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FARMER'S ADVOCATE

AND HOME MAGAZINE

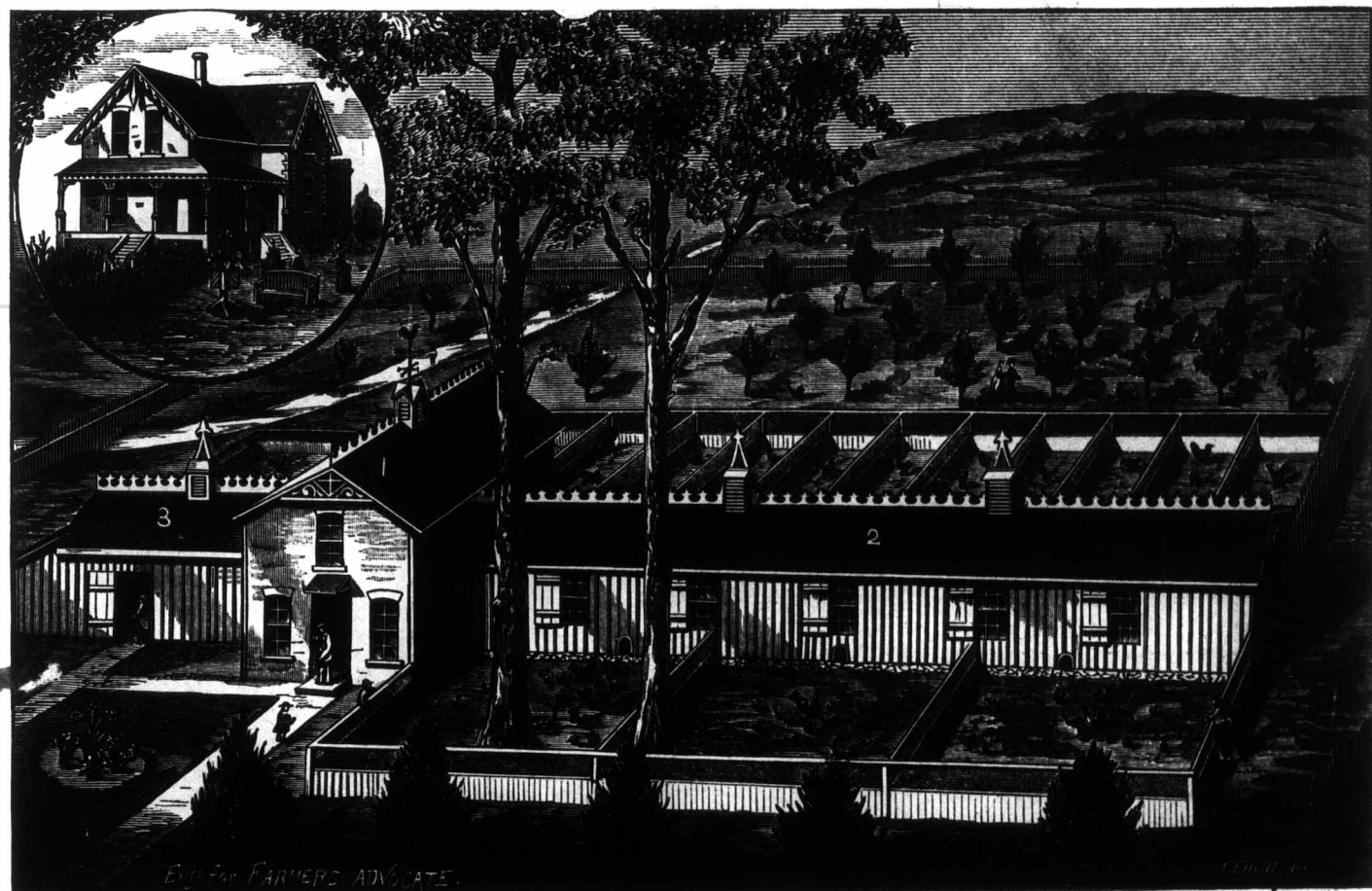
FOUNDED, 1866.

VOL. XX.

LONDON, ONT., SEPTEMBER, 1885.

Whole No. 237.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.



"Homewood" Poultry Yards and Residence of F. Wixon, Ingersoll, Ont.

Poultry House.

Having been frequently asked to give an illustration of a poultry house, we have pleasure in introducing to our readers, in this issue, one of the finest in the Dominion. It is owned by Mr. F. Wixon, of the town of Ingersoll, established in 1883, but only recently finished. The main building, No. 1, is 14x26 feet, one and-a-half stories. The front part of the first floor is used as an office, shipping room, and feed bins; the back part is used for spare stock birds during the breeding season, and the upper story is used for a hatchery and brooder for young chicks. Building No. 2 is used for breeding pens, is 14x64 feet, and contains nine beautifully arranged breeding pens. These are 7x11 feet, each with double glass windows 4x5 feet, giving plenty of light and heat during the

cold winter months. The outside runs are 7x20 feet. Two large grass runs, to which each pen has access in turn, while in front there are three runs, 20x22 feet, for young chicks.

No. 3 is a building 12x23 feet, and is used for surplus stock for sale, with single coops for show birds, very conveniently arranged.

There is also a capacious building that is used for setting hens, and an open shed for fowls and chicks during cold and stormy weather, where they have free access. The large grass runs are beautifully shaded with walnut and butternut trees, and a fine spring creek with gravel bottom runs across the yard, always giving plenty of pure fresh water, which is necessary to the health of chicks and fowls, especially where large numbers are kept together.

On the front part of the lot there are a large number of sugar maple and hemlock trees of magnificent growth, always giving shade for the growing chicks during the hot summer months, while the lawns contain the finest shrub and ornamental trees to be found. The spruce and cedar hedges are fine and well kept, and the whole grounds show much cultivated taste on the part of Mr. Wixon. We saw some fine Brahmas, Leghorns and Spanish fowls when there, that will likely give a good record at the coming fall and winter shows. The Brahmas and Leghorns seem to be the favorite varieties of Mr. Wixon. See ground plan and interior view, page 269.

The best and highest-priced butter in the United States (95 cts. per pound,) is made from "scrub" cows.

THE FARMER'S ADVOCATE

—AND—

HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor

The Leading Agricultural Journal Published in the Dominion.

The FARMER'S ADVOCATE is published on or about the 1st of each month. Is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most profitable, practical and reliable information for farmers, dairymen, gardeners or stockmen, of any publication in Canada.

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RENEW AT ONCE

Our Monthly Prize Essays.

Our prize of \$5.00 for the best original essay on *How Should Farmers Spend their Evenings?* has been awarded to Miss Jessie Robertson Strabane, Ont. The essay appears in this issue.

A prize of \$5 will be given for the best original essay on *How could the Middlesex Agricultural Council utilize an Experiment Ground for the best interests of the Farmers?* Essays to be handed in not later than Sept. 15.

A prize of \$5 will be given for the best original essay on *Advantages and Disadvantages of the Proposed Model Farm for the Dominion.* Essays to be handed in not later than October 15th.

UNPRECEDENTED OFFER!

Good till December 1st only.

In consequence of some of our old subscribers complaining that we have given greater advantages to our new, and in order to advance your interests, and increase our circulation, we make you the following offer:—

For two new subscribers' names, accompanied with \$2.00 cash, we will send you the FARMER'S ADVOCATE free for the year 1886. You are permitted to give the remainder of 1885 free to each new subscriber.

This offer is made solely to our present subscribers.

Editorial.

On the Wing.

THE CANADIAN PRESS ASSOCIATION.

This is an organized body, having its President, Secretary and Executive Committee, its rules and by-laws. Nearly all the newspaper and periodical publishers are connected with it. There are no secret oaths or pledges imposed upon its members. One of its leading objects is the removal of political asperities, and the directing of the public mind into worthier channels. It is claimed that the pen has more power than the sword. When such a body unites annually in taking their holiday, and travel to distant, interesting and important parts of the country together, it tends to harmonize ideas and gives the participants opportunities of forming more correct opinions than can be otherwise obtained. It has been suggested that by uniting on some definite line more good might be accomplished, but it has been considered best to leave all as free and untrammelled in any way as possible.

One subject of importance was brought up at the last annual meeting on which there appeared a unanimous opinion, that is, the existing libel law, which, as it now stands, leaves editors liable to have actions brought against them by any worthless thief who can find an unprincipled, briefless lawyer to enter an action against a publisher for publishing facts. The publisher, although he may be quite correct in statements and gain the verdict, is still liable to be mulcted in the costs. We think that no honest legislature could object to remedy the evil complained of.

This year our trip was to the top of Mount Washington, in New Hampshire, and from there to Boston, New York and Niagara Falls. Mount Washington is the highest mountain in the eastern part of this continent, being 6,279 feet high. We ascended by means of a railroad, the cars being forced up the mountain by a cog wheel. This road has an elevation of one foot in three, and is three miles long. It takes nearly two hours to make the ascent, and the fare is one dollar per mile, with free return to the base of the mountains, for Mt. Washington is only one of the highest peaks of a series of mountains nearly as high. At the foot of the mountain maple, cherry, and other deciduous trees are growing, many to a large size. We noticed that the black knot was spreading on the wild cherry here. As we ascend hemlock trees are seen interspersed, and trees of a large size are numerous. We gradually leave the deciduous trees; birch and hemlock hold the sway for a time, then gradually they become smaller, and the most gnarly, twisted, scraggy growth is only seen until we pass the tree limit, and mosses, dwarf grass and a few small flowers continue their growth to the summit of the mountain, where any ledge affords a chance for a root on a rock. We passed through the clouds, which were cold and wet; the air was oppressive, and to some sound is affected; only a few could whistle in this air. It freezes in the night, and fires are always kept up to warm the hotel at the summit. Here we attain the highest standing point; we see the rising sun tinting the clouds and mountain tops; we view the clouds

rolling around in snowy whiteness below us; we see openings in valleys below where many may be, but the distance is so great that man could not be seen by the naked eye. The grandeur, the sublimity, and the beauty are so blended together that no artist nor writer can convey to you correct ideas of such a scene. The sight alone can convey to the most thoughtful the magnificence of such a spectacle. Once seen it can never be forgotten, and should tend to lead the thoughtful beholder from nature to nature's God. We are digressing from agriculture, some may say, therefore we leave much of the description of this trip for the Home Magazine Department.

New Hampshire surpasses Ontario in the grandeur of its mountain scenery, but we could but pity the poor farmers that were struggling to obtain an existence on the buckwheat crop. They cannot raise the grains and fruits we can, although the apple crop appeared more abundant than with us, and these apples should be of good quality and good keepers.

We were met courteously and kindly by the Boston editors, but perhaps the most important part of the trip was the entertainment provided by Mr. Wiman, who invited members of the New York Press Association to join us in a dinner provided by him at Manhattan. The expressions of New York and Canadian editors were such that one would hardly think that fifteen hundred miles of custom house officers could be much longer submitted to.

The Exhibitions.

Great demonstrations and displays are expected at the Provincial and Dominion Exhibition to be held in London, Sept. 7-12. The Governor General is to visit this Exhibition.

The Industrial Exhibition in Toronto offers a very large and varied list of attractions and amusements, the largest and most varied of any exhibition ever held in this Dominion. This exhibition will be held from Sept. 7th to 19th.

A new and large exhibition is to be held in Sherbrooke, P. Q., 6th, 7th and 8th October.

At these exhibitions the majority of the best stock, implements, machinery, etc., will be exhibited, and those desiring a holiday will be sure to find much that will amuse and instruct, and now the crops are harvested, the industrious workers that have toiled hard through the year richly deserve a few holidays. The young gain knowledge and experience that should be of value to them in after years. All work and no play, etc. It is good to be merry and wise. Let the young folks go, and go yourselves. Enjoy your harvest home with gladness and thankfulness.

