong; for it is only by breeding from the very best fowls we can get that we can hope to continue improving.

THE poultry-keeper who succeeds the best is he who exercises the most judicious supervision of his flock, allowing natural proclivities to take their course, and who checks the sitting propensities of aged fowls by death.

To the man of business, who comes home at the close of the long, long days, wearied with the various vexations and annoyances of a life of trade, and feeling the need of relaxation and forgetfulness of markets and ledgers for the present, we commend a few fowls.

A DUST BATH FOR HENS.

A dust bath almost every day is necessary for the health and happiness of a hen, and she should never be deprived of it. The dust box should be large enough to allow two or three hens to scratch after grain in it at the same time. A timid hen will not be easily tempted to get down and scratch hard in a box a foot square. Attention should be given to the dust box occasionally, that the dust does not become tramped tightly in it. The dust should be well loosened up every day or two, making it as light and dusty as possible. No matter if the dust does settle all through the house, soiling the good clothes of visitors. It is dust that your hens want, and dust they must have. Besides, a dusty house is not likely to be infested by lice. Coal-ashes are not fit for the dust-box until the cinders have been sifted out. A hen cannot throw coal cinders on her back. They are too heavy; besides they hurt her feet. Wood ashes are better, but they are scarce. Do any of our older readers remember any cases of chicken cholera where fowls had access to great piles of wood ashes that contained small bits of charcoal?

THE DAIRY.

FOR THE RURAL CANADIAN.

CREAMERY.

With our experience so far in the use of the cherry can for deep setting of milk, we have found out a few things. First, we have found that those who use ice will show a greater number of inches of cream than those who do not cool with ice; but an inch of cream raised with ice in the water will not yield as much butter as an inch of cream raised without the aid of ice. In the joint stock or gathered cream system, the inch standard is liable to do injustice to those who raise their cream at a higher temperature, as the higher temperature gives more butter, and of better quality. Not having a knowledge of these facts has caused dissatisfaction in the management of a few creameries, and been the means of closing one and changing another into a cheese factory. The only equitable plan of awarding dividends is to test the cream by actual churning, as was practised in the Seaforth creamery during the past year, by which even justice was done to all, and fraud becomes impossible where ordinary care has been used.

WHAT WE BELIEVE.

That the deep setting plan, as we have used it, is not exactly right. The cans being entirely submerged in water, the greatest cooling is done at the bottom while it should be done at the top, for the following simple reasons: first, cold water is heavier than warm, and cold water will sink to the bottom of the box and cool the milk at the bottom first, which becoming heavier remains at the bottom and has no tendency to produce a current from the bottom toward the top, which is so essential to enable the milk to throw the cream to the top. To do this ice is required, and then ice is injurious to the quality of the butter.

WHAT WE DO NOT KNOW

is how we are to fix our cherry cans so as to get the upper half of the can in the water without cooling the lower half, or what can we are to substitute for it, so as to keep within reasonably cheap bounds. We have not had time to experiment with the half immersion system, but are certain that it is the true one, and that all the cream that is fit to make good butter can be raised by it in a few hours without the use of ice, or without cooling much below sixty degrees, which can be conveniently done with good well water. The theory of the operation is this: Suppose we have a tin can twenty or twenty-two inches high, of eight or nine inches in diameter and a head or flange around the outside, midway between the top and bottom, so that when the can was let down through the bottom of the water box, the head or flange would make a water-tight joint with the bottom of water box. Now, say we strain milk warm from the cow into the can at ninety-five degrees, put on the lid and pump the box full of water at say forty-five degrees; the upper half of the milk is cold, the cream becomes lighter in cooling and rushes to the top; the water of the milk becomes heavier by cooling and falls to the bottom, but

by dropping to the bottom it forces its own bulk of warm milk up, which, when it comes into the cold zone surrounded by cold water gives up its cream, gets heavier, descends to the bottom to displace another volume of warm milk, and so the process continues with a continual current from bottom to top, somewhat after the fashion of water over a fire till all the milk has been reduced to the heat of the water in the box after the milk has been sent from bottom to top several times in proportion as the cooling has been done, slowly or rapidly. This, according to my little knowledge of the laws of heat and liquids, should enable any one, without the use of ice, to get all the desirable cream from milk with a small quantity of water, and without cooling much, if any below sixty degrees, which would insure a prime article of both cream and butter. M. McQUADE.

Egmondville, April 8, 1886.

A COW WITH FIRST CALF.

It is often the case when a heifer has her first calf that the farmer thinks she will not give more milk than will keep the calf in good condition, and lets them run together to teach her the mystery of being milked when she has her next calf, says an exchange. In this decision there are two mistakes that go far to spoil the cow for future usefulness. Cows, says a contemporary, are largely creatures of habit, and with their first calf everything is new and strange to them, and they readily submit to be milked, and think it is all right; but suffer them to run with the calf the first season, and a vicious habit is established that they will hardly forget in a lifetime. If they ever submit to be milked quietly, it is evidently under protest. But there is a greater objection than this—the calf running with the cow draws the milk every hour or two, so that the milk vessels are not at any time distended with milk, though the quantity secreted in a given time may be large. But this is the natural time to distend the milk ducts and expand the udder to a good capacity for holding milk. When, with her next calf, you require the milk to be retained twelve hours, the udder becomes hard and painful, and the milk leaks from the teats, or, more likely, nature accommodates the quantity of milk secreted to the capacity to retain it, and the cow becomes permanently a small milker. Much of the future character of a cow, therefore, depends upon her treatment with her first calf. Everything that disturbs the quietness of a cow impairs the milk both in quantity and quality. To obtain the best results, therefore, there should be a regular time and place of milking, and, as far as possible, the milking should be done by the same persons. Any cow can be milked dry in a few weeks by irregular milking, sometimes at intervals of twenty-four hours and sometimes of six. Separation from her usual company, a change to new location, a strange milker, and, above all, a blustering manner and scolding voice, are sources of irritation that more or less impair the milking qualities of a cow. No cow under the influence of fear will give her full quantity of milk.

GARDEN AND ORCHARD.

DAHLIA.

The Dahlia is the grandest autumn flower we have. Nothing is its equal in any respect in September and October. It is in its glory when everything else is faded or fading, and surrenders only to the Frost King. Put Dahlia tubers on the ground when the season becomes warm, covering the neck some three inches. If many shoots start, thin them out. After flowering and before hard frosts, take up the plants, remove the tops, dry the bulbs a little, and put them in the cellar until spring, when they can be divided and replanted. Look at them occasionally to see that they are not shrivelling from too dry an atmosphere, not starting the eye early, in consequence of too much moisture and warmth. The Dahlia is divided into three pretty distinct classes, —the ordinary *Show Dahlia*; the *Dwarf* or *Bedding Dahlia*, making a thick, compact bush only eighteen inches in height, but with flowers of full size; and the *Pompon* or *Bouquet*, with small, very perfect flowers, only from one to two inches in diameter, while the plant is of nearly the common size. Our engraving (for which we are indebted to Mr. J. A. Simmers, the well known seedsman of this city), shows the character of the standard class.



DAHLIA.

HENS IN THE GARDEN.

Under the above caption Mr. L. G. Brown, of New Hampshire, tells the readers of the *German-town Telegraph* that he last year let his hens and chickens have their full freedom in his garden, allowing them to pick and scratch at their own sweet will. When he ploughed or cultivated the fowls were always on hand to pick all the insects brought to view. He covered his seeds a little deeper than usual, had some of them scratched up and destroyed, but enough of them came up to give a full supply of plants. In the fall he made an estimate of damage sustained and concluded that one dollar would pay the loss, while the benefit from having insects destroyed he believed was worth at least ten dollars. We are willing to admit that hens, and especially young chickens, are useful in a garden or orchard; but we would certainly provide a yard where they could be confined at such times as they might do more harm than good by having their full liberty. We are not quite ready yet to deliver the whole premises over into the care of the hens and chickens. Hens scratching in the lawn and chickens roosting in the chairs on the piazza are not according to our ideas of good taste.

STOCK IN ORCHARDS.

The *Western Rural* makes the following pertinent remarks: Of all stock in orchards the pig takes the lead. His omnivorous instinct leads him at once to duty and usefulness. Our most injurious insects are hidden in the imperfect fruit which falls prematurely, and when left as it commonly is will bring forth and multiply to an alarming extent. In all secluded nooks and corners, old piles of rubbish and bunches of brush, grass and weeds which grow up abundantly form the insects' paradise. The pig possesses a wonderful degree of push, search and research; in fact there is nothing so finely hid that his constant search will not find out, upset, turn over, root to pieces, scatter, tramp out of existence. And if the old sod needs stirring up and renovating, he will do it without being coaxed or told. He is a willing servant in his place, and that is in the orchard from spring till time of gathering and then immediately after.

ONE of the recommendations of the Education Department to the trustees of every rural school section and incorporated village in Ontario is that the first Friday in May should be set apart for the purpose of planting shade trees, making flower beds, and otherwise improving and beautifying the school grounds. Last year an Arbour Day was suggested to trustees by a circular from the Minister, issued on the 16th of April, and in the annual report recently issued we see it stated that the response was very cordial, and all but unanimous. The inspectors report that in addition to the planting

of trees, many school yards were sodded, fences repaired, walks laid, and flower beds arranged, thus adding to the beauty and attractiveness of the school yard. The total number of trees planted was 30,648, and the number of flower beds made was 253. This is a good beginning, and if kept up from year to year it will form no mean part in the education of our boys and girls. Provision is made in the new regulations, as stated above, for an annual Arbour Day in all the rural and village schools. It is a good idea, and we should like to see every farmer in the country observe the day for the same object on his own farm.

REMEMBER, if the garden is to pay for the labour expended on it, it must receive a bountiful supply of manure.

It is a noticeable fact that the fruit growers who cultivate but a very few acres usually reap the largest rewards as compared with the extent of their efforts.

LARGE WHITE VOSGES CARROT.

This variety is also called Giant Short White. It has very large but short roots; smooth, cylindrical and regularly tapering to a point, a very heavy cropper and easily harvested. This fine variety is rapidly taking the place of the White Belgian.

DEADLY SPRAY FOR ORCHARD INSECTS.

Twenty-five to thirty years ago my orchard bore full crops every alternate year of smooth, round apples. I got money then easier and faster, picking and selling the fruit than at any other time in my life. The trees were large, and I could set a ladder in a good spot and get a barrelful without moving it. But latterly trees have not borne as well, and apples have been knotty and wormy; caterpillars and cankerworms have increased so as to ruin many orchards. The codlin moth has been worst of all, and the most difficult enemy to hold in check. But I feel sure now that it is an easy thing to destroy the whole crowd of orchard insects, by spraying the trees with London purple—which is much better than Paris green, and cheaper; it does not settle in water as the green does, and does not need one person to stir it as you drive along with the force pump. Mr. Geo. Allen bought a fruit farm near Holly, N.Y., which was in such a condition that the whole neighbourhood ridiculed the purchase. Cankerworms were in the orchard, the trees had not been trimmed, and the farm had not paid its way for some time.