Single fares are arranged for from nearly all parts of the Dominion. A great holiday time is in preparation.

The London Exhibition Grounds.

The beautiful and convenient grounds on which the Dominion and Provincial Exhibition is held this year, in London, are to be disposed of. The farmers have long contended for the retention of these grounds and their control of the exhibition, but after years of trial and manipulation the citizens have by uniting and using means and influence, succeeded in gaining their way. It is questionable, in fact im-

probable, that the farmers will ever regain their lost power and influence over this exhibition and grounds, which have been admitted to be the best in the Dominion. Farmer fairly competed with farmer, and all contended for the honors. Other influences now overrule the farmers in this their stronghold. This should tend to arouse farmers to take particular care to hold the title of their own exhibition grounds in their own hands. There may be some that consider this step advantageous to the farmer and to the citizens, but we have not been able to see it in that light, neither have the leading farmers of this county. We opposed it as long as we thought it of any use, and now only hope for the best, as what cannot be cured must be endured.

"An honest yeomanry is our country's pride—
When once destroyed can never be supplied."

Caution.

The FARMER'S ADVOCATE has always strongly opposed unnecessary taxation. That has given offence to some office holders and office seekers, some of whom, we regret to say, have, by various unscrupulous means, unsuccessfully attempted to check the circulation and influence of the ADVOCATE. Look with great caution upon men who despise your ADVOCATE, or who fail to give credit for what good it may have done or attempted to do. If any plead ignorance with regard to your requirements or what good the ADVOCATE may have done, you may infer they are not friends of the farmer. Your ADVOCATE has endeavored to advance your interest in every legitimate manner, and has ever been on the alert to detect any impositions which might be perpetrated on the farmer.

Political Farming and Dairying by the Dominion Government.

It would require an accountant to keep track of all the systems of farming that are springing into existence. We have practical farming, scientific farming, book farming, business farming, and now political farming seems to be gaining such popularity that all the other systems are threatened with extinction.

During the recent session of the Dominion Parliament \$20,000 were granted for agricultural purposes. A model farm is to be selected in a central point of the Dominion, where there is an average climate, where the soil is neither too rich nor too poor, and on which something is to be erected "more or less akin to an agricultural college." Pupils are to be employed "profitably" on the farm, and their labor is to be "self-sustaining." The concern is to be conducted on "scientific principles," under competent professors; but it is not yet known whether or not diseased stock is to be kept for practical instruction and for the aggrandizement of veterinary science. The argument advanced in support of the carving out of this agricultural elephant is that heaps of public money are being squandered on objects ten times less valuable.

It is to be modelled and patterned after the bonanza agricultural elephant at Washington. Some members displayed their familiarity with our agricultural affairs by the suggestion that, in their candid opinion, the sum granted would hardly be sufficient, until it was ex-

plained that this was a mere preliminary grant, the greater portion of which would be expended in the purchasing of a site. Then the real expenditures were to follow. The Washington model costs about \$300,000 a year for varnish alone.

No opposition to the scheme having been raised in the House of Commons, it will be the first policy of the Government to avert the opposition of the farmers. Maps indicating an outline of the Dominion will be drawn and submitted to mathematicians to find out on whose farm this point falls, and it will be found that this does not tally with the climatic centre, which will necessitate the employment of a meteorological expert. Besides, the geological centre will be somewhat remote, and when greater accuracy is employed, it will be found that the wanting term in the ratios of these centres will fall on a line fence, on neither side of which will the soil be suitable for experimental purposes, and the owners will be obscure farmers who have never been known to put their shoulders to the political wheel. An attempt will then be made to keep the political centre out of the question; but some will clamor for the practical centre, some for the scientific centre, and the press will have no difficulty in proving that the political is more accurate than the mathematical centre. Scientists will reason thus: "As the farm is to be conducted on scientific principles, therefore, it is the scientific centre that must be found." If farmers become organized by this time, they will succeed in carrying the agricultural centre.

Some hundreds of thousands having thus been expended and placed in the pockets of prospective applicants for office on the coming model farm, the matter will be brought before Parliament, when it will be urged that, unless the institution is proceeded with, these expenditures will be utterly lost to the farmers. Objections will be raised against its establishment, but seventy-five per cent. of this sum will be cast into the bribery box to carry the coming election, and the model farm expenditures worth speaking of will then commence—from the political centre.

Even if it could be hoped that these expenditures were in the real interests of agriculture, and not for the benefit of the rapidly increasing horde of office-seekers, the farmers of this Province will object to the establishment of the concern on the ground that, if a model farm is indispensable, it will cost millions of dollars less in the end to reform the one already established in the Province, and make it suitable to their requirements. Quebec has become almost bankrupt in her misguided efforts to improve agriculture; New Brunswick has an agricultural elephant on her shoulders heavier than she is able to bear; and our Northwest is clamoring for a similar burden in the hope that expenditure diverted in this direction may prove less corrupt than if allowed to continue in the existing channels.

Ontario farmers will see at a glance that the promises made in obtaining the grant of \$20,000 cannot possibly be satisfactorily fulfilled. "Competent professors," no doubt, can be had, but they must come from other lands, and will be men who do not understand our agricultural circumstances and requirements. Our popula-

tion must be educated very gradually to scientific methods, and unless some scheme be adopted for the instilling of the principles into our rural youths through our public schools, little hope of success should be expected. The expression as to employing the students "profitably" we take to mean that the proposed institution is to be for farmers' sons. This has proved a failure at the Ontario Model Farm, and there is no ground for hope that the scheme will work at any other centre. The pupils are also to be "self-sustaining," and here the same objection applies.

Two thousand dollars have also been voted for another batch of Lynch's pamphlets on dairying. The same scandalous imposition has been thrust upon our Ontario Government, which we fully exposed in our last issue. Thirty thousand copies are to be broadcast over the Dominion, presumably in the interests of dairying, but virtually for entirely different purposes.

Fruits as Food and Medicine.

Now is the time to think about fruit culture. If the ground is not ready for planting this fall, it must now be prepared for next spring.

We recently asked one of our leading fruit growers why their association did not disseminate information with regard to the value of fruits as food for man and beast, as well as information as to how and what to plant. He answered that the subject was too dry, notwithstanding the inherent juiciness of fruits. He revolved chemistry, physiology, and other sciences in his mind, and then shook his head. We think our Fruit Growers' Association is greatly at fault; it should at least be able to state whether fruits are intended to be eaten as a food or as luxury. Farmers should first be taught what they can consume with the greatest profit. Some farm products are intended to be eaten; some to be sold.

The word luxury may have a double meaning; it may imply something nutritious and wholesome, but scarce and consequently expensive; or it may include those articles of consumption which are mere appetizers, and on account of their stimulating or enticing effects, must act injuriously, as they deprave the natural appetite, causing the victim to consume more than nature has made provision for,—such, for example, as spiced foods. In the first case, fruits cannot be regarded as a luxury, for they are universally plentiful and cheap. Some plants are valued for their nutritive qualities; some merely possess medicinal virtues, while others are partly nutritive and partly medicinal. The latter is the distinguishing characteristic of fruits.

Some people can flourish on vegetables and fruits, while others seem to require a mixed diet, and every person must be his own judge with regard to the quantity of fruit he can enjoy and upon which he can keep up his vitality. Fruits contain all the elements of nutrition, but not in so concentrated a form as many other articles of diet. An objection has been raised against fruits because they contain so much water; but this is one of their greatest advantages. No part of their juices exist as water, but is so chemically united with the acids and other constituents as to form a cooling, nutritive, and corrective mixture. The

acids stimulate the mucous membrane, aid the digestive process, and so are highly beneficial for people who are biliously and dyspeptically inclined. It has been said that apples (when eaten leisurely and thoroughly masticated) are better than pills. This is undoubtedly so, and the orchard should therefore be regarded as the poor man's drug store. Of course there is considerable difference in the composition of the various kinds of fruits, some being more nutritive, more medicinal, or more wholesome than others; but we cannot discuss their merits in this article, merely mentioning that all have the same general tendency.

Considering the way fruit is ordinarily consumed by farmers, it must be regarded as a luxury. During the flush season it is eaten in too large quantities and in all methods of preparation. It is quite desirable to eat large quantities, providing they be consumed regularly all the year round, and taken as a food, not as a luxury. The distinctive characteristic of fruit is its large percentage of sugar, which, in conjunction with the acids, gives it its wholesome qualities. Cooking destroys the acids of many fruits, rendering them insipid, and thereby creating an appetite for the admixture of artificial sugar. This sugar is purely condimental, fitting the fruit for a luxury only, and should then only be eaten in small quantities. Nature cannot be improved on, ripe fruits being in their best condition for consumption without any artificial process of manufacture, and any person who has not a depraved appetite needs no spices or condiments to relish fruits in that delicious form prepared by the hand of Nature. But fruits are deficient in the nitrogenous or muscle building element, so that they should be eaten with concentrated foods rich in this material, such as green peas and beans in summer, and meat in winter.

Much has yet to be accomplished in the methods of preserving fruits in such a manner as will fit them for a cheap article of diet. In the evaporating business much has been done, and evaporators are already within the reach of every farmer; but in the canning business much has yet to be learned. It is canning factories that should be encouraged, not evaporators, although the latter are profitable where fruits would spoil for want of a market. Fruits preserved as near as possible in their natural state are to be eaten; dried fruits, or those otherwise artificially prepared, are to be sold.

Our North-West.

A great deal of speculation is being indulged in with regard to the effects which the recent troubles in the North-West will have on agriculture and immigration. No reliance can be placed on the assertions of the political press, for every sentence bears the impress, directly or by insinuation, of political motives. The out-party is resolved upon damaging the ins at all hazards, utterly reckless as to the welfare of the country, while the in-party, to have revenge on the outs, have adopted the policy of ultra-laudation, both with regard to the capabilities of the country and the wisdom of its rulers. It is a crying disgrace to us as a people that we should tolerate such a state of affairs, especially in a matter of such great magnitude

in which the future well-being of the farming community is so deeply involved. Here are acres fertile enough for many millions of peaceful and happy families; a false step made now will blight the prospects for all time to come, and there is no department of our affairs in which truthful statements are in more urgent demand. There is no reason why the recent troubles should check the tide of immigration. In fact the reverse effect should rather be expected. Our gallant volunteers have so effectually quelled the Indian uprising, and the offenders have been so peremptorily brought to justice, a repetition of the farce is extremely improbable, especially when it is borne in mind that the Mounted Police have been greatly reinforced. Considered from the most rational standpoint, the number of immigrants should rapidly increase, for the disturbance has excited interest in portions of the world where our Northwest was previously unknown, and if truthful statements become disseminated with regard to its climate and natural productiveness, they will be perused with greater interest by intending immigrants everywhere.

But other influences are at work, which may tend to greater mischief and loss than the Indian uprising. A new country is built up by the many poor, not by the few rich. A million of capital in the hands of a thousand sturdy, honest yeomen will have a hundred fold more productive power than the same amount in the hands of a score of speculators, although the latter can wield a hundred fold more political power, which is at least a dead loss to the community, if not a positive injury. It will now be unnecessary to state which of these two classes deserves the greater encouragement. It has been estimated that the greater proportion of the Ontario settlers in Manitoba and the Northwest is from the section formerly known as the "Huron Tract." This land was owned by a set of speculators known as the Canada Company, and this is plausibly the reason why so many farmers from this fertile tract were compelled to "go west." The land policy of speculators is the same all the world over, and it is now being strikingly exemplified in many of the Western States. Their whole gospel may be written in three little words, viz.: Grab! Grab!! GRAB!!! They arrange their dupes around their domains in such a manner as will most speedily and effectually enhance the price of their remaining lands, and there prosperity is in ratio with the servility of the duped. This is the main source of scattered settlements, by means whereof security of life and property becomes precarious, and the increased cost of the administration of affairs becomes a burdensome tax upon the struggling people, from the shock of which many never recover. The practice can only be defended on the ground that the procuring of lucrative and sinecure offices for political hucksters is the crowning glory of a government. But there is a feeling of relief in the reflection that there are still millions of acres of fertile lands which are not inclosed within these Chinese walls.