He pulled out half the trees, gave the others a good pruning, sprayed with Paris green once a week for a month, and harvested 1,400 barrels of as fine apples as ever were seen; you could hardly find a wormy one. He expects to have some thousands of barrels this year, as many of the trees had been so stripped by cankerworms in '84 that they did not blossom in '85, but seem sure for this season. Mr. Allen ploughed and raised beans and some other spring crops between part of the trees, put on what barn manure there was on the farm, but what made the most surprising result was the spraying. The thinning and pruning was just as necessary. If you think you cannot spend time to spray the trees but once, the time then is when the apples are as large as full-sized peas; then the blossom end of the apple stands up, and the poison gets on the blossom end where it will "do the most good," as the codlin moth lays the egg in the blossom end, and when hatched eats its way in.

Mr. Arthur Rathbone, of Genesee County, sprayed a



LARGE WHITE VOSGES CARROT.

tree on one side and left the other. On the sprayed side the apples were fair and not a wormy one; on the other they were knotty, wormy and poor. And the trees appear to bear better if sprayed just before the blossoms open; leaf-rollers—little caterpillars—become very destructive, get on the blossom-buds before they open, that make them look as if singed; and buds that way set no fruit. This pest also is killed by the poison. Three linseed oil barrels and a force pump with a rubber hose to put in the bunghole make a good rig to spray with: Be sure and not get too much purple or green. Mr. Rathbone has experimented more than any one else I know; he says that half a pound of purple to sixty gallons of water is plenty. The purple should be wet like paste before putting it in the barrel, and then it will mix easily and not float on the water. Professor A. J. Cook, who first showed the value of this remedy, urges great care upon those who use it; do not turn stock into the orchard till after a heavy rain has washed all the poison from the grass under the trees.—D. A. Barker in N. Y. Tribune.

THE EARLY GARDEN.

Much has been said about soaking seeds, but if planted dry they will sprout as well in the damp soil as in water.

Plant the first Sweet Corn rather shallow; the sun will warm and cause quicker sprouting than if deep.

Cucumbers can be planted under somelight protection, and make a gain of over two weeks over those planted later.

Summer Squash will endure cold and can be planted early.

The Early Six-weeks' Bean is more hardy and will sprout and grow in a lower temperature than the wax beans or the Lima.

Seeds of tomato planted where the plants are to stand will be nearly as early as those raised under glass.

Beets will not suffer even if the ground should freeze a little.

Onions planted as soon as the ground is dry are safe for a crop; they endure a low temperature.

Cabbage and all of that family are quite hardy.

Seeds of lettuce germinate at a low temperature.

Pepper and Egg plants must have heat to do well; they fail to sprout in a cold soil.

Parsnips, Salsify and Carrot are safe after May 1.

Radish and Turnip need to grow quick; the soil should be warm and dry.

Beans, Cucumbers and Potatoes, once seriously cut by frost, will not make a satisfactory growth.

To guard against loss by frost a succession of all crops specially liable to injury should be planted.

Born red and black raspberries are inclined to grow too many canes, and will bear better if part are removed. The side shoots of red raspberries may be used for new plantations, but with the black caps new plants are better derived from roots which form from the tips inserted in the grass ground the previous season.

BEES AND HONEY.

OFFICERS OF ONTARIO BEEKEEPERS' ASSOCIATION FOR 1885-6.

OFFICE.	NAME.	POST OFFICE.
President	S. T. Pottit.....	Belmont.
1st Vice-President	Allen Pringlo.....	Selby.
2nd Vice-President	Mrs. R. McKechnie	Angus.
Sec'y-Treas.	Wm. Couse	Meadowvale.

EXECUTIVE COMMITTEE.

D. A. Jones.....	Beeton.
S. Corneil	Lindsay.
Jacob Spence	Toronto.
Dr. Thom	Streetville.
R. McKnight.....	Owen Sound.

ADVICE TO BEGINNERS.

With the opening spring many will commence bee-keeping. Every year adds a number of raw recruits to the apicultural army. Within a twelvemonth or less the greater part of them become deserters, just because they were raw recruits when they enlisted. There is not within the same compass, anywhere on earth, such a world of wonders as is contained inside a populous bee-hive, and yet people undertake to manage this wonderful world in utter ignorance of it. They know that bees can sting and gather honey. That is about all. To shun the stings and eat the honey is well nigh the sum total of their intentions. What folly is this! To all who meditate buying a hive or two while in total ignorance of the bee-keeper's art, we most emphatically say *don't*.

The acquisition of at least some knowledge how to manage bees is an imperative duty before even a single hive is bought. A bee-book should be obtained, and a bee-journal be taken as the very first steps in bee-keeping on however small a scale. By the time the bee-book has been studied, it will be quite soon enough to revolve the question, "Shall I buy a hive?" One is plenty to begin with. Most likely that will be lost before skill enough is attained to take due care of it. For knowledge got from books is but the A B C of bee-keeping. It is in the school of experience, and there only, that we learn "how to do it." Usually there are many failures before any encouraging success is won. This is one reason why the ranks of bee-keepers are not likely to become overcrowded. There are so few people who have the pluck to persevere in the face of repeated defeats. Not a few who have made considerable progress become disgusted when some big disaster overtakes their apiaries, and throw the whole thing up. This is always a confession of incompetency. It is a late discovery of what ought to have been known at the outset, viz.: that such are not cut out for the task of keeping bees. "No man that putteth his hand to the plough, and looketh back, is fit" for bee-keeping. Only those who have counted the cost, and made up their minds resolutely that they can and will pay it, are likely to succeed. The determination to succeed is the only trustworthy prognostic of success in this or any other line of things.

There is perhaps, no business in the world, except preaching, on which so many nincompoops enter, as bee-keeping. Almost every young lad who joins a church gets the notion into his head that he is predesti-

nated to the pulpit. So a large proportion of those who take an interest in rural pursuits are inwardly moved to try their luck with bees. It is usually bad luck. Bad luck in bee-keeping is like bad luck in other-walks of life, only a soft name for ignorance and folly. So be not deceived. If you attempt bee-keeping and fail, it will be because you don't know how, and are too stupid or too lazy to learn. Is it not better to weigh the matter well before making a start than to begin with a flourish and end with a fizzle? We quote from a poetic work on bee-keeping, soon to be published, the following lines which will appropriately clinch and conclude this article:

Who should keep bees? This question, often asked,
Has many wise bee-keepers sorely tasked,
And must be answered by advice to such
As need experienced counselling so much,
First, then, no one should think of keeping bees
Who means to let them do just as they please,
Or who believes the ditty greenhorns sing,
"Bees board themselves, and gratis ply the wing."
None should attempt the business till they learn it,
Or hope to make a cent unless they earn it.
None who are seeking a soft place to lie on
Need trouble themselves this pursuit to try on.
But what is fitness? Well, it is in part
To have quick eye, soft hand, and lion heart;
A mind to grasp the most minute details,
And with it all patience that never fails.
Promptness to do all work in its right season,
And clear perception from the facts to reason.
It is to have a perfect self-control,
To let alone the intoxicating bowl;
If you this evil habit once begin,
An apiary never set your foot in.
A hopefulness that never fails nor flags,
A diligence that neither loafs nor lags,
High moral principle that scorns to cheat,
And makes a point all honour's claims to meet,
The golden rule and law of love your aim,
And your best treasure an untarnished name.
If you are wholly ignorant of bees,
And yet possess such qualities as these,
You must content yourself to be a creeper
Along the road that makes a good bee-keeper.
Go slowly, do not be in foolish haste,
Nor think that you your time and money waste,
In making full and careful preparation
For entering on your chosen avocation.

THE HEDDON HIVE IN CANADA.

Mr. D. A. Jones has really conferred a favour on Canadian bee-keepers by having obtained control of Mr. Heddon's patent for this Dominion. While he charges the same price for individual rights as those pay who purchase direct from Mr. Heddon, viz.: \$5, he is able to furnish hives, whether completely finished or in the flat, at much cheaper rates than Mr. Heddon can do. Thus the sample hive to work from costs in the United States \$4, but is offered by Mr. Jones for \$3.25. The rates for hives in the flat are also considerably lower. Besides all this, the duty on hives bought from Mr. Heddon direct is saved to the Canadian bee-keeper. Let it be well understood also that bee-keeping requisites of every description can be obtained from Mr. Jones and other Canadian dealers at equally low, if not lower prices than in the United States, while, in addition, duty, and costly, because distant, expressage, are saved. Therefore we say to all, "encourage home industry."

HONOUR AMONG BEE-KEEPERS.

Unworthy attempts are being made to deprive Mr. Heddon of the laurels he has fairly won by the introduction of his new hive and new system of bee-manipulation. Prof. Cook, who is a mild-mannered man, must have been unusually "riled" to write in the way he has done in the *American Bee Journal* of April 7, 1886. After affirming that "the Heddon principles are novel, and cannot be found in literature or elsewhere," he goes on to say:—

Mr. Editor, I have no interest in this matter at all, only the grand interest of justice and fair play. For shame on us if we are to repeat the Langstroth outrage! There is no bee-keeper of intelligence in the United States who has the faintest shadow of an idea that this hive, method or discussion would have been brought forward had Mr. Heddon kept silent. Mr. Heddon told me a year ago he had a method that he believed would revolutionize our business. Why did I have to wait a year to know what it was? Only because it was original with Mr. H., and remained locked up a year longer. If any one honestly believes it, let him say it is a worthless hive and system. But, alack the day! when any considerable number of bee-keepers say it is not Mr. Heddon's. Firmly believing Mr. Langstroth to have invented the practical movable frame, I have ever stoutly maintained it; and I as truly believe Mr. Heddon to be the originator of the new system, and if found valuable, as I firmly believe it will be, I shall ever defend his rights.

These manly words have the right ring about them, and we cheerfully give them our most hearty endorsement.

BEE NOTES.

Mr. GALLUP, a noted Canadian bee-keeper, who moved from what was then called Lower Canada to Iowa, and subsequently to California, recognized the main facts of the hibernating condition when he wrote from Iowa in the *American Bee Journal* for February, 1869, as follows: "Walk down into my cellar and see the bees, it will take but a few minutes. Step up and look at them by the light of the lamp. Do you see the striped fellows in this hive?" "Yes, but Gallup, they are as dead as a door nail." "Not a bit of it." "Well, they don't stir." "Let us breathe on them a trifle." "They are alive, that is a fact. Do they keep as quiet as that all winter?" "Certainly. And that is not all; they scarcely consume any honey all winter."

THE *Canadian Bee Journal*, on entering upon its second year, is enlarged by two pages and a coloured cover. The best thing about the cover is the announcement, "published exclusively in the interest of the honey producer." Whether this means that it will keep the interest of the producer alone in view, regardless of that of the supply-dealer, or that it will be devoted exclusively to apicultural topics, instead of being, like *Gleanings*, a mixture of bees, fish, vegetables, fruit, moral reform and religion, we do not know, but in either case the meaning is good. We congratulate Jones, Macpherson & Co., on the ability and success

with which they have conducted "the first dollar weekly in the world,"—it should have been "the first apicultural dollar weekly,"—and hope its prosperity and usefulness will continually increase.

It is rather provoking for us Canadians to read under date of March 18, among the correspondence of the *American Bee Journal*, the following, from an Illinois bee-keeper: "My bees have come through another hard winter without loss, and are in fine condition. They were all working on maple to-day. White clover looks the finest I ever saw it at this time of the year." Here, in the latitude of Guelph, we had the worst snow-storm of the season on April 6, and there has been no bee-flight weather since Nov. 1. The *Canadian Bee Journal* of April 2, says of "our own apiary," "Our bees are still in winter quarters, with a strong probability of remaining there for a month yet."

By the time this number of THE RURAL CANADIAN reaches its readers, the bees will be through with their long winter imprisonment, flying freely, and breeding largely. Then is the time to keep a sharp look-out for colonies that are short of stores. Honey will be consumed in considerable quantity, and care should be taken to feed stocks liberally that require additional supplies.

AN esteemed correspondent, referring to what was said in the last number of THE RURAL CANADIAN concerning free speech in the realm of apiculture, observes: "I think the article O. K., only I regard the term 'brother' applied to a fellow bee-keeper as a good one, among a class of business men so small in number. It signifies nothing except that we are in the same business, which is always true, whether we see things alike and love each other or not. I like the term. Of course, you are right about coming out fair and square, without fear or favour."

ANOTHER NEW WORK ON BEE-CULTURE.

Dr. C. C. Miller, of Marengo, Ills., has written a new book, entitled, "A Year Among the Bees: being a talk about some of the plans, practices and implements used by a bee-keeper of twenty-five years' experience, who has for eight years made the production of honey his sole business." It is thus described by the author:

It is intended, as near as possible, to go over the whole ground of what I do from the one end of the year to the other; just what I should expect a bee-keeper to observe if he made me a visit of a year. There is nothing published that occupies exactly this field, and I often think how much I would have given for such a work twenty-five years ago.

We are now printing it, and it will be ready for delivery in about three weeks. It will contain 128 pages, and will be nicely bound in cloth. Price, 75 cents by mail, postpaid. It is a valuable work, thoroughly practical and progressive, just the thing for beginners, and will obtain a large sale.—*American Bee Journal*.

THE GRANGE RECORD.

OFFICERS OF THE DOMINION GRANGE.

OFFICE.	NAME.	POST OFFICE.
Worthy Master	Robt. Wilkie	Blenheim, Ont.
Overseer	A. B. Black	Amherst, N.S.
Secretary	Henry Glendinning	Manilla, Ont.
Treasurer	J. P. Bull	Davenport, "
Lecturer	Chas. Moffat	Edge Hill, "
Chaplain	Geo. Lothbridge	Strathburn, "
Steward	Thos. S. McLeod	Dalston, "
Ass't Steward	Wm. Brock	Adelaide, "
Gatekeeper	L. VanCamp	Bowmanville, "

LADY OFFICERS.

Ceres	Mrs. G. Lethbridge	Strathburn, Ont.
Pomona	" T. S. McLeod	Dalston, "
Flora	" C. Moffat	Edge Hill, "
L. A. Steward	" E. H. Hilborn	Uxbridge, "

EXECUTIVE COMMITTEE.

Jabel Robinson	Middlemarch, Ont.
Robert Currie	Wingham, "

AUDITORS.

Chas. Moffat	Edge Hill, Ont.
T. S. McLeod	Dalston, "

OFFICERS OF ONTARIO PROVINCIAL GRANGE.

OFFICE.	NAME.	POST OFFICE.
Worthy Master	R. Currie	Wingham.
Overseer	Thos. S. McLeod	Dalston.
Secretary	A. Gifford	Meaford.
Lecturer	D. Kennedy	Peterboro'.
Treasurer	R. Wilkie	Blenheim.
Chaplain	D. Wright	Banks.
Steward	Thos. Reazin	Cashtown.
Ass't Steward	Wm. Brock	Adelaide.
Gatekeeper	J. P. Palmer	Fenelon Falls.

LADY OFFICERS.

Ceres	Mrs. C. Moffat	Edge Hill.
Pomona	" G. Lothbridge	Strathburn.
Flora	" E. M. Crysler	Delhi.
L. A. Steward	" J. McClure	Williscroft.

EXECUTIVE COMMITTEE.

Thomas S. McLeod, Esq.	Dalston.
Chas. Moffat, Esq.	Edge Hill.

AUDITORS.

W. H. White, Esq.	Chatham.
S. Bollachey, Esq.	Paisley.

A SUGGESTIVE MEMORIAL.

To the Honourable the Members of the House of Commons of the Dominion of Canada in Parliament assembled.

The memorial of the Dominion Grange of the Patrons of Husbandry humbly sheweth:—

That at the last annual meeting of the Dominion Grange held in the city of Toronto, the following report was adopted:

It is but a few years since the people of this country taxed themselves, and gave freely of their money—the Local and Dominion Governments also gave large supplements—to get cheaper transit and competing lines of railway; and the country is yet in debt for a large amount of debentures sold, that have yet to be redeemed.

Amalgamation has virtually reduced our railway system into two corporations. In some instances these corporations are charging double the rates on local traffic since said amalgamation has taken place. In fact the rates are raised and lowered to whatever the traffic will bear; this means that the railroad companies fix the price of grain from year to year. The seller or purchaser has little voice in the matter.

The people and Governments gave their money in good faith to said companies; but the trust reposed in them has been misplaced, and the corporations now virtually say to the people and Governments, "You have no rights that we are bound to respect."

How long will the people and Governments submit to this state of matters? Those corporations have become so powerful that the question arises: "Which rules the Dominion of Canada, the people's Government or the railroads?"

We would, therefore, urge legislation which will procure the interest of the producer by the establishment of a court or commission similar to that proposed by Mr. McCarthy in his bill of last session, for the regulation of railway freights, and the final settlement of all matters in dispute between railway companies and individuals or companies.

We would also beg to bring before your notice the necessity for the adoption of what is known as the Postal Note system, for the transmission of small sums at a trifling cost, similar to that in use in the United States. Also the issue of registered postal cards, costing three cents, to be treated precisely as registered letters.

We would bring before your consideration the necessity for a uniform size of apple and salt barrels, also that *The Adulteration Act of 1885* be extended to provide for the inspection of salt, as we have reason to believe some of our Canadian wells produce an impure article of salt, which has a very injurious effect upon the curing of meats and dairy products.

And as in duty bound will ever pray:

ROBERT WILKIE, *Master*,
HY. GLENDINNING, *Secretary*.

JABEL ROBINSON, }
ROBERT CURRIE, } *Executive Committee.*

Manilla, Ont., March 10, 1886.

REPORT OF DOMINION EXECUTIVE.

To the Members of the Grange in the Dominion of Canada:

It is with regret that we have to announce to you that the Dominion Grange will not meet this year at the usual time, for reasons we herewith lay before you:

1st. That owing to arrears of reports and dues from the Provincial Granges to the Dominion Grange, it would be unconstitutional to make any changes in our Constitution, as any member of the Order could take exception to the work that might be done at that meeting.

2nd. That owing to the arrears of dues the Treasury would not be in a condition to pay the expenses of delegates as provided for by Constitution. (See Art. iv. Sec. 5, Constitution of the Dominion Grange.)

3rd. That owing to Ontario Provincial Grange holding no session at the usual time, no delegates were elected by that body as representatives to Dominion Grange. A meeting of the Dominion Grange will be held as soon as circumstances will permit.

The Executive Committee have carefully gone over the work of the last annual meeting of the Dominion Grange, and selected from the various reports such sections as were requisite to lay before our Legislators, and had them printed in circular form, and a copy sent to each member of the Dominion Government, also to each member of the House of Commons.

We called the attention of the deputies to the fact that there were many sections where new Granges could be formed with a little exertion on their part. The resuscitation of dormant Granges is one of the questions which has engaged much of our attention during the past year, and it is one of the most difficult questions that we have to deal with, not having sufficient funds to place lecturers in the field to arouse their dormant energies in that way. Indeed, it is questionable whether the outlay would be returned by lecturing to Granges that have become dormant through lack of interest by their members. The efforts of members in their own localities, we believe, would be the most successful method of any, if prosecuted vigorously and systematically.

By a resolution passed by the Executive Committee, a deputy is allowed to collect the sum of two dollars from a Grange for his labour in resuscitating it. By the payment of the above amount it frees the Grange from all back dues.

Sister C. Moffat, of Edgehill, Ontario, has written three very able and interesting essays on the three Goddesses, viz.: *Flora*, the goddess of flowers; *Pomona*, the goddess of fruit, and *Ceres*, the goddess of grain, which she has very generously presented to the Dominion Grange for publication, and to be disposed of in the interest of the Grange organization. It is the intention to publish them in book form. The three combined will be sold at the small price of 20 cents, or \$1.50 per dozen, and we trust that our members will patronize this generous offer, and will send in their orders to the Secretary for them.

The Auditors have made an audit of the Secretary's and Treasurer's accounts for the past year, of which the following is an abstract:

SECRETARY'S FINANCIAL STATEMENT.

RECEIPTS.	PAYMENTS.
From Sale of Printed Matter.....\$122 21	For Tin Boxes and Padlocks \$9 15
" Organization of New Granges..... 360 00	" Deputies organizing Granges..... 115 50
" Quarterly Dues..... 580 02	" Stationery..... 10 03
" Emblems and Pins.. 15 80	" Printing..... 63 05
" Bro. Geo. Creed, per Bro. J. A. Thompson, of Dakota..... 10 00	" Sundries..... 4 20
	" Postage..... 64 81
	" Express Charges..... 5 68
	" Executive Committee work..... 160 25
	" Treasurer..... 655 36
Total..... \$1088 03	Total..... \$1088 03

We, the undersigned, beg to certify that we have examined the accounts of the Secretary, comparing them with the vouchers, and find them to be correct.

March, 6th, 1886.

(Signed) CHAS. MOFFAT, } Auditors.
THOS. S. McLEOD, }

TREASURER'S STATEMENT.

J. P. BULL, Treasurer, in account with DOMINION GRANGE.

RECEIPTS.	PAYMENTS.
1885.	1885.
By balance as per audit of 1884.....\$726 94	To Cash paid delegates attending An. Meeting \$463 69
" Cheque from Provincial Grange Treas... 50 00	" Auditors..... 8 00
1886.	" Caretaker City Hall... 5 00
By Cash Dom. Secretary \$67 79	" H. B. Hunt, lecturing... 60 00
Postage Stamps..... 1 00	" W. Pemberton, printing..... 27 30
" Dom. Grange Sec'y 190 03	" Welland Printing Co. 3000 supplements to proceedings..... 5 00
	" C. B. Robinson, printing proceedings of Dominion Grange... 85 80
	" W. Pemberton, printing Constitutions..... 740 00
	" Discount on Cheque... 41 70
	" Discount on Cheque... 25
	1886.
	To Discount on Cheque... \$0 25
	" Treasurer's salary and expenses..... 35 00
	" Dom. Grange Sec'y's salary..... 150 00
	" Dom. Master's salary 50 00
	" Master's expenses to National Grange..... 48 00
	" Balance on hand..... 42 77
Total..... \$1055 76	Total..... \$1055 76

We, the undersigned Auditors for the Dominion Grange, certify to having examined the Treasurer's accounts with the vouchers, and find them very satisfactory and correct in every particular.

(Signed) CHAS. MOFFAT, } Auditors.
THOS. S. McLEOD, }

Toronto, March 3, 1886.

During the past year there have been eighteen Subordinate Granges and one Division Grange organized.

By order of the Executive Committee.