That there has been a great deal of dissatisfaction amongst the settlers of Manitoba and the Northwest can no longer be denied. We have endeavored to ascertain the true

sources of this spirit of democracy, but with little avail, and our policy has always been: If we cannot be truthful we will be silent. One party accuses the other of inciting a rebellious spirit amongst the settlers for political purposes, but how far this is true we are not prepared to say. One thing may be safely affirmed, that the rising generation of Canadians will not tamely submit to inflicted wrongs to the same degree as their forefathers. Their education, their circumstances, the inhaled air of freedom—all is different.

Land sharks appear to be indigenous in every new country. Beware of them; they are of the same breed wherever found.

Commentators on the "Scrub" Question.

We have received some communications relating to our position on the "scrub" affair, the length of some being out of proportion to the conclusions reached and the size of our columns. The statements we published relating to the Model Farm tests are absolutely correct, as any farmer can see by sending for a copy of the report. The table of tests is too voluminous and unimportant for our columns. One correspondent insinuates that we made assertions at which stockmen have taken offence. We can answer many of the statements by saying that unless the farmers themselves enforce such municipal laws as the thistle and pound acts, then they must either suffer the consequences of their timidity and neglect, or the Province must become flooded with government officials armed with power to enforce the laws. The latter state would be infinitely worse than the first, although we believe there are thousands of office-seekers—men who are too high-toned to make a living by independent exertions—who would rejoice in scouring the country on a political pilgrimage.

We desire our readers to understand our position thoroughly. In one respect we go further than our stockmen, for we believe that every breed from the goat to the buffalo has a legitimate sphere in some part of our Dominion; and we admire those enterprising men who come forward with honest records and performances; we will strain our nerves to build up such men and such private enterprises. We also feel it our duty to see that no agricultural industry receives undue prominence. Live stock is not everything, as its boomers are vainly attempting to prove. There are other branches of farming which should be perfected before blooded stock is thought of. We have endeavored to divide the space in the departments of the *ADVOCATE* in such a manner as would give each industry its relative importance in conformity with the ever-changing times, and if, after twenty years of studious devotion to our agricultural interests, we have been delinquent in any important particular, then we call upon the honest, sturdy, independent farmer to be our judge.

There is no question about the greatly superior durability and firmness of wood cut during summer, especially if stripped of the bark so that it may dry all the more rapidly. If the trees are not cut up until the leaves have withered after exhausting much of the sap, so much the better.

The Farm.

Farm Drainage.

NO. I.

We purpose presenting our readers with a series of articles on farm drainage, which we hope will be useful and pleasant reading for the coming long winter evenings.

Drainage, as a source of soil improvement, should be studied in connection with other questions having the same end;—such as manuring, tillage, rotation of crops, and tree-planting. The very first question for every farmer to consider is, By which one or more of these means can he most profitably improve his soil? No one answer may be serviceable to an two farmers; indeed, a system of soil improvement which would be applicable to a given field might prove a failure with reference to an adjacent field. Last winter we published a series of articles on soil improvement by means of the different modes of manuring,—not that we considered this the most important means in a majority of instances, but because it can, and should be, profitably employed by every farmer under all circumstances; whereas drainage is not always advisable, and besides, every farmer has not the necessary capital to carry it on to any considerable extent. But as an objection to this view it may be urged that manures cannot produce their best effects on undrained soils, and this is a valid objection.

With regard to soil improvement, the system by means of rotation of crops is the most important in many cases; of all the agricultural sciences it is the most difficult to comprehend, and in practice it is the most difficult to carry out; but as a true system of rotation is only advantageous on a drained soil, we give drainage the preference, leaving the rotation problem for a future series of articles.

In the practical carrying out of all farm operations, the first question to be determined is, Are we aiding or subverting nature's laws? It does not always follow that we should assist nature; for many domestic plants and animals are artificial things, although having originally flourished in a state of nature, and if treated in accordance with their primeval habits, they would rapidly become extinct. With regard to drainage, however, our object is, in a manner, to assist nature. In the aspiring wilderness the waving trees acting upon the roots open the soil for the percolation of water to great depths, and hence we find that the rains for the most part descend into the subsoil instead of washing over the surface, as is mostly the case in the artificial state of our lands. The same laws work in the ascent as in the descent of soil water. As a rule the practical question is, Shall the water percolate through the soil or be removed by surface washing? If then the subsoil is not of such a character as will remove the surplus water with due rapidity by percolation, the question of drainage becomes exceedingly practical. These observations lead to the question as to the effects produced by surface overflow compared with those produced by percolation. But before giving an answer, it will be necessary to explain the different sources of water and the conditions in which it may be found in the soil.

It is of great importance to consider whether

the superfluous water is from rain, from overflowing of brooks or adjacent fields, or from underlying springs oozing to the surface. Again, it is important to know whether the water is in motion or at rest. If a pinch of soil were examined by a powerful microscope, it would look like a heap of stones of irregular shapes and sizes, and each stone may be compared to a sponge. But we shall call each stone a particle of soil. Now it is plain that three conditions may exist viz: (1) both the particles and the interspaces may be filled with water; (2) the particles may be saturated, and the spaces between them may be open for the free admission of air; (3) both the particles and the interspaces may be free from water, and filled with air. As growing crops require both air and moisture, it will now be plainly seen that the second condition is the one to be aimed at. Visible water which is free to flow off or sink down is called *hydrostatic*. Bottom water is permanently hydrostatic. If a well or hole be dug in the ground, and water be found therein, the level of this water will correspond with the bottom water in the soil. This depth should, on the average, be beyond the ordinary reach of the roots of the crops. *Capillary water* is a name given to the water held in the particles of soil, and in ordinary language is designated "moisture." This is not visible as a liquid, but may be recognized by the dark color of the soil. Capillary water, when the particles are completely saturated with it, makes the soil too wet for most plants. It does not obey the laws of gravity, like hydrostatic water, but is held by the surface attraction of the soil particles. The capillary power of the various soils differs very widely, being greater for fine than for coarse soils. Take a portion of soil and expose it in a dry atmosphere, and it will still be found to contain some moisture, for if heated to boiling point it will be found to lose in weight, and vapor will be given off. Moisture thus expelled is called *hygroscopic water*. This quantity varies with the temperature of the air and the character of the soil, ranging from 0.5 to 12 per cent. These distinctions are important in expressing the degrees of moisture in a soil, as well as from the fact that our agricultural plants derive their equal from the capillary and hygroscopic water.

Fall Wheat.

There are circumstances which will lead to the continued raising of fall wheat, even though the direct profit be inconsiderable. It is usually raised on the summer fallow, which affords work for man and team when they would otherwise have little to do; it is a convenient means of seeding down, and of disposing of a large portion of the manure at a season most suitable for its manipulation, and wheat can be kept within a small compass for higher prices with minimum risk of deterioration. Most all the work is done by machinery, and the crop can be harvested before the busy season fairly sets in.

It is the custom of writers to insist that fall wheat should be grown on a clayey soil. While it is true that wheat will flourish better on a heavy than on a light soil, yet this piece of news is of very little practical use to the farmer, for he must sow on all fields that require fallowing. What the farmer wants to

know is how he can most successfully grow fall wheat on light soils. It is not the heaviness of the soil that causes the wheat to flourish, but because heavy soils are apt to contain that particular form of plant food upon which this cereal delights to feed, and which is almost invariably lacking in light soils. The remedy, therefore, lies more in the selection of the fertilizer than in the selection of the soil.

The question now is, How does wheat feed? If we examine the composition of wheat, we find that it is rich in phosphates—a form of plant food which is usually abundant in clay soils, and especially in the subsoil, where it can be reached by the deep roots of winter wheat. This cereal likes nitrogen in a dainty form, that is, in the form of nitrates, so that the vegetable matter of the manure or the decaying vegetation must be thoroughly decomposed before the plant can feed on its nitrogen. But all the decaying vegetable matter must not be in the same stage of decomposition, else large quantities of the nitrogen will be lost by drainage before it can be used by the crop. Wheat also requires a fine and firm seed bed, which cannot be attained if the manure is rough. It is also a matter of vital importance that the vegetable matter be thoroughly mixed with the soil. This is best accomplished by cultivator and harrow.

On light soils, naturally or artificially well drained, we would advise every farmer to test the worth of fine bone dust or superphosphate. Try it on at least one acre and compare the results with those of the remaining portion of the field. It may be applied at the rate of 200 to 300 pounds per acre in addition to a fairly liberal supply of farmyard manure. If the bone dust is used, it should be harrowed into the soil before the wheat is sown, or with the wheat if sown broadcast. The superphosphate, being soluble, is best sown in spring. Any one of these fertilizers will supply the plant food almost invariably lacking in such soils and in the farmyard manure under the ordinary system of curing. Unless fertilizers are skillfully applied, success in their use will be purely accidental.

Of the many new varieties of fall wheat introduced, we know of none that has given such general satisfaction as the Martin Amber, and the Landreth (Bonnell).

In sections where the Hessian fly has been committing ravages, the wheat should be sown as late as practicable; if the wheat is up before the appearance of the first frost, look out for the eggs of this insect.

How to Destroy Grasshoppers.

Prof. Coquillet, of the U. S. Department of Agriculture, was recently sent to California to investigate the locust plague, and has reported the results of his experiments to the Sacramento "Bee." The following is the only one of his remedies which has proved a complete success:

"It consists of a mash composed of bran, arsenic, sugar and water, the proportions being one part of sugar, one and one-half parts of arsenic and four parts of bran, to which is added a sufficient quantity of water to make a wet mash. A common washtubful of this mash is sufficient for about five acres of grapevines. Fill the washtub about three-fourths full of

bran, add six pounds of arsenic, and mix it thoroughly with the bran; put about four pounds of coarse brown sugar in a pail, fill the pail with water, and stir until the greater part of the sugar is dissolved. Then pour this water into the bran and arsenic, and again fill the pail with water and proceed as before until all the sugar in the pail has been dissolved and added to the bran. Now, stir the latter thoroughly, and add as much water as is necessary to thoroughly saturate the mixture, and it is ready for use. Throw about a tablespoonful of this mixture under each vine infested with grasshoppers; and in a short time the latter will leave the vine and collect upon the bran and soon commence feeding upon it. Those which are upon the ground six or eight feet from the bran will soon find their way to it, apparently guided by their sense of smell, as those to the leeward of the bran have been observed to come to it from a greater distance than those which were on the side of the bran from which the wind was blowing. After eating as much of the bran as they desire, the grasshoppers usually crawl off, and many hide themselves beneath weeds, clods of earth, etc., and in a few hours will be found to be dead. This mixture costs from 35 to 40 cents per acre of vineyard, including labor of mixing and applying it. In orchards the cost will be considerably less than this. One man can apply it to eight or ten acres of vineyard in a day."

Spring Wheat Rust.

We have recently received several communications from subscribers, with specimens of rusty spring wheat, and our opinion is asked as to how it should be disposed of. The samples of wheat are much shrunken, and the rusted straw presents a dry, wilted appearance. One correspondent in Huron County states that the spring wheat in his locality (Constance), promised 25 to 30 bushels per acre, but the sudden breaking out of the hot sun after the showers, while the grain was still in a moist condition, changed the whole aspect of the crop.