H. GLENDINNING, Secretary Dominion Grange.
Manilla, March 9, 1886.

LONDON and Elgin Division Granges have decided to celebrate the anniversary of the Dominion Grange at Port Stanley, on Wednesday, June 2. They have also decided to run an excursion to Toronto on Wednesday, June 9. Bro. Jabel Robinson was appointed to make all the necessary arrangements. Hon. J. H. Brigham, Master of Ohio State Grange, has written to say that he will be present at the Port Stanley picnic on the 2nd of June, and will deliver an address.

WHAT TO DO.

For farming in Canada the situation is serious, but in Britain it is ruinous, where an annual rent has to be paid whether markets are good or bad. The sooner we square our sails to suit the breeze the better. We have several new elements to contend with in European markets; first, the supply of butcher's meat from Australia and the cheap lands of the Southern Pacific; second, the coming vast wheat product of the prairies to the North-West of us, which, with a small supply from India, will tend to keep those staples low in the consuming centres for many years to come; third, the great quantities of cheap wool from the Pacific Islands and South Africa will effectually prevent farmers on the dear land of Ontario from raising sheep with profit to be sent abroad; and, unfortunately, we are not able to use all the wool and mutton at home yet, though in the near future there will be a large demand from the North-West for cloth made from our long wools. Stock raising has fallen below bare cost of feeding, which, unless some unforeseen change takes place in the management of western ranches, is likely to keep down. Therefore, looking over the whole horizon there is scarcely a patch of clear sky for the farmer, not as much blue as would patch a Dutchman's breeches. Though it is not advisable to go strictly into specialties, or put all our eggs into one basket, still we must make a decided change, and what that shall be will be worthy our most serious consideration.

The first thing to be attended to is economy in every detail, so as to lessen the general expense; then, for a time at least, employ hired help only on such work as will yield certain and immediate returns, and grow crops that entail much labour in better quality and greater quantity than formerly; put more under grass as hay and pasture; put the tillage of twenty acres on ten, thus saving the seed, harvesting and threshing on half the land in present use; till thoroughly what is kept open, by which we can manure heavily and get the land up to its full capacity. This is our only hope in grain growing. We must add in quantity and quality what we have lost in price. The clay districts of Ontario are, under proper tillage and conditions, capable of forty bushels of wheat to the acre, which, even with present and prospective competition, will pay for the cost of production, while twenty bushels can be grown at little or no profit, since it has been computed that it costs about \$21 to raise an acre of wheat. Twenty bushels at eighty cents gives only \$16, a loss of \$5; forty bushels at eighty cents, \$32, or a profit of \$11, which spread over ten acres gives loss of \$50, or a gain of \$110 a year, a very important consideration. We must look at it in this way if we would keep fairly afloat.

-S. D. G.

HOME CIRCLE.

WHAT THE CHILDREN DID.

All day with busy thought and hand,
The patient mother thought and planned,
And strove to do, with needed care,
A duty here, a duty there ;
Yet on her face, about her work,
A covert smile would often lurk,—
A mother's smile, which came unbid,
At something that the children did.

She watched with pride some boyish feat ;
She marked her girls and saw them sweet ;
She thought the sight was passing fair
Of baby grasping at the air.
The swift retort of childish wit
She heard, and keenly relished it ;
And underneath the lock that child,
She smiled at what the children did.

When at the weary end of day,
The children, soundly sleeping, lay,
The mother, by the evening fire,
Recalled their pranks to please their sire.
And when the fire was but a spark,
When all the quiet house was dark,
When slumber came with drooping lid,
She dreamed of what the children did.

UNCLE EBEN'S CLOCK.

It is a tall, old fashioned clock, somewhat dingy as to its ancient red paint, and somewhat faded as to its once resplendent ornamentations. A gilt ball is missing from one of its spires, and its weights have broken down so many times that the cords are much shortened by repeated tying.

It is said to have existed three years without a case ; but the works became clogged by broom driven particles of sturdy Vermont soil, and the weights, as they slowly descended to the kitchen floor, were liable to deal unmerciful thumps upon unoffending objects ; so Grandmother Palmer did extra spinning, and bought a smart covering for the busy timepiece. The dress is not the man, neither is it the clock ; but correct apparel generates self-respect, and self-respect begets good behaviour ; accordingly, what had been a giddy, go-as-you-please time-server speedily developed into a correct and responsible time-keeper. It has kept the family time for nearly one hundred years.

If I tell you that this worthy centenarian is at least as devoted to the Palmer family as though it were a canary bird or a tortoiseshell cat, I shall doubtless be laughed to scorn, and sentenced to oblivion or to a lunatic asylum without further hearing. Nevertheless, I will publicly avow my convictions, and submit to my fate.

I cannot be too eulogistic in speaking of our clock. Conscientious in the extreme, it has never purposely misrepresented the time but once ; that we will speak of later. When I say that it has needed few repairs, I do not expect you to regard its healthy condition as a virtue, any more than you would necessarily consider a person virtuous because he had needed no physician. Our clock had a good constitution to start with, and a happy disposition after the first three years. It rarely stopped unless its keeper had forgotten to wind it, and

when at last it waxed old and rheumatic, a little oil has always been potent to bring it to time again.

A family clock has duties to perform outside the regular routine. Uncle Eben's timepiece has discharged these duties faithfully. It has given three warnings.

Once it struck twelve in the middle of the night when it had been unable to move for several days. My Great-uncle Thomas heard the warning, and died within the year.

One afternoon it stopped, without apparent cause, at twenty minutes past three. After standing still for half an hour, to the consternation of the family, it voluntarily resumed its task, and ticked on peacefully as though nothing had happened. In just six months from that day Grandfather Palmer died at twenty minutes past three in the afternoon.

The third warning presaged Uncle Eben's own death. The family sat around the table one Sabbath evening, when, looking up to see if it was bedtime—it was nine o'clock—Uncle Eben saw the minute hand slowly retreat from its position on XII. until it passed the hour hand in its backward course, and stood at the half-hour. At half-past eight, one Sabbath evening, Uncle Eben went to his eternal rest ; or to his new department of eternal labours, if that way of putting it is more in accordance with the modern idea of heaven.

One more reminiscence, and I think I will have proven the faithfulness of our family friend. To tell my story, I must give a few family details. Uncle Eben had never married ; and he had a snug little property—the old home farm, with such additions as he had made through thrift and industry. He also had a favourite nephew, Daniel Palmer, my unworthy self. But Uncle Eben quarrelled with me when I was twelve years old ; that is to say, I called him an old fossil when he forbade my playing cards at the village tavern ; and after thus freeing my mind, I packed an old valise on the sly and ran away to sea. That is the way that uncles frequently quarrel with their nephews ; but such quarrels are not popular with story writers.

Uncle Eben regretted having quarrelled with me, for he liked me very much. He heard nothing from me for two years ; then the warning came, and he felt it necessary to make his will. As I was a young man of great daring and recklessness, he feared that I might have passed beyond the benefits of a will, and found a watery grave. He did the best he could under the circumstances : he willed all the property to me in case I claimed it within five years ; otherwise it was to go to a certain Jared Wilson, a wealthy second cousin of mine, Uncle Eben's nearest relative after myself.

Meanwhile I, unhappy youth, was being kicked and cuffed about by a crew of ruffianly sailors far away on the sea. I had decided that I would not go home or even write home until I had acquired an independent fortune. Fortunes do not leap forth out of the deep-sounding sea at the beck of a poor little landlubber, and the years dragged slowly on without adding to my humble possessions.

Uncle Eben had died, and the five years of grace were nearly spent before I finally decided that solid

earth was better than water, and that I would forgive Uncle Eben, and return home for a taste of the fatted calf. I had had no news from my native town since the morning I went away, so I knew nothing of the changed conditions at home. I thought to find Uncle Eben hale, hearty and prosperous, as when I had left him. I fancied that he might be growing a trifle gray, and that he might even be beginning to wear spectacles; but then his form would be erect, the grasp of his hand firm, and his notions of right and wrong as orthodox as ever. How refreshing the puritanic rectitude of my uncle seemed to me through a vista of seven years with the jolly tar can be appreciated by those only who have had the same experience.

Although I gave no notice of my return, I think Cousin Jared must have had a mental conviction of my increasing nearness, for he was seen to be uneasy and apprehensive. The five years would expire at twelve o'clock, December 31, 1895. At one minute past twelve Jared proposed to be master of the Palmer estate. That he might take possession punctually, on the evening of December 31, he stationed himself in the kitchen of Uncle Eben's old red farmhouse, accompanied by his lawyer.

The farmhouse was occupied by a family that had lived there many years, and, by the provisions of the will, were to live there and take charge of the premises until one of the heirs mentioned had taken possession. The family consisted of James Hallet, wife and daughter, persons who had known me from my babyhood. Uncle Eben put me into Susan Hallet's arms when he brought me home from Grandfather Brown's, a helpless orphan, aged six months. Susan Hallet cared for me, scolded me, and cried over me for the next twelve years. Of course she wept over me and worried about me more than ever after my departure, and I suppose she lectured Uncle Eben soundly for having quarrelled with me. Tina Hallet, my playmate and dearest friend from my earliest recollection, was one year younger than I. When I ran away to sea, it was with the secret resolution that Tina should share my immense fortune when I came home with it.

Naturally the Hallets did not fancy having the old farm seized upon by Jared Wilson. They have often told me how they sat there through that December evening—James Hallet, his wife Susan, and his daughter Tina, all despairingly watching the departure of the old year. They had not quite given up the hope that I might appear at the last moment, but it certainly began to look very dubious.

Jared Wilson sat with his watch in his hand, waiting impatiently for the fateful index to crawl up from half-past eleven to twelve. The lawyer grew very sleepy, and dozed off in the big arm chair, but the rest of the company sat bolt upright, their hearts beating in unison with the swinging of the pendulum.

At a quarter to twelve, Jared's watch suddenly ceased ticking, a proof to my mind that it did not sympathize with the greedy haste of its owner. No one else present had a watch, or the key to a watch, so Jared ruefully

put his timepiece in his pocket, and gave himself up to the contemplation of Uncle Eben's clock.

"You are just five minutes too slow," he said to James Hallet. "I keep the correct time."

He arose, no one disputing his right, and moved along the minute hand five minutes, causing the clock to utter a sharp click, the ten-minute forerunner of the hour. Then he sat down and waited again.

Under ordinary circumstances, ten minutes is not long to wait; but I have it on the authority of the three Hallets that those ten minutes were unlike any others that Father Time had ever swung them through. It seemed at least half an hour before the minute hand had moved along one space; but it certainly did move, and the pendulum kept on swinging as briskly as ever.

"Something ails that tarnal clock!" said Jared anxiously, when at last the hand had reached the five-minute station. "It can't be right."

"You are in too much of a hurry, Jared," said James Hallet. "That clock has kept accurate time for more years than you are old. You can't hurry time, unless you make the earth go faster."

The lawyer opened his eyes a little, blinked, then settled back in his chair and slept sounder than ever. James Hallet poked the fire energetically, and again busied himself with toasting his heels. The pendulum ticked on loudly and defiantly. A goodly length of tallow candle was leisurely consumed, and still, after what seemed like hours of waiting, the hand jacked one minute of twelve.

The Hallets had given up all hope, and Jared Wilson was smiling and triumphant, when suddenly, at the very last tick, the door burst open, and I staggered in, breathless and exhausted. I had learned the state of affairs at Elijah Smith's, where I had thought of staying over night, and I had hurried on for dear life.