It must not be supposed, as some of our correspondents assert, that the state of the weather caused the rust, but the heat and moisture have been favorable to its development. Rust is a parasitic plant, the seeds or spores of which must be in the soil before they can affect the growth of the crop. Rust spores, like weed seeds, may possibly be found in all soils, but certain seasons are not favorable to their development. Their dissemination may also be prevented like that of weed seeds. The question arises, Does the rust injure the straw for food, or the stock which consumes it? This question is not so easily answered, and we don't know that it has been taken up by professional investigators. Some farmers assert that straw is improved for food by being rusted. Let us glance at the theory of the thing: The rust feeds on the straw by absorbing its juices. The straw must be therefore less nutritious; but if the nutrition remains in the rust in a digestible and harmless form, no loss may be sustained, and part of the juices which may have been intended for the grain may also have been absorbed by the rust. But this is a weak argument, when it is well-known that all parasites weaken the vitality of the plant on which they feed, thereby checking its growth.

Besides, a large majority of practical farmers have found by experience that stock do not thrive so well on rusted straw, and veterinary authorities assert that rust produces indigestion in farm animals, if taken in any considerable quantities.

With regard to the question as to the disposal of the wheat and straw, every farmer must do his own figuring. The first question is, Will the yield pay for the threshing? In most sections, where steam-power is used, the thrasher's price is \$10 per day, and the other expenses will be \$14 at the very lowest estimate. Calculating good wheat at 80 cts. per bushel, we get $2400 \div 80 = 30$, meaning that 30 bushels must be set aside to pay the cost of each day's threshing; or, if the shrunken wheat is only worth 40 cts. per bushel, then it will take 60 bushels to pay for a day's threshing. But shrunken wheat at 50 to 60 cts. in the market is more profitable for feeding than for selling. In fact, its feeding properties never deteriorate near so much as the market price does. It is not the plumpest grain that has the highest feeding value, for it contains more starch and less albuminoids than grain of medium plumpness.

The following considerations must now be weighed: If the farmer has plenty of good straw for feeding and bedding purposes; if he has plenty other profitable work to perform, and if the wheat is badly rusted, and the grain much shrunken, let him burn it on the field without cutting, first running the roller over it and plowing around the field to keep the fire from spreading. In such cases, we regard the straw as having no profitable feeding virtue, and only 60 per cent. of its manurial value will be lost; indeed, if the soil is rich in vegetable matter no loss may be said to accrue, for it is only the organic matter of the straw that is burnt and wasted in smoke—a substance that is not required in soils rich in humus. On the other hand, if the grain will pay for the threshing, he should feed the wheat to his stock, mixed with other grains, providing the market price does not exceed 60 cts. per bushel. Another good plan would be to feed without threshing, first putting the sheaves through a cutter, and using the chopped stuff in small quantities with other foods. The whole sheaf need not be run through, if the straw is badly rusted. But in this way of disposing of the crop, some precautions are necessary. The refuse must be thoroughly fermented in the manure heap, or left over a season before spreading on the fields, so as to prevent the rust from being propagated in future crops. The smut pores are not even destroyed by passing through the bowels of animals, so that the droppings should also be heated in the manure heap, which causes the spores to germinate and perish.

A good lawn grass mixture is made as follows: Red Top, 14 lbs.; Blue Grass, 14 lbs.; Rhode Island Bent, 5½ lbs.; Sweet Vernal, 5 lbs.; White Clover, 5 lbs., this mixture being the quantity to be sown per acre. But an excellent lawn grass may be made with white clover and Blue grass in the proportion of one pound of the former to seven of the latter, and 40 lbs. of the mixture will be sufficient for an acre.

PRIZE ESSAY.

How Should Farmers Spend their Evenings?

BY MISS JESSIE ROBERTSON, STRABANE, ONT.

A wide field lies before me—wide, not only because of the many whom it concerns, but also because of the question having a direct bearing on the private weal and public good of all our farmers. I use the word "farmers" in its broadest sense, taking it to mean "farmer folk" in general, that is, farmers, their wives, sons and daughters.

It is admitted by all that, taking the annual average, farmers have more leisure than those in other occupations. It is indeed true that farmers' hours, during the harvest season, are very long, and necessarily so. He is an unwise husbandman who leaves his valuable hay and golden sheaves to the caprice of the weather, and thus the intense physical exertion demanded during the day renders farmers incapable of any mental exertion during the short evenings; early retiring in the summer months, I do not think, could be materially improved upon so long as the present state of things exists. About eight or nine months out of the twelve, however, farmers should have considerable leisure in the evenings. I have no sympathy with that class of farmers, and the class is not small, who, summer and winter, daylight and dark, never find leisure. Bent only upon the accumulation of acres or dollars, they always find work to do, wholly neglectful of social or mental development. Who can blame a boy for disliking his father's profession if to him it means only unending toil? Can a workman be blamed if he seeks an employer in whose service he may have his evening hours to himself? In not a few farmers' homes is the following routine to be found: Rising early—early enough to feed the cattle by lantern-light; breakfasting; working with teams all day; after supper, feeding the cattle again, with other "chores" to be attended to, after which it is time to go to bed. The mother is always wearied; the girls long for something, they "know not what"; the boys rebel, and the father wonders why his children take no interest in the farm. Who can tell him? With this class, however, I have not to deal, unless, indeed, I can lead them into other and higher paths. Hoping they will come with me, I will venture to suggest how farmers should spend their evenings.

Before doing so, however, I will take the liberty of peeping into a farmer's kitchen, which, I am sorry to say, in many homes, is the sitting-room as well. Through a sort of haze I see the good man, at ease with himself and all around him, seated at one side of the stove. He lazily puffs tobacco "reek," not always pleasing to the other inmates. On a lounge a sturdy youth is stretched; alternate yawns and nods bespeak listlessness, while at the other side of the stove, another olive branch, wholly indifferent to gracefulness of posture, reverses himself on a chair, and, with head resting on the back, indulges in alternate nods and yawns. The merry, mischievous face of a schoolboy is seen at the table. The frank, intelligent, expressive and bright eyes, indicate "hidden treasures" in that yet undeveloped mind. The mother, of course, is knitting or

darning, with each stitch weaving cross-threads of a mother's unending care and unerring skill. One daughter, with deft fingers, is arranging one of the many little decorations which beautify home, while another pores over a book or paper.

Such is a picture of a farmers' home enjoyment, not, indeed, as it is always found, nor yet an ideal one; yet, albeit, the apparent aimlessness of purpose, happy the home, comparatively speaking, where it is even generally found. By the home fireside a boy usually learns no evil. There are darker phases of the way in which farmers spend their evenings. Why does that moral plague spot, the village tavern, at times give forth sounds of profanity and brawling? Why do the as yet innocent boys draw near its door? Why is the village store or shop, evening after evening, crowded with representatives of every home in the neighborhood? Why, night after night, until well-nigh in the morning-dawn, do the sons and daughters of country homes mis-spend their youthful hours and golden opportunities? Why is it that a mother's life is saddened and her life burdened because of the waywardness of some erring one? Why is it that the day of rest is a day of extreme weariness, if not altogether profaned by visiting, driving, &c.? Why? In answer, I would not lay the whole blame on mis-spent evenings, but I do claim, and I think justly so, that much of it may be attributed to the way in which farmers spend their evenings. Such being the case, the question then comes most pointedly, "How should farmers spend their evenings?" The question being so broad, and the space too limited to admit of details, I must for the present confine myself to general principles. We must bear in mind that there should be a due proportion of edification and recreation, for both are essential to physical, mental, and moral development of boys and girls on the verge of manhood and womanhood.

As a first means, then, to the proper spending of the evening hours, we would suggest reading. Any father, any mother worthy of the name, cannot but be pleased to see their children in good company. In books we find the best embodiments of great men's thoughts. We mingle with their authors, loving them as familiar friends. Can better society be desired than McCaulay, Ruskin, Tennyson, Longfellow, Bryant, Browning, Pope, Bacon, Spenser, Hugh Miller, Chalmers, and many others? Dickens, with admirable portrayal of character, draws aside the curtain which shuts us out from our fellow travellers, while Scott weaves such a web of history, romance and landscape, that the reader is entangled ere he is aware. Current periodicals can be obtained at a cost which would not pay for a "fragrant(?) Havana"; works of popular authors, pure in tone, lofty in sentiment, and comprehensible by average minds, for recreative reading, are available in every farmer's home, while agricultural journals should receive the cordial and unanimous support of the class whose cause they espouse, and whose interests they defend. Not to patronise their advocates betrays short-sightedness on the part of the farmers. With all due deference to the intelligence of the yeomanry, I would suggest a "Manual of Common Politeness" as a further addition to a

farmer's library. If a farmer's work is at times rough, that is no reason why his manner should be uncouth. If in his daily work he has to employ a shovel, that is no reason why he should literally shovel his food to his mouth. It is painful at times to observe the total lack of culture in a gathering of country youths. In intellectual endowment (lacking only in development), in kindness of heart, in nobleness of purpose, in purity of words, they can compare very favorably with their city cousins; but why this lack of minor attention to their mothers and sisters? Why those discolored, neglected teeth?—(remember again a brush can be purchased at less cost than a No. 1 cigar)—those untrimmed nails, and coat inclined to a crescent-shape from stooping shoulders? The result of habit in many instances. But I digress, and saying that in all reading it is more profitable to read a few books well than many carelessly, I proceed to the second point.

Next to reading, and as an assistance to it, I would suggest music. Not so easily obtained as books, perhaps, yet quite obtainable in the ordinary farmer's home. The paper editions of standard literature are only equalled by the five-cent sheet music. When eyes have to be rubbed and the yawn becomes infectious, let books be laid aside and the evenings enlivened by vocal and instrumental strains.

Long after the boys and girls of the old homestead have scattered, when their homes, if not their graves, shall be separated by "mountain, stream, and sea," tender will be the memories of those evening hours. The songs and hymns of early days link the heart to the home by a chain so strong, an influence so potent, that even in the ages to come chord with chord will vibrate, and reunited families will remember with joy the music of other days.

If the youngsters at times grow uproarious, let them expend their buoyancy of spirit. Perfect development is attained, not by curbing, but by guiding; a good gardener will not cut away a vigorous shoot because it inclines to grow away; he will train it while yet of tender growth.

As a third means to the pleasant and profitable spending of evenings I would suggest social intercourse. Interchange of ideas assist in the development of the mind, while that ease of manner and readiness of expression we admire in the cultured circles can only be obtained by contact with society. We farmers, as a class, are deplorably lacking in this respect. Who has not been at gatherings in the country where, the weather, the crops, and the local items, worn threadbare, the silence became first awkward, then embarrassing, and finally positively painful, the oppressive feeling in no degree lessened by the occasional whisper from those who, though rude, are often unconsciously so.

To obviate these difficulties, there are many games, requiring a moderate amount of mental ability or physical dexterity, which may profitably be introduced, while the reading and music before mentioned can be most happily utilized. Fair reading or reciting, as well as music, is ever a source of pleasure. Short selections, however, are best for all, save professionals in either art. I think outdoor amusement, such as skating, coasting, &c., could be

indulged in occasionally. There is a danger, however, of devoting too much time to these things. If physical or mental well-being demands much exercise, the time is not wasted when spent thus. If indulged in solely to pass the time, then that which is in itself innocent, becomes sinful. Is proof demanded? "Live Redeeming the Time." Each sunset that bathes the landscape in golden glories, and halows the twilight hour, returns not again; the moments of this one life once gone are gone forever—forever.