The Hallets gave a shout of joy, Jared howled with rage, and Uncle Eben's clock gleefully struck twelve. I saw Jared shake his fist at the old clock as he departed with crestfallen mien.

So I received my inheritance, and I have never ceased to be grateful that I was permitted to return before it was too late.

But, let me whisper in confidence, Billy Smith, a good friend of mine—Deacon Smith these twenty years—did tell me privately that it was half-past one by their kitchen clock when I started up the hill towards the farmhouse; so it is perfectly evident to a reasonable mind that Uncle Eben's clock went slowly on purpose. Be that as it may, it has kept the best of time ever since, and Jared Wilson never disputed the justice of my claims.

Now I have an important question for you to answer.

Holy Writ is very positive in its denunciation of liars. The old clock did certainly tell a fib, and I assented to it. Will the clock and I be pardoned for the deception? Mother Hallet always said yes; my wife Tina also says yes; but at times I have my doubts.

SPECIMEN COPIES OF THE RURAL CANADIAN sent free on application.

ONLY AN IVY LEAF.

By D. WOOD.

Andante.

PIANO. *mf*

The piano introduction consists of three staves. The top staff is a treble clef with a 3/4 time signature. The middle and bottom staves are a grand staff (treble and bass clefs). The music is in a minor key (one flat) and features a steady accompaniment with some melodic lines in the right hand.

p

1. I've brought thee an I - vy leaf, on - ly an I - vy leaf,
 2. I'd have brought thee a flow - er, a beau - ti - ful flow - er,
 3. I'd have brought thee a rose - bud, a fai - ry like rose - bud,

The vocal melody is on a single staff with a treble clef. The piano accompaniment is on two staves (treble and bass clefs). The music is in a 3/4 time signature and a minor key. The lyrics are written below the vocal staff.

From the' land of the rose, where the
 But it would have sigh'd, 'till it
 To place in thy hair, and to

The vocal melody is on a single staff with a treble clef. The piano accompaniment is on two staves (treble and bass clefs). The music is in a 3/4 time signature and a minor key. The lyrics are written below the vocal staff.

wild heath - er grows. And the
fa - ded and died. And have
per - fume the air. But

vi o - let blos - soms in qui - et re - pose; I've
dropp'd in hu - ma - ni - ty's wi - ther - ing tide So I
it, like the flow - er. would fade in des - pair, So I

brought thee an I - vy leaf, on - ly an I - vy leaf.

Dolce.

YOUNG CANADA.

LOOK AHEAD.

'Ere the years of youth pass o'er thee,
And "the world is all before thee,"
"Look ahead!"
Aim at something worth the winning;
Great achievements have beginning,
Every player has his "inning."
"Look ahead!"

Pleasure with a beckoning finger
May entice thee yet to linger;
"Look ahead!"
For each hour that man has wasted,
Every idle pleasure tasted,
Left a sting as on it hasted.
"Look ahead!"

Should success in life attend thee,
Riches from all want defend thee,
"Look ahead!"
Then will false friends gladly find thee,
And with flattery seek to bind thee;
Onward press! Leave these behind thee;
"Look ahead!"

Or, if failure overtake thee,
Faith and courage o'er forsake thee;
"Look ahead!"
Never yield to vain repining;
Each cloud has its "silver lining,"
Though 'tis dark the stars are shining;
"Look ahead!"

Then while youthful years are fleeting,
And life's duties thou art meeting,
"Look ahead!"
Know that this is not the ending;
To eternity we're wending,
Thither are thy footsteps tending,
"Look ahead!"

THE REAL KING.

The lion is called the king of beasts; but after all, he is rather a sneaking sort of fellow, and not what we have a right to expect a monarch to be. He is very strong, and when he must fight, does so fiercely; but as he is not any more powerful than the tiger, and is not even as good a fighter, he ought to take rank next to that first cousin of his.

But even the tiger is not entitled to the first place, for he is not by any means the master of the brute creation. If any animal can be said to hold that place, it is certainly the elephant. Only, the elephant, not being a flesh-eater, very seldom has trouble with his comrades of the forest, and consequently has no reputation as a fighter. And yet he can fight, even in captivity, as was seen only a few weeks ago, when in the winter quarters of a menagerie at Philadelphia—according to the newspapers—an enraged lion, escaping from his broken cage, dashed madly upon a great elephant, only to be instantly crushed to death by the powerful beast which he had dared to attack.

All animals, indeed, respect the elephant and give him a wide berth. Once in a while, a rhinoceros will lose his wits and go tearing through the jungle, regardless of consequences, and he might then attack even an elephant. As a rule, the result is very disastrous to the rhinoceros, which is quite likely to discover that his horn is no match for the two shining white tusks of the elephant.

When used by man for hunting the tiger, the elephant will frequently display the most abject fear, should the tiger suddenly spring up in his path; and this fact has led to the belief that the elephant has a natural fear of the tiger. The truth is, the tamed elephant has been taught to so bend his will to his human master's that he has lost his ability to act upon his own impulse, and, moreover, is so hampered by his crowded howdah and his other trappings, that he has not full liberty of action.

Stories without number are told by hunters of combats witnessed in the jungle between elephants and other animals, and all go to show the prodigious strength and activity of the huge creatures. Strength, of course, the elephant would be expected to have, but it is hard to comprehend how so ungainly looking a creature can be so active and agile as he really is. That he can outrun a fleet horse seems incredible enough; but it is even more wonderful that he can vie in quickness of movement with the muscular tiger.

One of a party of hunters in India left camp one evening, intending to shoot one of the peacocks which were heard screaming in their discordant way not very far from camp. He knew from experience that he might find a tiger in the neighbourhood, though up to that time no traces of that animal had been seen. But the tiger is so fond of peacock that experienced hunters always go cautiously to shoot the birds.

In this case the caution was wise, for when near the spot where the birds were, the hunter just saved himself from stumbling on a large tiger, which fortunately was so taken up with stealing upon the birds that he did not notice the man. The latter, anticipating some interesting sport, watched the tiger move stealthily through the underbrush and come upon the noisy birds. Whoever has seen an ordinary cat crouch and spring can comprehend what the hunter saw. The spring was unsuccessful, however; and as is its custom, the tiger, as if ashamed of its failure, was slinking away, when there came the noise of crashing underbrush, and the graceful creature crouched closely to the ground.

The noise, as the hunter had at once suspected, was caused by the approach of a herd of elephants. Again he waited silently for further developments. The huge creatures made their way straight toward the clearing where the peacocks had been feeding on the grain that grew there. At the head of the herd gambolled a baby elephant. Unconscious of the presence of the tiger, the little creature was almost upon it, when the great cat, as if unable to resist the temptation, darted toward it. Like magic the whole herd responded to the shrill cry of the mother, and the leader of the herd charged to the rescue.

The tiger seemed willing to retreat, but that the leader would not permit; and then began a combat, in which the tiger with all his agility strove to take the elephant anywhere but in front. To avoid this the elephant moved about with astonishing celerity, and finally with a quick plunge caught the tiger under its ponderous foot, and with one terrible thrust pierced it with its tusks. Is not the elephant the real king?

SCIENTIFIC TRUTH!

Regarding the Functions of an Important Organ, of which the Public Knows but Little, Worthy Careful Consideration.

To the Editor of the Scientific American:

Will you permit us to make known to the public the facts we have learned during the past eight years, concerning disorders of the human Kidneys and the organs which diseased Kidneys so easily break down? You are conducting a Scientific paper, and are unprejudiced except in favour of Truth. It is needless to say, no medical journal of "Code" standing would admit these facts, for very obvious reasons.

H. H. WARNER & CO.,
Proprietors of "Warner's Safe Cure."

That we may emphasize and clearly explain the relation the kidneys sustain to the general health, and how much is dependent upon them, we propose, metaphorically speaking, to take one from the human body, place it in the wash-bowl before us, and examine it for the public benefit.

You will imagine that we have before us a body shaped like a bean, smooth and glistening, about four inches in length, two in width, and one in thickness. It ordinarily weighs in the adult male, about five ounces, but is somewhat lighter in the female. A small organ? you say. But understand, the body of the average size man contains about ten quarts of blood, of which every drop passes through these filters or sieves, as they may be called, many times a day, as often as through the heart, making a complete revolution in three minutes. From the blood they separate the waste material, working away steadily, night and day, sleeping or waking, tireless as the heart itself, and fully of as much vital importance; removing impurities from sixty-five gallons of blood each hour, or about forty-nine barrels each day, or 9, 125 hogsheads a year! What a wonder that the kidneys can last any length of time under this prodigious strain, treated and neglected as they are!

We slice this delicate organ open lengthwise with our knife, and will roughly describe its interior.

We find it to be of a reddish-brown colour, soft and easily torn; filled with hundreds of little tubes, short and thread-like, starting from the arteries, and ending in a little tuft about midway from the outside opening into a cavity of considerable size, which is called the pelvis or, roughly speaking, a sac, which is for the purpose of holding the water to further undergo purification before it passes down from here into the ureters, and so on to the outside of the body. These little tubes are the filters which do their work automatically, and right here is where the disease of the kidney first begins.

Doing the vast amount of work which they are obliged to, from the slightest irregularity in our habits, from cold, from high living, from stimulants or a thousand and one other causes which occur every day, they become somewhat weakened in their nerve force.

What is the result? Congestion or stoppage of the current of blood in the small blood vessels surrounding them, which become blocked; these delicate membranes are irritated; inflammation is set up, then pus is formed, which collects in the pelvis or sac; the tubes are at first partially, and soon are totally, unable to do their work. The pelvic sac goes on distending with this corruption, pressing upon the blood vessels. All this time, remember, the blood, which is entering the kidneys to be filtered, is passing through this terrible, disgusting pus, for it cannot take any other route!

Stop and think of it for a moment. Do you realize the importance, nay the vital necessity, of having the kidneys in order? Can you expect when they are diseased, or obstructed, no matter how little, that you can have pure blood and escape disease? It would be just as reasonable to expect, if a pest-house were set across Broadway and countless thousands were compelled to go through its pestilential doors, and escape from contagion and disease, as for one to expect the blood to escape pollution when constantly running through a diseased kidney.

Now, what is the result? Why, that the blood takes up and deposits this poison as it sweeps along into every organ, into every inch of muscle, tissue, flesh and bone, from your head to your feet. And whenever, from hereditary influence or otherwise, some part of the body is weaker than another, a countless train of diseases is established, such as consumption, in weak lungs, dyspepsia, where there is a delicate stomach; nervousness, insanity, paralysis, or heart disease in those who have weak nerves.

The heart must soon feel the effects of the poison, as it requires pure blood to keep it in right action. It increases its stroke in number and force to compensate for the natural stimulus wanting, in its endeavour to crowd the impure blood through this obstruction, causing pain, palpitation, or an out-of-breath feeling. Unnatural as this forced labour is, the heart must soon falter, becoming weaker and weaker until one day it suddenly stops, and death from apparent "heart disease" is the verdict!

But the medical profession, learned and dignified, call these diseases by high sounding names, treat them alone and patients die, for the arteries are carrying slow death to the affected part, constantly adding fuel brought from these sulphurating, pus-laden kidneys which here in our wash-bowl are very putrefaction itself, and which should have been cured first.

But this is not all the kidneys have to do; for you must remember that each adult takes about seven pounds of nourishment every twenty-four hours to supply the waste of the body which is constantly going on, a waste equal to the quantity taken. This, too, the kidneys have to separate from the blood with all other decomposing matter.

But you say, "my kidneys are all right. I have no pain in the b.ck." Mistaken man! People die of kidney disease of so bad a character that the organs are rotten and yet they have never there had a pain or an ache!

Why? Because the disease begins, as we have shown, in the interior of the kidneys, where there are few nerves of feeling to convey the sensation of pain. Why this is so we may never know.

When you consider their great work, the delicacy of their structure, the ease with which they are deranged, can you wonder at the ill health of our men and women? Health and long life cannot be expected when so vital an organ is impaired. No wonder some writers say we degenerating. Don't you see the great, the extreme importance of keeping this machinery in working order? Could the finest engine do even a fractional part of this work, without attention from the engineer? Don't you see how dangerous this hidden disease is? It is lurking about us constantly, without giving any indication of its presence.

The most skilful physicians cannot detect it at times, for the kidneys themselves cannot be examined by any means which we have at our command. Even an analysis of the water, chemically and microscopically reveals nothing definite in many cases, even when the kidneys are fairly broken down.

Then look out for them, as disease, no matter where situated, to ninety-three per cent., as shown by after-death examinations has its origin in the breaking down of the secreting tubes in the interior of kidney.

As you value health, as you desire long life free from sickness and suffering, give these organs some attention. Keep them in good condition and thus prevent (as is easily done) all disease.

Warner's Safe Cure, as it becomes year after year better known for its wonderful cures and its power over the kidneys, has done and is doing more to increase the average duration of life than all the physicians and medicines known. Warner's Safe Cure is a true specific, mild but certain, harmless but energetic and agreeable to the taste.

Take it when sick as a cure, and never let a month go by if you need it, without taking a few bottles as a preventive, that the kidneys may be kept in proper order, the blood pure, that health and long life may be your blessing.

H. H. WARNER & CO.

AN EXTRAORDINARY OFFER.

To All Wanting Employment.

We want Live, Energetic and Capable Agents in every County in the United States and Canada, to sell a patent article of great merit, ON ITS MERITS. An article having a large sale, PAYING OVER ONE HUNDRED PER CENT. profit, having no competition, and on which the agent is protected in the exclusive sale by a deed given for each and every county he may secure from us. With all these advantages to our agents and the fact that it is an article that can be sold to every houseowner, it might not be necessary to make an "EXTRAORDINARY OFFER" to secure good agents at once, but we have concluded to make it to show not only our confidence in the merits of our invention, but in its salability by any agent that will handle it with energy. Our agents now at work are making from \$150 to \$600 a month clear, and this fact makes it safe for us to make our offer to all who are out of employment. Any agent that will give our business a thirty days' trial, and fail to clear at least \$100 in this time, ABOVE ALL EXPENSES, can return all goods unsold to us and we will refund the money paid for them. Any agent or general agent who would like ten or more counties and work them through sub-agents for ninety days and fail to clear at least \$750 ABOVE ALL EXPENSES, can return all unsold and get their money back. No other employer of agents ever dared to make such offers, nor would we if we did not know that we have agents now making more than double the amount we guaranteed; and but two sales a day would give a profit of over \$125 a month, and that one of our agents took eighteen orders in one day. Our large descriptive circular explains our offer fully, and these we wish to send to everyone out of employment who will send us three one cent stamps for postage. Send at once and secure the agency in time for the boom, and go to work on the terms named in our extraordinary offer. We would like to have the address of all the agents, sewing machine solicitors and carpenters in the country, and ask any reader of this paper who reads this offer to send us at once the name and address of all such they know. Address at once, or you will lose the best chance ever offered to those out of employment to make money.

RENNER MANUFACTURING Co.,
116 Smithfield St., Pittsburg, Pa.

Miscellaneous.

"I don't know, my son, why they employ faculties at colleges, at high rates, unless it is that the students have none of their own."

A FRENCH paper tells a story of a minister who, when handed the card of some one who wished to see him, said, "You can tell the gentleman I am exceedingly sorry that I am not in."

WILD CHERRY BALSAM.—The memory of Dr. Wistar is embalmed in the hearts of thousands whom his BALSAM OF WILD CHERRY has, during the past five years cured of coughs, colds, consumption, or some other form of pulmonary disease.

Pomrous physician (to patient's wife): "Why did you delay sending for me until he was out of his mind?" "Oh, doctor, while he was in his right mind, he wouldn't let me send for you."

THERE WAS a young woman of Isling,
Who went for a husband a-fishing;

She bated her hook
With a pocketbook,
And caught just the man she was wishing.

It will pay all our readers to peruse very carefully, the article elsewhere copied from the *Scientific American*, addressed to that dispassionate paper, and reproduced herein because it is of very great value to everyone, containing some important scientific facts very plainly put.

A CLERK in a shoe store became tired of the business, and obtained a situation in a hardware store. His first customer, a farmer's wife, came in and called for mule shoes. "Yes, madam," he said, "what size do you wear?" He is now trying to get back into the shoe line.

MRS. JOSEPH BAKER, of Johnson, Vt., was greatly afflicted with phthisis for twenty years, and was pronounced by physicians as incurable. Two bottles of WISTAR'S BALSAM OF WILD CHERRY afforded her much relief, and five completely cured her.

"The farmer will find that thorough cultivation is manure, and that each of his teams earns \$10.00 each day they are thus employed." If this is true, how important it is that the farmer should use proper labour-saving implements for the purpose of pulverizing the soil. See advertisement of the "ACME" Pulverizing Harrow Clod Crusher & Leveler on page 159.

W. B. LITCH, M.D., of Auburn, N. Y., says that he has used WISTAR'S BALSAM OF WILD CHERRY in his family for coughs and pulmonary complaints, has recommended it to others with invariably happy results, and esteems it a valuable remedy.

CONSUMPTION CURED.

An old physician, retired from practice having had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOYES, 149 Power Block, Rochester, N. Y.

FEVER colic, unnatural appetite, fretfulness, weakness, and convulsions, are some of the effects of worms in children; destroy the worms with Dr. Low's Worm Syrup.



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Nervous Debility, Impotency, Nocturnal Losses, and all Morbid Conditions caused by Youthful Follies and Pernicious Solitary Practices are speedily and permanently cured by our Specialists. Book, post-paid, 10 cts. in stamps.

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Rupture, or Breach, radically cured, without the knife, without dependence upon trusses, and with very little pain. Book sent for ten cents in stamps.

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The treatment of many thousands of cases of those diseases peculiar to WOMEN at the Invalids' Hotel and Surgical Institute, has afforded large experience in adapting remedies for their cure, and

DR. PIERCE'S

Favorite Prescription

is the result of this vast experience.

It is a powerful Restorative Tonic and Nervine, imparts vigor and strength to the system, and cures, as if by magic, Leucorrhoea, or "whites," excessive flowing, painful menstruation, unnatural suppressions, prolapsus or falling of the uterus, weak back, anteversion, retroversion, bearing-down sensations, chronic congestion, inflammation and ulceration of the womb, inflammation, pain and tenderness in ovaries, internal heat, and "female weakness." It promptly relieves and cures Nausea and Weakness of Stomach, Indigestion, Bloating, Nervous Prostration, and Sleeplessness, in either sex.

PRICE \$1.00, OR 6 BOTTLES FOR \$5.00.

Sold by Druggists everywhere. Send ten cents in stamps for Dr. Pierce's large Treatise on Diseases of Women, illustrated.

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663 Main Street, BUFFALO, N. Y.



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Miscellaneous.

A BARBER refused to colour the moustache of an intoxicated customer, because, he said, he did not want to dye a drunkard.

THE head-line to an item, "Alleged Plot to Murder a Brockton man," was made by the intelligent compositor to read "Block tin man."

A DUDE expressed himself thus concerning a steam engine: "Who would have dreamed that such a vevy diminutive-looking concern would hold so much watah."

WE see dead faces on the wall,
We hear their footsteps in the hall,
We touch some hands on bended knee,
We kiss some lips we cannot see.

A PLEASING DUTY.—"I feel it my duty to say," writes John Borton, of Desert, P. Q., "that Burdock Blood Bitters cured my wife of liver complaint, from which she has been a chronic sufferer. Her distressing, painful symptoms soon gave way, and I can highly recommend this medicine to all suffering as she did."

In a boulevard restaurant: "Waiter, bring me some mistakes in orthography." Puzzled waiter: "But, sir, we—we haven't any." "Why, then, do you put them in your bill of fare?"

A DOUBLE BENEFIT.—Harry Ricardo, of Toronto, certifies to the benefits received from the use of Hagyard's Yellow Oil as a cure for rheumatism and deafness, his affliction with these combined troubles being a severe one.

PHRENOLOGIST: "Your bump of imagination is abnormally large, sir. You should write poetry." Citizen: "I do write poetry. Only yesterday I took a poem to an editor, and that bump you are feeling is where he hit me. Don't bear on so hard."

ONE DOLLAR AGAINST FIVE HUNDRED.—Isaac Brown, of Bothwell, Ont., was afflicted with chronic humor in the blood. He says one dollar bottle of Burdock Blood Bitters was worth more than \$500 paid for other medicines. It is a reliable blood purifier.

COMMERCIAL traveller (to Dakota grocer): "Anything else you think of?" Grocer: "I guess that's all this time." Commercial traveller: "How's your stock of soap?" Grocer: "I've never kept it. You might add to the order a couple of boxes of soap for a sample, and I'll see how it takes."

A SEVERE TRIAL.—Those who endure the torturing pangs of neuralgia, rheumatism, sciatica, lumbago, and similar painful complaints are severely tried, but there is a speedy relief in Hagyard's Yellow Oil, as thousands who have used it joyfully testify. It banishes pain and lameness quickly.

To break up a cold or cough or its ill results there is no better remedy than Hagyard's Pectorial Balsam.

THERE never was a better example of the concise form of expression common to the real Western American than the answer of the man of the Sierras, who, when asked about the character of a neighbour, replied: "Mister, I don't know very much about him; but my impression is that he'd make a first-class stranger."

A MODERN MIRACLE.—In a recent letter from R. W. Dowson, of Deloraine, Ont., he states that he has recovered from the worst form of dyspepsia, after suffering for fifteen years; and when a council of doctors pronounced him incurable he tried Burdock Blood Bitters, six bottles of which restored his health.

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J. J. COOPER, Norval, Halton County, Ont., writes: "I have suffered for years with bronchial troubles, and tried almost every remedy. One day when in the drug store, the druggist recommended my trying WISTAR'S BALSAM OF WILD CHERRY, which I did, and to my great surprise, after using three bottles, I am as well as ever."

GEORGE E. MORROW, Druggist, Georgetown, Ont., writes: "I take pleasure in certifying that I have sold Dr. WISTAR'S BALSAM OF WILD CHERRY for ten years, and know it to be one of the oldest as well as the most reliable preparations in the market for the cure of Coughs, Colds, and Throat and Lung Complaints. I know of no article that gives greater satisfaction to those who use it, and I do not hesitate to recommend it."

R. H. HODGSON, Brampton, Ont., says: "WISTAR'S BALSAM has given good satisfaction, I can recommend it."



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In which the blood is made. If the food is of an injurious kind of course the blood will not be perfect and the health will be impaired.