A fourth means as to the manner in which farmers should spend their evenings I beg to suggest before I close. It differs materially from the others in one particular; while they can be laid down as a basis of general conduct, subject to occasional interruptions, it can and should be always observed. With such an inimitable description of the means referred to from pen of immortal fame, I would not mar the exquisite picture with untrained brush. Silently bowing "Good-Night," I leave a master hand to paint:—

"The cheerfu' supper done, wi' serious face,
They, round the ingle, form a circle wide;
The sire turns o'er, with patriarchal grace,
The big ha'-Bible, once his father's pride,
His bonnet reverently is laid aside,
His lyart haffets, wearing thin and bare,
Those strains that once did sweet in Zion glide;
He wales a portion with judicious care,
And 'Leet us worship God' he says, with solemn air."

A Frenchman experimented on the depth for planting wheat. He made thirteen beds and planted 150 grains in each, at depths beginning at seven inches, decreasing to the surface. In the seven-inch bed five grains out of 150 germinated. They gave fifty-three heads, with 682 grains. This return kept on increasing for each bed as it decreased in depth at which the seeds were planted. At three and three-quarter inches deep ninety-three seeds sprouted, with 992 heads, yielding 18,534 grains. At one and three-quarter inches, sprouting 142 seeds, there were 1,660 heads, containing 35,816 grains. At one and one-half inches deep sixty-four grains sprouted, growing 529 heads and 15,587 grains. On the surface only twenty grains germinated, yielding 1,600 grains. The greatest return in grains and straw was attained by the one and three-quarter inch bed. The sower should, therefore, endeavor to cover the seed not more than two nor less than one inch.

There are several easy ways to prevent rusting of ploughs and cultivators, and to keep the teeth bright. One is to give them a coat of thick limewash as soon as they are brought in from the field; another is to dissolve an ounce of resin in four ounces of linseed oil and while hot mix this with a quart of kerosene and stir well. This is laid on to smooth iron with a paint brush. Another way is to dissolve an ounce of camphor in some turpentine and add this to four ounces of lard and one ounce of pulverized blacklead or stove polish, and mix well. This may be rubbed on with a rag. To remove rust from ploughs or tools nothing is better than a mixture of half a pint of oil of vitriol poured slowly into a quart of water, and apply this to the rusted metal. Wash off with water.

Stock.

Our Illustration.

The future can frequently be glanced at with pleasure and profit. It is pertinent to know where, how, or when our present system of feeding for exhibitions, records, etc., is going to end. The *how* and *where* are explained in the illustration; the *when* can be found by comparing the last entry in the Government Herd Book with the number inclosed in brackets.

As is seen in the illustration, it is astonishing what can be accomplished by the drug-store system of feeding. It is painful to think that there are so many aristocratic stallions in the

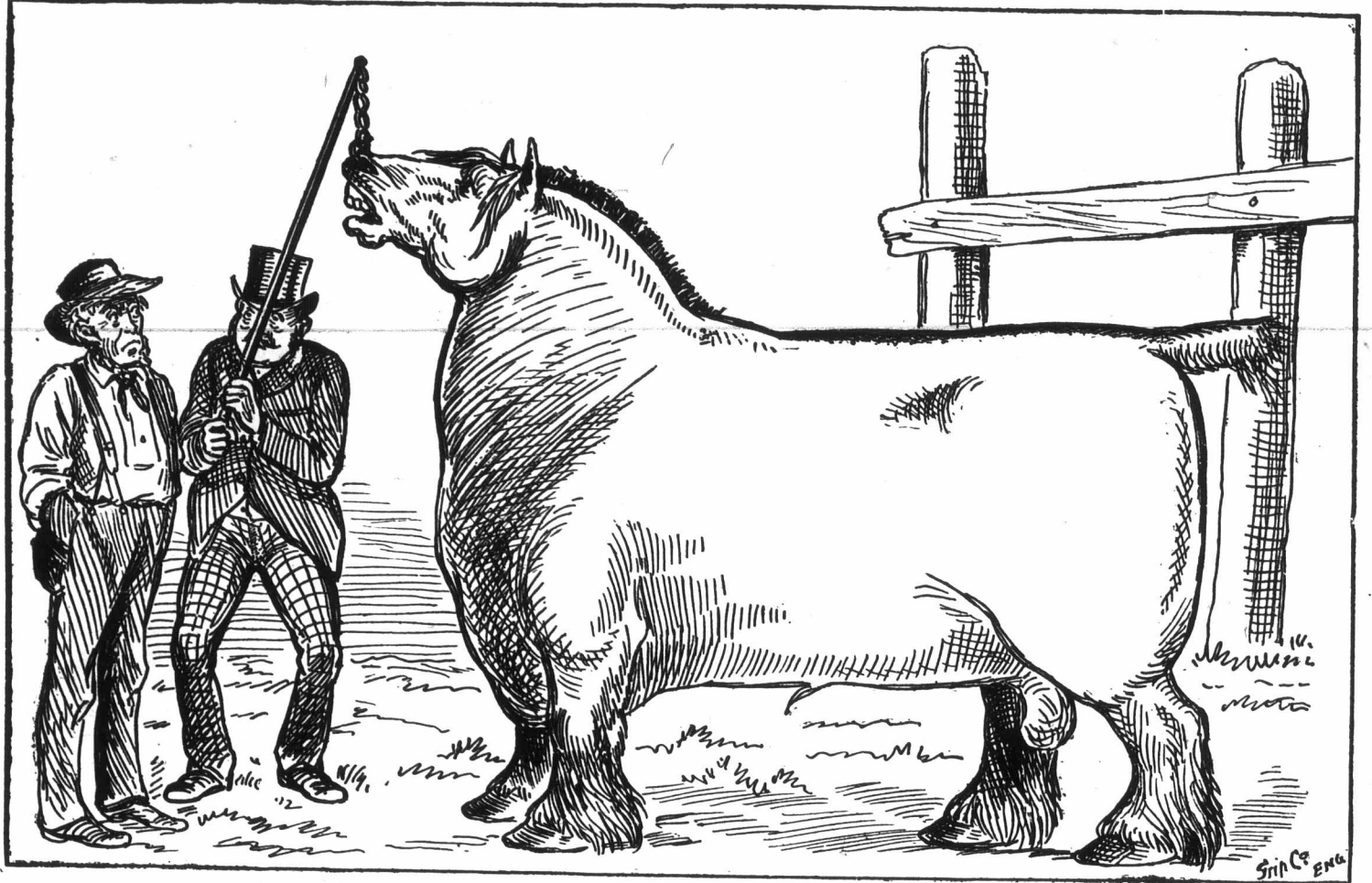
A Chatty Letter from the States. —The Indian Leases.

[FROM OUR CHICAGO CORRESPONDENT.]

The question which of late has caused most disturbance among the cattle men of the West has been that of the refusal of the Government to recognize the leases of Government lands made by the wards of the Government, the Indians, to cattlemen. The order of the President declaring such leases in the Cheyenne and Arapahoe reservations to be void, and notifying the cattlemen to remove their herds inside of forty days, has caused not a little consternation. The state of the case is simply this: The Indians formerly allowed cattlemen to graze their stock in that part of the territory

Teller informed the cattlemen that so long as the Indians were satisfied the Government would probably not interfere. And so, on this color of authority, the cattlemen went in there, and at the time of the recent proclamation there were not less than 250,000 cattle in the two reservations, belonging to white men. In ordering the removal of these cattle in forty days the President was rushing matters a little, but was doing what he believed to be the greatest good to the greatest number, as the Indians for some reason were becoming dissatisfied, and outsiders were becoming jealous of the rights controlled by the favored few white men in the territory.

The cattlemen made a great ado about being unable to comply with the order, claiming that



Variation of the Species; or, the Survival of the Fattest.

FARMER JONES—"Mighty fine stallion, neighbor; he'll get the red, sure."

STOCKMAN—"Hush, Dick, don't squeal. Why, this is my finest Shorthorn [927,684]; I'm feeding him up for the government fat stock show. Do you think the judges will know any difference?"

country which have become victims to our exhibitions. Being useless for any other purpose, it will be quite consistent with past experience to expect a boom in the direction indicated. Grease is grease; and so long as the body of any of our domestic animals can be transformed into a barrel of this material, no questions should be asked with regard to the species to which it belongs. It is the barrel that is to be judged, or rather expeted upon, not the head, limbs, or tail.

Between 1842 and 1869 England lost from contagious lung plague, it is estimated, 5,548, 780 head of cattle, worth \$400,000,000. During the following nine years she lost about \$1,000,000 more.

for a consideration of 50c. per head per annum, but it was difficult to collect the taxes, owing to the trouble of knowing how many cattle were there. Under that regime the Indians of the two reservations mentioned only received about \$40,000 per year for their immense pasturage. There was more or less dissatisfaction, and it became evident that some change was necessary. Some shrewd men conceived the idea of forming a syndicate to lease all of the grazing lands in the two reservations. This the Indians seemed willing to do, and accepted an annual rental of \$100,000 per year for their grass, which otherwise would have been converted principally into smoke. The National Government refused to formally authorize the leases, but through Secretary

most of their cattle were directly from the South, and were not allowed to go into Kansas or any of the adjoining states or territories until after frost, that the ranges of the surrounding country were all overcrowded, that there was no place where these Indian cattle could be moved, that the cattle in the territory, old and young, fat and lean, steers and cows, and all, would have to find an outlet in the beef markets of the country, and that this hasty marketing of such vast numbers of cattle, in addition to the regular supplies of beeves steadily coming forward, would so badly demoralize the market as to cause incalculable loss to cattlemen generally, because of course a flood of even cheap beef would, more or less affect all branches of the market. But when the

cattlemen found that the President was inexorable, they went to work in earnest, and there will probably be no more serious trouble. Some of the cattlemen were rather hard pressed to find places to put all of their stock, and all will suffer a loss of several dollars per head, incident to moving at this season, especially after having paid their rent until December in advance.

Naturally there was talk enough about the "ruination" that was sure to follow such a hasty removal, causing the appearance of scores of buyers who were looking for bargains in stock cattle. But it is stated upon the best of authority that not a single animal will be sold out of the territory on account of the removal, that good places in Kansas, the "Cherokee Strip," Colorado, Wyoming, Nebraska and Montana, have been found. The beeves from the Indian country are now being marketed as fast as possible, and it is not expected that there will be any serious trouble resulting from the enforced evacuation of the cattlemen. If they show an honest desire to get out, the President will not be arbitrary with them, but he knew that if he granted one extension of time in advance he might continue to do so indefinitely.

An interesting question now is, how are these vast Indian pastures to be utilized in the future? It would not be good economy to allow them to waste and be burned off every year when they are capable of making so much beef convertible into cash. The probabilities are that the lands will be pastured. A great many white men have gone there and married squaws and thereby acquired rights to the land in common with the other Indians. These men can take outside capital in unlimited quantities and raise cattle there under their own brands, of course paying the dividends, or the principal part of them to his silent white partners on the outside who furnish the money. The chances are that there may be an increased demand for squaw wives among the cowboys.

The Contagious Disease Law.

During the late session of the Dominion Parliament an act was passed relating to the suppression of contagious and infectious diseases amongst domestic animals. Every owner, breeder or dealer in stock, on detecting disease, must give immediate notice to the Minister of Agriculture, otherwise he can lay no claim to compensation, and a penalty not exceeding \$200 is inflicted on each person who conceals the existence of disease; also for turning out any animal so affected, or for exposing it for sale, or, if slaughtered, any part thereof, or for throwing the carcass into any stream of water, or for digging up the carcass. Affected animals may be seized and destroyed by any person in the municipality having jurisdiction.

The Governor in Council may cause affected animals to be slaughtered, or any animals that have been in contact with them. Owners, not guilty under the act, shall be entitled to compensation for affected animals slaughtered amounting to one third of their value, but the sum shall not exceed \$20; in other cases of compensation two-thirds of the value of the animal shall be paid, the sum not exceeding \$40 for grade animals. In "thoroughbred

pedigree animals" two-thirds of the value shall be paid, the sum not to exceed \$150, the value to be determined by the Minister of Agriculture, or some person appointed by him, and may reserve any affected animal for experimental treatment.