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When I say cure I do not mean merely to stop them for a time and then have them return again. I mean a radical cure. I have made the disease of FITS, EPILEPSY or FALLING SICKNESS a life-long study. I warrant my remedy to cure the worst cases. Because others have failed is no reason for not now receiving a cure. Send at once for a treatise and a Free Bottle of my infallible remedy. Give Express and Post Office. It costs you nothing for a trial, and I will cure you. Address: DR. H. G. ROOT,

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Household Hints.

FRUIT JUMBLES.—Take one pound of sugar, one pound of butter, one pound and a quarter of flour, six eggs, half a pound of currants, a little soda and nutmeg. Mix the butter, sugar, spice and eggs, then the currants, next the soda, and lastly the flour.

BREAD CUSTARD.—One quart of milk, four eggs; sweeten to taste. Beat the eggs until light and add to the milk. Have a pudding dish, which has been greased, ready and pour the custard into it. Cut some very thin slices of bread, butter, and lay on top until it is covered.

QUEEN OF PUDDINGS.—One quart of milk, a pint of bread crumbs, soak the bread perfectly in the milk, grate a lemon with it, putting in all but the seeds, beat the yolks of three eggs, and two or more teaspoonfuls of sugar with them, mix with the pudding and bake it. When done beat the whites with sugar and frost the pudding with it, baking slightly.

EGGS A LA CREME.—Boil twelve eggs until hard; slice them in medium thin rings. In the bottom of a baking dish put first a layer of bread crumbs grated, then one of the sliced eggs; cover with bits of butter and season with pepper and salt; when the dish is full and the crumbs on top, pour over all a teacupful of rich cream or milk and brown lightly in oven.

SILVER CAKE.—Whites of eight eggs, two cups of sugar, half cup of butter, half cup of sour cream, one teaspoonful of soda, two teaspoonfuls of cream tartar, two and a half cups of flour. Beat the whites of eggs and sugar together, add the butter and cream, dissolve the soda and cream tartar with a little boiling water, and add the flour last. Bake in rather quick oven.

TO SERVE EGGS—BAKED OR SHIRRED.—Butter a deep earthen pie dish, or little china or stone dishes made expressly for this method of cooking eggs, and into it break carefully as many eggs as are required for use, without crowding; sprinkle salt and pepper, and the least bit of butter on top before putting in a hot oven to set, which will require four or five minutes. A little chopped parsley or ham may be added if desired.

A MILK PUDDING.—Put one quart of milk on the range where it will cook slowly. Wash half a teacupful of rice and stir into the milk, and occasionally stir this until twenty minutes before using; then put a tablespoonful of sugar and a small piece of butter, and bake twenty minutes. This, sometimes called poor man's pudding, is wholesome and palatable. It is better to be three hours in cooking.

DELICATE PUDDING.—One pint of flour, one egg, four tablespoonfuls of melted butter, one coffee-cup of sugar, one coffee-cup of sweet milk, and four teaspoonfuls of baking powder. First beat the egg, sugar and butter to a cream, then add the milk; sift the flour and baking powder together, before stirring them in with the other ingredients; flavour with lemon. Sauce to your fancy. Bake in shallow pans.

CREAMED ONIONS.—Boil the onion in two waters—hot—putting a little salt in the second. If they are full grown they will require at least an hour and a half to cook them tender. Drain them and pack in a bake dish; pour a cupful of drawn butter, in which milk is used instead of water, over them, sprinkle with fine crumbs, pepper and salt lightly, and bake covered fifteen minutes, then brown. There is no nicer way of cooking ripe onions than this.

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For Horses, Cattle, Sheep, Pigs and Poultry.

So vast is the importance of these extraordinary preparations to the Stable, the Farms and the Barn Yard, they have become indispensable to both in this Dominion, to all who are engaged in the growth of the management of Live Stock of any description, whether Fowls, Pigs, Horses, Cattle, or Sheep. So suddenly do they arrest disease in Poultry or in any of these animals, their virtues have passed into a proverb, and their sale has become enormous.

It is a truth beyond a shadow of doubt, that on the farm or in the Barn Yard or Stable, where "MAUD S." CONDITION POWDERS are occasionally mixed with the food of fowls and animals, or administered according to the directions that accompany each package, disease becomes all but impossible, while the general condition of the stock insures the most remunerative results. Try them, you who may not yet have used them.

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NEW TREATMENT

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and Eustachian tubes. Microscopic research has proved this to be a fact, and the result is that a simple remedy has been formulated whereby these diseases are cured in from one to three simple applications made at home. A descriptive pamphlet is sent free on receipt of stamp by A. H. DIXON & SON, 303 1/2 King Street West, Toronto, Canada.

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James J. H. Gregory, Marblehead, Mass.

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So great is our faith that we can cure you, dear sufferer, that we will mail enough to convince you. FREE. Send 20¢ stamps to cover expense & postage. **H. S. LAUDERBACK & CO., Newark, N. J.**

Wit and Humour.

WHY should artists not be trusted? Because they are designing mer.

PARSON: "Rather drowsy weather, this, Farmer Jones." "Ay, parson, so it be, 'minds one o' sermon time, don't it?"

THE man whose wife woke him up in church by sticking a pin in him says he doesn't like such pointed suggestions.

"CAN February March?" asked the punster, with a sickly smile. "Perhaps not," replied the quiet man, "but April May."

THE man who went to the country "for rest and change," says the waiters got most of his change and the landlord got the rest.

A GERMAN physician defines the main difference in the effects of whiskey and beer to be: "Viskey makes you kill somebody else; mit peer you only kills yourself."

"MA, what is this coal pool I read about in the papers?" asked little Johnny. "I'm sure I don't know," was the reply, "unless it is where the miners go in swimming."

CURRAN one day when the judge was shaking his head said, addressing the jury: "Gentlemen, don't be convinced by the learned judge shaking his head, for there's nothing in it."

A PERSON disputing with Peter Pindar, said in a great heat, that he did not like to be thought a scoundrel. "I wish," replied Pindar, "that you had so great a dislike to being a scoundrel."

A STICK that burns—Caustic; a stick that stretches—Elastic; a stick that hurts—Broomstick; a stick with a bad temper—Acrostic; an unorthodox stick—Agnostic; a swollen stick—Bombastic; a timely stick—a clock's tick.

"DID you divide t' at chocolate with your little brother?" asked Mrs. Fizzletop of her greedy little Johnny. "Yes, ma; I ate the chocolate and gave him the paper with the pretty pictures. He likes to look at the pictures."

"I MUST have order in this court-room," sternly demanded a justice of the peace. "I must and will have less noise and confusion here. I have already disposed of three important cases without being able to hear a word of the evidence."

A CHINAMAN, who was called as a witness in Queensland, was asked how he would be sworn, when he replied: "Me no care. Clack 'im saucer, kill 'im cock, blow out 'im matchee, smell 'im book, allee samee." He was allowed to "smell 'im book."

AN Englishman came to New York, and put up at a sign "Established 1804," and rather prided himself upon the antiquity of his establishment. The next day his Yankee rival across the way burlesqued his sign in this way: "Established yesterday. No old goods on hand."

A GENTLEMAN, generous in his contributions for church purposes, but not regular in his attendance upon public worship, was wittingly described by a clergyman as being "not exactly a pillar of the church, but a kind of flying buttress, supporting it from the outside."

THINGS one would rather have left unsaid: Tomlinson: "Good-bye, Miss Eleanor—" Miss Eleanor: "But you've already said good-bye to me, Mr. Tomlinson." Tomlinson (who is always ready with some pretty speech): "Have I, really? Well, one can't do a pleasant thing too often, you know."

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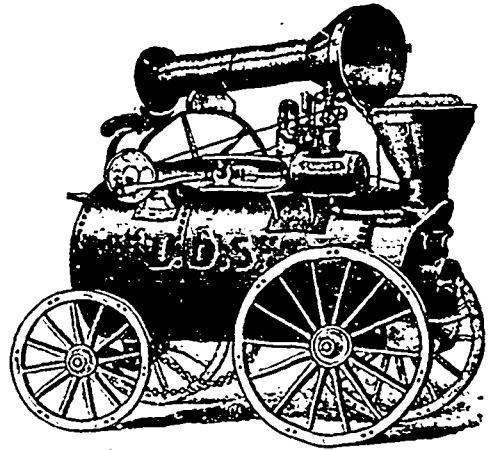
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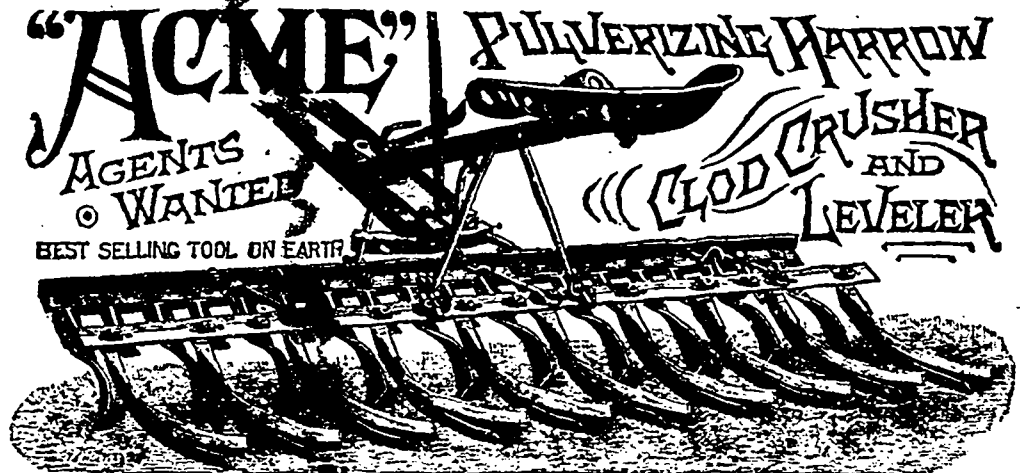
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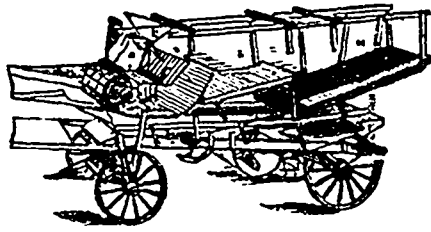
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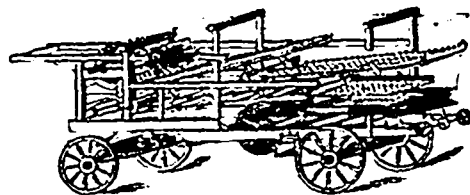
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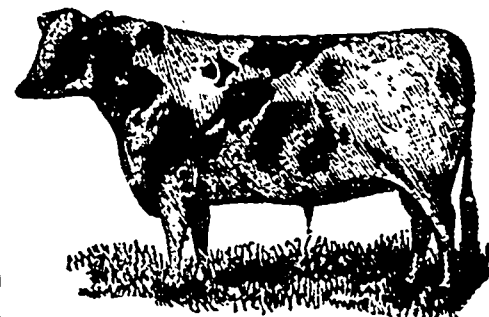
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SEVENTEEN SIZES
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From 1 to 40
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Guaranteed to
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Iron and wood.
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Guaranteed to grind from
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These mills are the most
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Nervous Debility, Youthful De-
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Many men who have the effects of youthful im-
prudence, through their own fault, a state of weak-
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much that they are unable to do every other duty
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Notwithstanding the fact that medical science
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description is offered as a
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...restored to per-
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failed. Perfectly pure ingredients must be used
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Cocain (from Erythroxylon coca), 1 drachm
Herobelin, 1 drachm.
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Mix.
Take 1 pill 3 times a day, and an-
other on going to bed. In some cases it will be
necessary for the patient to take two pills at
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remedy is adapted to every condition of nervous
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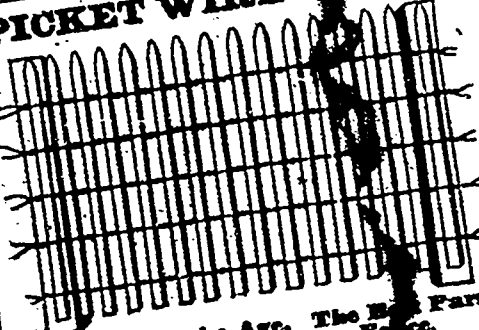
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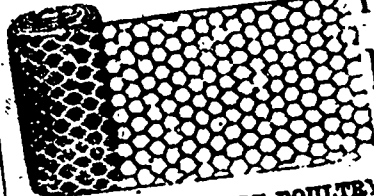
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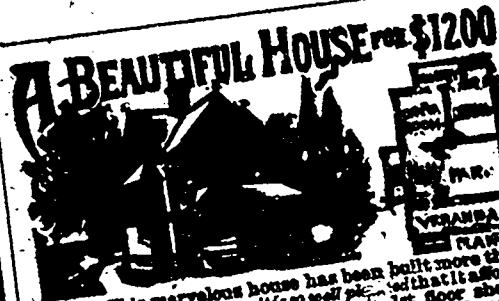
Ladies who are particular about their baking
must use it in preference to any other.