The Governor in Council may prohibit the importation of affected animals, or, if slaughtered, any part thereof; also, any hay, straw, fodder or other articles known to have been in contact with such animals, and may appoint such inspectors or other officers as may be necessary to execute the law, on whose authority the Minister of Agriculture shall be empowered to declare what places shall be deemed "infected." Steamboats, cars, or other vehicles occupied by affected animals shall be thoroughly cleansed and disinfected by the owners, otherwise the Minister may cause same to be done at the expense of such owners.

The act makes special reference to the following diseases: Glanders, farcy, mange, pleuropneumonia, foot-and-mouth disease, anthrax, rinderpest, tuberculosis, splenic fever, scab, hog cholera, hydrophobia and variola ovina.

The act is unjust in one important particular. It favors one class of stockmen at the expense of another. There is no reason why the owners of pedigreed stock should receive special favors in the matter of compensation. It is class legislation. The pedigreed stock has been the cause of our infectious disease troubles, and now a premium is put upon the authors of ruination.

Inflammatory Pork.

The epidemics which sweep away the hogs fed on hotel swill, or the swill gathered from establishments where there is a large amount of table and kitchen refuse, are unquestionably caused by feeding on such slop allowed to ferment too much, to the degree of vinegar or alcohol, and to become more or less putrid. It should always be fed as soon as collected, and always before either of these unhealthy conditions is reached. The inflammation may take the form either of constipation and fever, or dysentery, or a slower blood-poisoning. The end comes quickly when the right degree of inflammation is reached. It may take weeks to do it, but the result is sure if the hogs are kept on this food long enough. In hot weather it runs its course much faster. Inflammation of the stomach and bowels is a common disorder, and sometimes takes a whole drove or penful of hogs, but oftener a victim or two. These may have had weaker digestion, or been more glutinous and so paid the penalty. I venture the assertion that the hogs shut up in tight pens and fed on clear corn, every one of them, in time, would die of inflammation of the stomach and bowels, if given all they would eat, or else they would founder and refuse to eat and rapidly become emaciated. This would be another form of fever. I have seen whole pens of pigs in this condition, and I have seen others die when fat and plump after eating well the day before.—[F. D. Curtis in New York Tribune.

The mortality from swine fever in England has reached a point when about 2000 animals perish every week, or 100,000 per year out of 2,000,000 swine.

Model Farm Experiments.

The annual advance report of the Model Farm is just out. It plays havoc in the "battle of the breeds." Twelve breeds have been in the fight, comprising the Ayrshire, Jersey, Holstein, Shorthorn, Guernsey, Devon, Hereford, Aberdeen Poll, Galloway, Shorthorn Grade, Quebec Grade and Ontario Grade. In most cases two cows of each breed were enlisted, and the ages varied from three to nine years. In the case of the "Ontario Grade," which speculators dignify by the name of "scrub," the age is not given; she is designated as "old," her name is "Grannie," and the following description stands in bold contrast with that of the various blue-bloods with which she is associated: "Grannie is an old 950 lb. grade that evidently has had nothing to do with any blood other than the roadside chance."

"Grannie" is mentioned in the list of the cows tested, but her records are a perversion of facts; for the number of tests is stated to be 2,700, and out of the two dozen tables of results, old "Grannie" only appears in three. In the summer tests no account has been taken of her. The size of her globule has been measured, her milk has been chemically analyzed, and the amount of her "dry curd" ascertained. That is all. These three tests are a very insignificant fraction of the whole, so much so that it is a perversion of truth to classify her in the tests. However, let us compare her record with that of the leading dairy breeds, as shown in the following table:

	Size of large globules.	Percentage of fat in milk.	Percentage of fat in dry curd.
Ontario Grade..	1.37	4.65	14
Ayrshire.....	1.00	4.60	12
Jersey.....	1.39	7.35	14½
Holstein.....	1.27	3.55	10½
Shorthorn.....	1.25	5.63	12½

From this table it will be seen that the old "scrub" takes the lead in every desirable quality except in percentage of fat, from the Jersey and the Shorthorn. The Jersey has also a trifling advantage in the curd, which is quite natural owing to her larger percentage of fat, which proves that the milk of the "scrub" is richer in casein—a more valuable product, the percentage of total solids varying but little in the different breeds. The size of the fat globule is a very important item, and here the "scrub" is practically equal to the Jersey; but the way this experiment, as well as many others, has been conducted, proves that the tests have not been in the hands of professional investigators. It is not the size of the large globules that is required to be known, but the fewest small globules, and then it is very unscientific to adopt a medium breed (the Ayrshire) as a standard.

We have never accused the authorities at the Model Farm of wilful attempt to deceive the practical farmer; it is their ignorance, stupidity and toadyism that have played the mischief. However, any government or government official that would deliberately rake up a neglected old scrub from the roadside and place her in presumptive contest with the long pedigreed, high-priced, blue-blooded aristocracy of the old world, should, to put it mildly, be called upon to rise and explain. If a super-

annated old scrub can produce a record so nearly approaching any of the high-boomed breeds, with every prospect against her, what should we expect from our native cows of the best stamp?

WHICH BREED FOR ONTARIO?

There is a strained effort to be plucky when the author of the report comments on the results of these tests. The figures are damaging enough to the prospects of our live stock speculators, but the commentary is much more so. He regards his experiments as conclusive, and insists that all further discussion be dismissed. Having summarily dismissed the Aberdeen Poll, Hereford, Galloway, Jersey, Guernsey, Ayrshire, Holstein and Devon—all these must go—he adds:

"The special dairy wants of Ontario can be fully maintained by selection from her common cows—the acclimated, hardy, ranging, non-beefy and liberal milking grade. The special beef and the conjoint beef and dairy wants of Ontario can be best upheld by the use of that stamp of Shorthorn so easy to select and so often met with."

ARE THE EXPERIMENTS ACCURATE?

It must not be maintained that we regard these experiments as conclusive, but we insist that they are the fiat of the government, and it must bear the consequences. In comparing these tests with the countless ones conducted by professional experimenters in other countries, we find that many are in harmony with them and many are absurd. The analysis of the milk bears evidence of accuracy, and have manifestly been conducted by professionals, while many of the other experiments lead to all sorts of confusion. This must be expected when the mode of operation is considered. The experiments are mainly conducted by the students, or rather overseers appointed by them. The most popular ones are almost invariably appointed, and the student who takes a deep interest in anything that is useful can never become popular. This method of conducting experiments naturally leads to confused results.

Even if the experiments could be proved to have been accurately conducted, they would still be worthless, for no account is taken of the cost of production. Where is the sense, for example, of comparing the records of a "scrub" weighing 950 lbs. with those of a Shorthorn weighing 1,530 lbs? All other conditions being equal, animals eat in proportion to their weight. The Shorthorn is over 60 per cent. heavier than the Ontario grade, so that two of the former would be heavier than three of the latter. The farmer wants to know which breed produces the highest record at the least cost, and this is just what speculators want to keep in the dark.

THE GENERAL PURPOSE BREED.

We have time and again proved by facts, figures, and arguments that the general purpose breed is a myth—possibly only useful as an idol to those farmers who are utterly unconscious of the fact that one cow can be surpassed by another. But, according to the Model Farmers, the "Ontario Grade" is to supply our special dairy wants, and the Shorthorn is to do all the requisite service for beefing and dairying combined. These conclusions are inconsistent, for if the general purpose animal is the more profitable, why not turn our natives into a gen-

eral purpose breed? Why is a special breeder not as desirable as a special dairy breed?

INJUSTICE OF THE CO-OPERATIVE SYSTEM.

The government deserves the gratitude of every practical farmer for the additional proof it has given to one point of vital importance to all concerned in dairying. In a recent issue we pointed out the injustice of dividing the profits on the butter by the cubic-inch system of measuring the cream. The question is not a new one, but the Government have the credit of bringing it out with greater prominence. Considerable reliance can be placed on these tests, for they closely conform with similar investigations made in other countries. The figures are as follows:

Devon	23 cts.
Jersey	22 "
Ayrshire	17 "
Holstein	13 "

These figures mean that if 23 cents be paid for 113 cubic inches of Devon cream (the quantity that is supposed to make a pound of butter), then 13 cents should be paid for a similar quantity of Holstein cream, and so on with the other breeds named. This calculation is made on the basis of 17 cents per pound for butter, and it is estimated from these figures that the owner of the Holstein would gain an unfair advantage over the Jersey man of \$21 per milking season—from May to October. It must be borne in mind that in these tests all the conditions were precisely similar. What then should we expect from dissimilar conditions, as is the case in actual practice? We venture to assert that the figures would have widely differed in the same breed, either under similar or dissimilar conditions. And yet the Model Farm creamery was run last season on the presumption that equal justice would be meted out, providing the milk was set at the same temperature, although this theory was exploded before that time. With regard to deep setting at different temperatures, and centrifugal separation, embraced in many of the tables, the question has been a dead issue for some time, and we think the government could spend its time more profitably in attempting to settle practical, living issues. It is behind the times; that's what's the matter. It attempted to popularize the creamery, and has proved that their creamery system must go, and that the creamery policy of the ADVOCATE is a sound one.

BROWN'S BABY-BEEF BOOM.

Prof. Brown apparently intends to crown his official career by proving that yearling beef can be made fit for exportation. He has been our chief promoter of the "early maturity" or the "drawing-room accommodation," and drug-store feeding craze. He has followed the vilest speculators, and his theory is that it develops scientific knowledge, and produces quicker returns of invested capital. The government ought to be an educator, not a bolsterer of speculators. We would have had some respect for the government had it relinquished the "Baby-beef" craze, even if it had still adhered to many of the other crazes which it has just demolished, for the former is not only a loss to everybody except the speculator, but the practice is demoralizing, cruel, and disgusting—as we have shown on various occasions—while the latter have merely resulted in a financial loss. The utter

baseness of the system is crowned when the farmer is told that, although there is no profit in the business as shown by charging the animal with the market price of the food consumed, yet a handsome profit may be realized by charging the cost of production. That is to say, a farmer can make or lose money according to his system of book-keeping. This question is too broad for discussion in this article; we shall take it up on a future occasion.

WHAT NOW ABOUT THE "SCRUB WAR"?

Next winter, when the live-stock speculators knock at the lobby door of the legislature, with spears and pitchforks in hand, announcing that they are on the "scrub" war-path, they must then be told that the government fiat is already proclaimed, that "The special dairy wants of Ontario can be fully maintained by selection from our common cows—the acclimated, hardy, ranging, non-beefy, and liberal milking grade":

"Begone!
"Run to your horses; fall upon your knees,
"Pray to the gods to intermit the plague
"That needs must light on this ingratitude."

An American Exchange defines a "scrub" to be "a cow that is poorly kept and badly neglected." We agree with our esteemed contemporary, but would like to add that a "blue blood" is a cow that is luxuriously kept and never neglected. By a slight effort of our reasoning faculties we can now see that a "scrub" may be converted into a blue-blood by liberal feeding without negligence.

Prof. Sanborn, of the Missouri Agricultural College, says: "Experimental tests in Europe, and America have shown that crops lose little or nothing of their feeding value in curing. The ease of handling dry crops is such an advantage that, from the start, I have never accepted the green food craze as valid." Of course he means that the curing must be under the most favorable circumstances.

A correspondent in an exchange, who has used the following recipe for the cure of balky horses, claims that it has never failed: When a horse balks in a wagon, cart or carriage, I have him taken out, the harness taken off, except the bridle, a boy or man put on the animal's back with instructions to make him move lively for ten minutes up and down the road. At the expiration of that time I put on the harness and hitch up, and the animal goes all right. It may have to be done once or twice more, whenever the hitch-up after meals takes place.