ASK YOUR GROCER FOR IT!



**POULTRY
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GALVANIZED WIRE POULTRY NETTING.
Meshes from half-inch to two inches; widths,
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A BEAUTIFUL HOUSE FOR \$1200

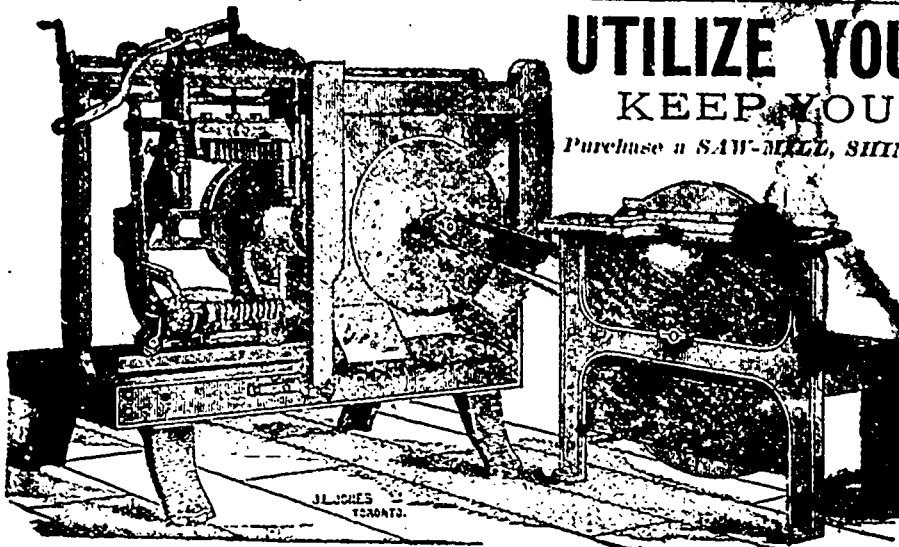
This marvelous house has been built more than
300 times from our plans; it is so well planned that it affords
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Plenty of closets. The whole warmed by one chimney.
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Best quality!
Low prices! One each, Empire State, Niagara,
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SAW-IRONS

FROM **\$350** UP.

SUITABLE FOR ANY POWER.

SEND FOR CIRCULARS

Stating Power and Capacity desired.

Over-feed, self-acting, Shingle Mill, in great demand, the favourite machine with Mill men, Threshers and Farmers.

1250 BUILT

Many Improvements

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DON'T BE MISLED

EXAMINE THE

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IT IS

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THE CELEBRATED

Fire-Proof Champion!

THE PIONEER TRACTION ENGINE OF CANADA.

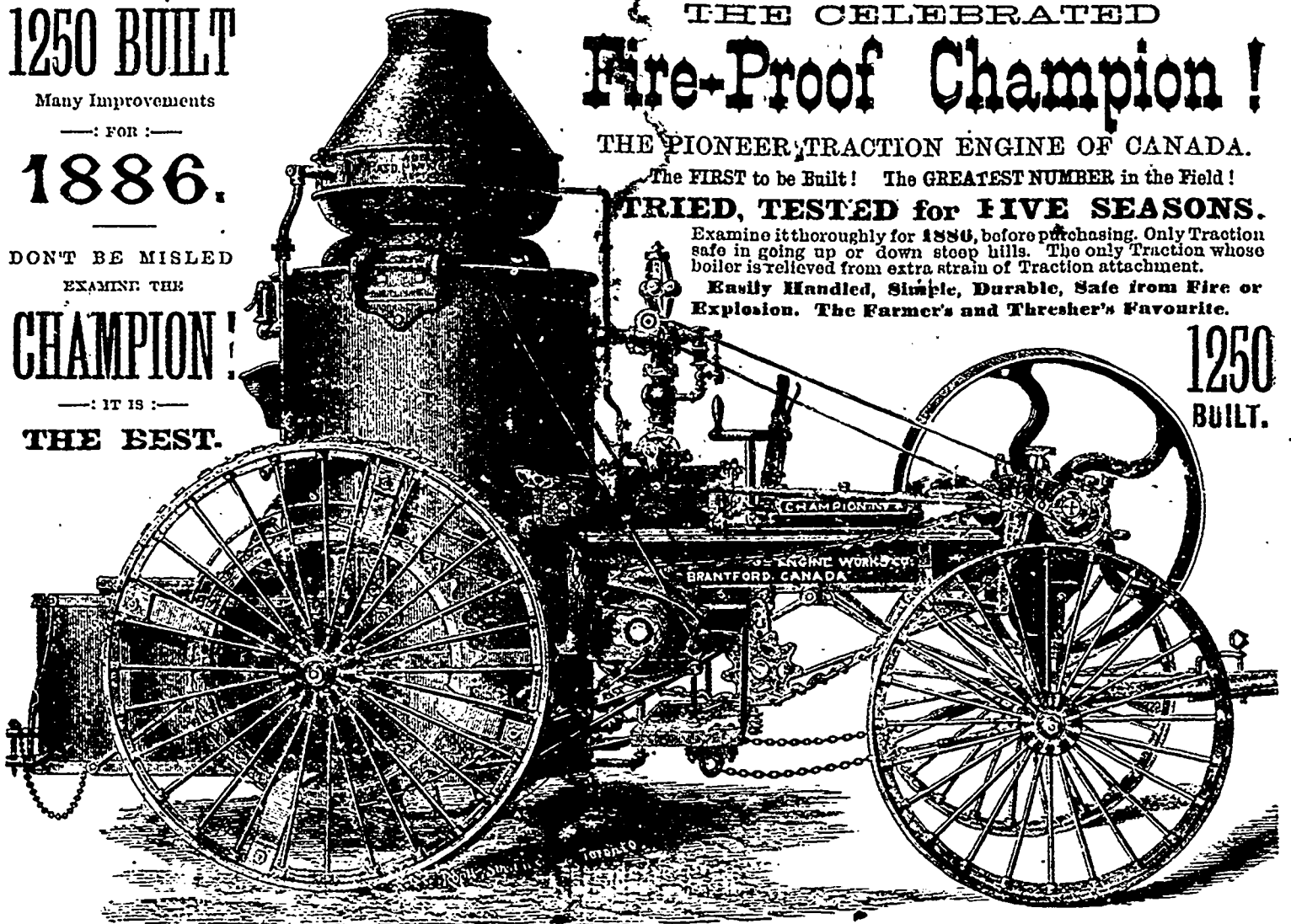
The **FIRST** to be Built! The **GREATEST NUMBER** in the Field!

TRIED, TESTED for **FIVE SEASONS.**

Examine it thoroughly for **1886**, before purchasing. Only Traction safe in going up or down steep hills. The only Traction whose boiler is relieved from extra strain of Traction attachment.

Easily Handled, Simple, Durable, Safe from Fire or Explosion. The Farmer's and Thresher's Favourite.

**1250
BUILT.**



READ THE FOLLOWING:

Jordan, Dec. 25, 1885.

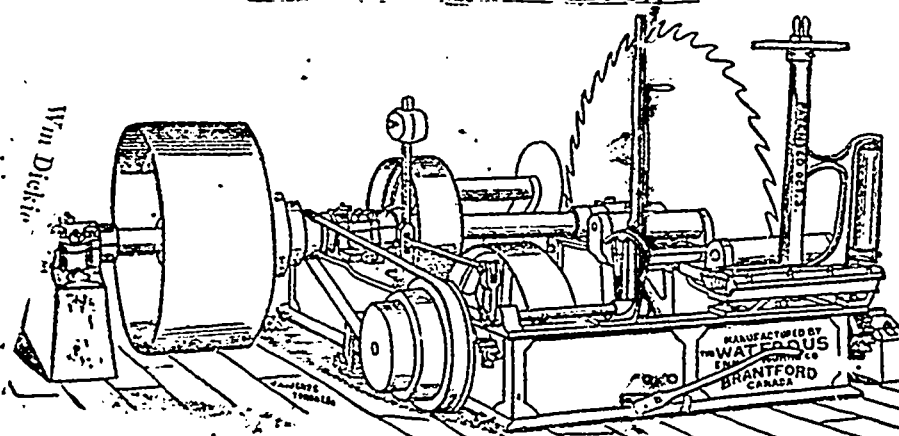
I like the 12 H.-P. Champion Traction Engine, 1157, which I bought last season, very much. I unloaded it at station, filled it with water, and steamed it up home, and have never had the tongue on it since. Although I have run it all the season through the very muddy roads of this fall. I have been up and down the mountain, which is something over 100 feet high, without the slightest trouble. I like the engine very much, and would prefer a Traction to a plain engine. I have two engines, the Traction and 12 H.-P. Champion, No. 248. I have run 248 for six seasons, with not over 6 dollars repairs, and this was for heater-pipes burst by frost, and a new globe valve.

(Sgd.) SAMUEL HONSBERGER.

Gourock, Guelph, 14th December, 1885.

I can say that my 20-inch Standard Chopper gives good satisfaction also my 12 H.-P. Traction Champion gives great satisfaction. I have not had one cent repairs on the Engine, and I have travelled across roads where other engines had to have two teams on to cross over. I took the water tank along, and travelled through mud through which the platform dragged. We crossed hilly roads that a horizontal boiler would not have been safe to cross for danger of bruising the tubes, as for about two miles we had only about 40 or 50 rods of level road. The most of the hills average from 1 to 4 feet of pitch in 12 feet.

Yours truly, SOLOMON STROMK.



This cut represents our No. E medium saw-irons; we build 3 sizes smaller, and 3 sizes larger. **SEND FOR CIRCULARS AND IMPROVEMENTS IN 1886.**

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