The owners of some of our own pampered stock horses can find a hint worth following in this item from the London Stock Journal: In regard to the over-feeding of stallions, we are glad to notice that Professor Williams, of Edinburgh, strongly recommends that draught stallions should be worked a little in winter. This is not only with the view of preserving the horse's procreative powers, but his health; as now, when attacked, his organs not being in a very healthy condition, he is unable to withstand the usual veterinary remedies when in trouble, and succumbs suddenly. The late Mr. Drew was of the same opinion, and every Spring-time he gave his famous stud horse, Prince of Wales, good sweating work in the chain-harrows.

The Dairy.

Preserving Butter.

We have been frequently asked the best method of packing butter for winter use, and how long it will keep under the various modes of preservation. How long it will keep, neither we nor anybody else can tell, but with regard to how long it has kept, we answer, from two weeks to five years.

There are a hundred different circumstances affecting the keeping qualities of butter, very few of which can be satisfactorily explained. For a long time it was considered that salt was the preserving agent, but the only argument advanced in its favor was that custom had settled the matter. This explanation did not suit experimenters, and numerous tests have been made within the past decade. Butter was pure fat, they said, so that salt could have no more preservative effect on it than on other fats or oils. It is quite true that butter is fat, if the chemist is allowed to abstract it from the milk; but the churn and the chemical laboratory are two different concerns. Unfortunately, the buttermilk, small quantities of which remain in the butter, is not butter fat, and here it is possible that salt may exercise some controlling influence. We have tested the keeping qualities of the same batch of butter, with and without salt, and found that rancidity could not be detected quite so soon in the salted butter. A cursory thinker would naturally observe that the salt had a preserving effect, but it is quite possible that it had only hidden the rancidity from the sense of taste. Many of the best experimenters now agree that salt has little or no effect on the keeping qualities of butter; and certainly not on butter of the best quality. Salt, like coloring matter, should therefore be regarded as a means of hiding our sins.

It is the nitrogenous matter in the buttermilk, and possibly, also, to some extent, that albuminous envelope of the fat globules, that causes the decomposition. Pure fats and oils have nothing in their composition that can cause ferment. These discoveries have led to the practice of stopping the churn when the butter first appears in granular form, as the buttermilk can then be washed out more thoroughly. The custom is to wash with brine until the liquid flows off quite clear. We know no reason why brine should be preferred to pure water, except that it may have a more relaxing influence on the slimy matter that may attach itself to the globules, and this, we think, could be more effectually removed by means of acidified water. By this system the keeping qualities of butter have been greatly improved; but, no matter how small the granules may be, some buttermilk will always remain, which will materially affect the longevity. In the various tests that have been made, some brands of butter have not kept over summer, even when salted and soldered up in air-tight jars, while one case has been reported in which butter has kept for five years without being salted or excluded from the air. Several cases are reported in which butter kept for three years in a sound state, having been excluded from the air, but not salted.

No rule can be laid down as a guide to the keeping qualities of butter, but it is to be hoped

that our investigators will soon be able to fathom the mystery. The breed, the food, the treatment, and many other considerations may have to be investigated. However, if butter is required to be kept for a period not exceeding six or eight months, we are able to give the successful results of practical butter-makers. In the first place the cream must not be violently churned, the butter must be worked as little as possible, the churn must be stopped as soon as the butter comes in particles about the size of wheat grains, or not larger than apple seeds, and no sudden or wide changes in the temperature of the milk, cream or butter, must take place.

The granules must then be thoroughly washed, and placed in muslin bags, a pound or two in each bag, and the sacks are then immersed in brine. The butter need not necessarily be salted, and the brine will have no effect in making it watery or salty. It should be kept in a cool place. In this form the butter may be taken out and used or sold, as circumstances require. Another plan is to make the butter into pound rolls, wrapping each neatly in a piece of muslin cloth, and weighing them down in a tub of brine. All other conditions being equal, the butter will not keep so long by this as by the first-mentioned plan. The practice of submerging the granulated butter in fruit jars filled with brine, and then sealing them so as to exclude the air, is highly commendable, but is too expensive for ordinary use, especially if carried out on a large scale. In this form, however, higher prices are often procurable, as the butter is more apt to be found in a sweet condition, and it will keep for several months, and may keep for years.

Why the Butter Doesn't Come.

1. Because of some disorganized or unhealthy condition of the cow.
2. On account of the unwholesome food and water supplied.
3. Want of proper cleanliness in milking and setting the milk.
4. Lack of right conditions in the raising of the cream—pure air and proper temperature.
5. The cream not raised and skimmed in due time.
6. Cream not churned at the proper time—kept too long.
7. Cream allowed to freeze—injured still more in thawing.
8. Cream too warm when churned.
9. Cream too cold.
10. Churn not a good one.
11. Lazy hand at the churn. Some persons have the churn around nearly all day, summer or winter; take a few turns, and then stop; fool around and begin again. Can not make good butter so. Use a box or barrel churn; begin moderately, and continue so till no more vent is needed, and then go on at a good pace, without stopping till the butter comes. When the cream is perfect and the temperature right, about 65 degrees in winter, for a batch of butter weighing twenty to thirty-five pounds, twenty or twenty-five minutes should be ample time for churning, in the manner described. Since this complaint in butter-making is more common in the winter season, I should expect to find the cause in the reasons given above in No. 4 to No. 9.—[Cor. N. H. Mirror.

How "Records" are Produced.

Dr. Sturtevant, director of the New York Experiment Station, one of the most distinguished experimenters in dairy products, found that, under ordinary shallow setting, his Ayrshires produced from 10 to 13 per cent. of cream, while 18 to 12 per cent. was averaged under cold setting. On one occasion he observed that the milk produced 60 per cent. of cream, but his astonishment soon abated when he found that a slight inflammation of the cow's udder was discernible.

For some time past these phenomenal "records" of the boomed up dairy breeds have been a source of amazement to dairy experts; some believed that there was fraud at the bottom of the business, while others, who were prepared to vouch for the honesty and respectability of the testers, professed their inability to account for such an apparent violation of the laws of nature. It was known that very little variation in the percentage of solid matter could be affected by breed or feed, so that the question was, By what process of alchemy could the tester change the water of the milk and possibly also the casein, sugar, mineral matter, etc., into butter fat?

Dr. Sturtevant's observation seems to settle the question. The high-pressure feeding produces inflammation of the blood, causing an abnormal development of fatty matter in the milk. Many writers delight in comparing the fat on the cow's body to the fat in her milk, both being developed by the same physiological process. Now it is well known to competent authorities that the fat on the body, under high pressure feeding, is a mass of rotteness, and can be produced in large quantities in a short space of time. There is no reason why a similar process should not take place when feeding for "records." The consumers of such flesh and such butter may bring deserved retribution upon themselves, for any scourge swept over the land will drive them to their last hiding place.

New Method of Washing Butter.

It is stated that a new method of washing butter has been patented in Germany. As soon as gathered in the churn in particles of about a tenth of an inch in size, it is transferred to a centrifugal machine, whose drum is pierced with holes and lined with a linen sack, that is finally taken out with the butter. As soon as the machine is set in rapid motion the buttermilk begins to escape; a spray of water thrown into the revolving drum washes out all foreign matters adhering to the butter. This washing is kept up till the wash-water comes away clean, and the revolution is then continued till the last drop of water is removed, as clothes are dried in the centrifugal wringer. The dry butter is then taken out, molded and packed. It is claimed that the product thus so fully and quickly freed from all impurities, without any working or kneading, has a finer flavor, aroma and grain, and far better keeping qualities, than when prepared for market in the ordinary way.—[Chamber of Agriculture Journal, England.

SIR.—I am a subscriber for the ADVOCATE, and if I only took one paper, that would be the one. Yours truly,
YARMOUTH CENTER, Ont. ARCHD. D. McLESTER.

Garden and Orchard.**Propagating Small Fruits.**

BY W. W. HILBORN.

CURRENTS.

Farmers should grow more currants; very few grow enough for their own use. None of the small fruits can be left on the plant for so long a period after becoming ripe as the red currant, if such varieties as Victoria and Raby Castle are planted; they hold their foliage very late, thus protecting the fruit. I have them now (Aug. 21) on the bushes in good condition. They are of much better quality than when they first ripened.

They are very easily grown from cuttings. September is the best time to plant them. Take wood of the present season's growth, make same into cuttings six to seven inches long; plant them in rows two and a-half feet apart and six inches apart in the row, leaving but one or two buds above ground, and being careful to make the soil quite firm about the lower end of the cutting; cover about two inches deep with straw or hay, then put a little earth over the straw, which prevents the cuttings from being heaved out by the constant freezing and thawing during winter and early spring. As soon as frost is out in spring and the soil fit to handle, take off the covering very carefully in such a way that will not injure the buds, which will have started to grow. By planting in this way the roots will start to grow in the fall, thus giving a much larger growth the first season. Keep well cultivated and you will have fine bushes to plant out in the fall following.

BLACK RASPBERRIES

may have their tips layered this month. Bend down the new growth and cover the tip about three inches deep; they will soon take root and make fine plants by fall.

STRAWBERRY

plants should be watched now. Turn the runners into the row; do not let the rows get too wide. Such varieties as James Vick should be kept in very narrow rows, not more than eight to twelve inches wide, as they set more fruit than any other sort, and cannot bring it to perfection unless they are either grown as above, or in hills. Most other varieties can be left to grow twelve to eighteen inches wide in the row.

Strawberries may be planted this month, and with good care will give a small crop of fruit next season, but for large plantations delay planting until spring; plants will then stand transplanting much more safely.

The following description of a cheap house for preserving fruit is given by Mrs. S. A. Benson in the Kansas Farmer: "The walls are double being composed of two rows of wooden posts, boarded within and without. The intervening space—two and a-half feet wide—is packed as closely as possible with straw. Above are two sets of rafters, three feet apart, with boards on their upper sides, straw completely filling the space between them. Over all is a cheap board roof. Inside, it is said, the temperature remains approximately the same the whole year round."

How to Can Fruit and Save Your Sugar.

I presume all know that there are several kinds of sugars. Cane sugar, grape sugar or glucose, and milk sugar are the principal varieties, says a cor. of the Indiana Farmer. Of these, cane sugar stands pre-eminent for its sweetening properties, being rated at 100, while grape sugar is only rated at 40. In other words, it takes two and one-half pounds of grape sugar to equal one pound of cane sugar. I presume, however, that your readers do not all know, what is known to every chemist, that when cane sugar and fruit are boiled together the acid of the fruit causes a chemical change in the sugar to take place, which changes the sugar to grapesugar.

I do not suppose they intend to throw away six pounds of sugar out of every ten they use in the preparation of fruit. Yet such is the fact. They have, as a result of the boiling, ten pounds of glucose which is only equal to four pounds of sugar; and besides this loss the fruit has, to a great extent, lost its true flavor, and is, of course, inferior in quality to that sweetened with cane sugar. How can fruit be sweetened with cane sugar without making this change and loss of flavor? As that is the principle object of this paper I will answer the question.

First, cook your fruit until it is "done;" then, if you have time, let it get cold, and then add your sugar, mixing it well; let it stand an hour or more. The sugar by that time will be absorbed by the fruit. If you have not time to wait, add your sugar when it is only partially cool, and you will only lose 5 or 6 per cent. of the sugar.

In the making of preserves there are two ways to avoid the loss of sugar. One is to use only glucose and fruit in equal parts, as it is much cheaper to buy glucose than to make it of the higher priced cane sugar. Another way is to cook your fruit as before described, then add one-half a pound of sugar to the pound of fruit and seal up in cans, or steam the fruit when practicable, lay it in the cans and fill up with hot syrup made so as to contain the proper proportion of sugar, and seal. You will then save nearly all the sugar. Preserves made in this way will ferment unless sealed in air-tight cans.

In the ordinary canning of fruit no sugar should be used, as a part of it turns to glucose while hot, and if the fruit in the can ferments through some imperfection in the process, as frequently happens, your sugar is lost entirely. Open your cans an hour or more before meal time, add your sugar, mix it well and let it stand; the sugar will thoroughly permeate the fruit by that time, and no sugar is lost.

I suppose everybody uses glass cans to a greater or less extent. A good many years ago a lady taught me how to fill a cold glass can with boiling fruit without the danger of breakage. I have seen the plan tried often enough to have entire faith in it.

Place in the empty can a spoon that is long enough to reach from the bottom to the top of the can, pour in your boiling fruit, remove the spoon and seal. The can will not break. Please do not ask me to explain the philosophy of it, as I dislike very much to plead ignorance, so I hope you will ask some of the knowing ones in your vicinity and let me know the explanation.

Keeping Grapes Fresh.

There are several practical modes, one is to pick the grape just before dead ripe, while they are perfectly free from surface moisture, and immediately seal with wax the end of the stem, or any place where a grape has been removed. Now pack in boxes with cotton batting, a layer of fruit between layers of batting, so that one cluster shall touch another; cover closely, and keep in a cool, dry place. Those who have put down fruit in this way say that they came out fresh in the spring. It must be remembered not to let the fruit come in contact with the wood of the box.

Another method, and one that is very effectual in keeping grapes fresh during winter, is to pick as before directed, keep in a cool, dry place three or four days, then pack in paper boxes which will hold ten or twelve pounds each, placing a sheet of paper between each layer; keep in a cool, dry room—not in a cellar. Not more than three layers of grapes should be allowed in a box.—[Tribune and Farmer.

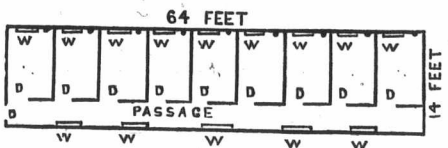
Grapes may be kept a long time by carefully cutting the clusters from the vines, dipping the ends of the stems in melted wax and packing with paper between each layer. Another way is, after gathering, spread them thinly on shelves or tables for a few days to let them dry a little; then cut clean straw, about an inch long, in a straw cutter, pack a layer of fruit and a thick layer of straw. Keep in a cool, dry place in both cases.

Prof. T. J. Burrill, who has made a special study of pear tree blight, and who believes it is caused by bacteria, that may be carried from tree to tree upon saws or knives used in pruning the trees, urges orchardists to examine closely for the first appearance of blight, which is indicated by the leaves turning suddenly brownish black, and to cut away all diseased parts, being careful to cut low enough to escape cutting into the diseased wood. Two sets of tools are recommended, one for trying the condition of the branches, and the other for making the final cutting in the sound wood. If the same tools are used for both operations, he would pass them through the flame of a lamp, or into some liquid that would destroy the bacteria. He repeatedly carried the disease to healthy trees by inoculation with the sap from a blighted tree.

Considerable grass seed is sown every autumn, some farmers taking every precaution to secure a good stand; others seemingly preferring to take all the chances, says a correspondent of the "Prairie Farmer." Sowing the seed upon wheat or oat stubble without previous preparation of the ground where the weeds and grain have made full growth, hardly warrants one in expecting a good "catch," yet many wonder at the failure. Grass seeds send up small tender shoots and their growth depends largely upon favorable conditions. The only sure way is to prepare the land by thorough plowing and harrowing. While it is always best to sow early in September when possible, nothing is thus gained if the soil is very dry; moisture is essential to germination. I prefer sowing immediately after a rain. Of course if one knows when it is going to rain it would be preferable to sow previous to the shower. Still a heavy rain washes away considerable seed, or covers it too deeply. The seed needs little covering and when possible light brushing in is preferable. Sow evenly; a good seeder will distribute better than can be done by hand.

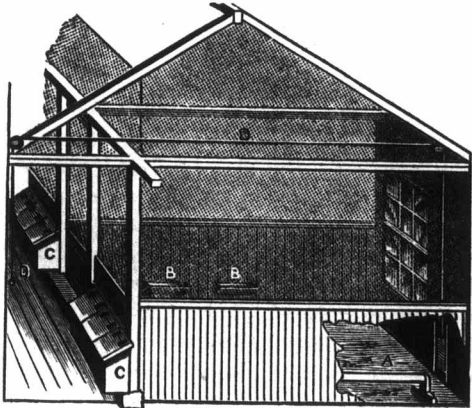
Poultry.

Mr. Wixon's Poultry House.



GROUND PLAN.

W represents windows; D, doors, fowl doors entering yards.



INTERIOR VIEW.

A, movable perch; B, movable feed and water vessels; C, nests; D, rope which is on pulleys to raise and lower exit door.

In the erection of this building every precaution has been taken to secure health and comfort for the birds—cleanliness and ventilation being a prominent part in the construction. The perches are movable; the feed and drinking vessels are galvanized iron, and the nest boxes are reached from the passage way extending the whole length of the building without annoying the birds. The floor of the pens is made of leached ashes raised twelve inches, which is a disinfectant, then on this is an inch of sand gravel, which can be readily renewed every few days. The partitions are close boarded three feet, then wire netting above this, thus giving light and air. All through the building one is struck with the air of neatness, convenience and cleanliness, the whole being heavily coated with white-wash.

(See First Page of this Issue.)

Poultry Diseases and their Remedies.

A writer in the Chicago Poultry Keeper discusses certain complaints and difficulties as follows:

ROUP.—When you have a northeast storm with damp, chilly, disagreeable weather, look out for the roup. Roup is to the fowls what heavy colds are to human individuals, and as we may have cold in the head, cold on the bowels, sore throat and other disturbances from cold, the term "roup" covers them all. Roup in some forms is contagious, while in other shapes it may exist in a flock without affecting any but weak constitutions. The first thing to do with the affected fowl is to clean out the nostrils, and every breeder should have on hand a small syringe which should be put to use early. Roup, when malignant, makes known its presence by a peculiar disagreeable odor. The sick fowl looks droopy, and a slight pressure on the nostrils causes a discharge which is very offensive in smell. Make a solution of copperas water,

and with a syringe inject some of it into the nostrils, and also down the throat. If the bird is no better in a few hours, try a severer remedy, which is the injection of a mixture of coal oil and carbolic acid. Add ten drops of carbolic acid to a tablespoonful of coal oil, and force a small quantity into each nostril. This will cure when all other remedies fail. Night and morning give roup pills (or powder) either in the food or by forcing it down the throat. Add some also to the food of those that are well.

How to make roup pills is what most persons desire to know. The basis of all roup pills or powders is asafetida. Here is the method, and by which a small quantity may be made at small cost. Take one teaspoonful each of tincture of iron, red pepper, ginger, saffron, chlorate of potash, salt and powdered rhubarb; mix them intimately. After thorough mixing add three tablespoonfuls of hyposulphite of soda and mix together well. Incorporate this with one ounce of asafetida, working it together until the whole is completely mingled, occasionally softening it when necessary with castor oil. This can be made into pills or when dry into a powder. It is of the same composition as many of the roup pills which are sold at 50 cents a box.

CONDITION POWDERS.—There are many suggestions for making hens lay, but their virtues depend upon stimulating the fowls and supplying them with materials for producing eggs. Here is a recipe, which is a good one (much better than the majority), the cost of the ingredients of which is but very little. Take of bone meal, ground meat and paroled wheat (ground) two pounds each; linseed meal, common salt, ground oyster shells and charcoal, one pound each; sulphur, copperas, common bread soda and fenugreek, half pound each; saffron, red pepper, ginger and hyposulphite of soda, one quarter pound each. Have all the ingredients in a fine condition, mix them together thoroughly, and you will have about thirteen pounds of condition powder, at a cost of less than 5 cents per pound and which is not only good egg food, but a preventive and cure for many diseases. Give a heaping tablespoonful once a day to every ten fowls, in the soft food.

LICE.—This is not a disease, but is not out of place here. To be rid of them provide a dust bath, dust the fowls with Persian insect powder, clean out the poultry houses and coops, rub the roosts with coal oil, and whitewash the buildings inside and out with hot whitewash to which carbolic acid has been added.

SCURVY LEGS.—Rub the legs two or three times (once a week) with lard and sulphur, to which a few drops of carbolic acid have been added, or mixture of lard and coal oil; but do not grease sitting hens in any manner, as it injures the eggs.

TONIC FOR FOWLS.—Iron in any shape is beneficial to fowls. Copperas is sulphate of iron, and if a little copperas is added to the drinking water, or ground fine or mixed with their food, the benefit will soon be seen in the reddened combs and healthy look. If an old pot is used in which to keep the drinking water, the gradual oxidization of the iron by the water will cause particles of oxide of iron to be given off, which will be taken up by the fowls when drinking. A handful of

nails or old pieces of refuse iron, iron filings, or even iron cinder, if placed in the vessel containing water, will more or less afford iron to the poultry. Iron is invigorating, stimulating, and assists in guarding the system from disease. Iron is in the blood of every living creature, and any deficiency thereof causes weakness or debility. The use of copperas is beneficial in another respect. It is a remedy for a great many diseases, is a good disinfectant, and a sure remedy against contagions of a certain character. Do not be afraid to use it. A tablespoonful of solution of copperas in the drinking water for a dozen fowls is sufficient, and it is cheap in price; the expense of its use is but a trifle.

MOULTING.—Moulting is simply shedding old feathers. Feed liberally, giving both the egg food and tonic. Warmth is the best remedy for diseases, especially roup. Pip, or a thickening of the membrane of the tongue near the tip, impedes breathing and sometimes suffocates, especially chicks. Clip off the end with a pair of scissors, if an extreme case, and give the bird a good mouthful of butter or lard, to which a few drops of coal oil are added. Bowel diseases other than cholera may be treated in this manner: Use castor oil for constipation, and castor oil with a drop or two of laudanum for diarrhoea. Always give clean water, free from filth.

SCRATCHING MATERIAL.—The hens should always be provided with something within which to scratch. Anything will answer, such as cut straw, chaff, sawdust, earth, wood ashes, or even sweepings from buildings. Above all things keep the hens at work during confinement, as they will remain in better health, and prove themselves more productive.

Green Food for Winter.

How to secure the necessary supply of green food for fowls during the winter is an important question to every poultry keeper. We have saved the clippings made by the lawn mower, cured them into a sort of short chopped hay, and which was eaten by the fowls during winter with evident relish. A correspondent of the New England Homestead offers the following plan: In the latter part of August, I sow a piece of rye quite thickly and by fertilizing it freely get it about 18 inches high—a green mass of vegetation. When frozen hard and just before the snow covers it, I cut it and pack it in an outbuilding where it will keep frozen. In this condition it will take no injury and be always available for use. A few moments' exposure to warm air will fit it for feed, when it is chopped fine and fed to the fowls. A free use of this rye, alternating with boiled potatoes and turnips, together with refuse cabbage, which can be had cheaply, and plenty of exercise, will always produce fertile eggs, the other conditions being right—say about 30 healthy well developed pullets with two vigorous young cockerels.—[Prairie Farmer.]

A GOOD LICE POWDER.—Grind one pound of tobacco refuse to a fine condition, and add two ounces of Persian Insect Powder. Mix thoroughly and dust over the chicks. Persian Insect Powder alone, is better, but more expensive, while a mixture of the two will often answer the same purpose, with the advantage of being much cheaper.

Veterinary.

Causes of Disease.

When a veterinary is asked the cause of any complaint, everybody knows what sort of an answer to expect—something is wrong with the stable, the food, management, ventilation, etc.; but when a scientist is asked the same question, he answers, "microbes."

It now being a well established fact that microbes are the cause of many diseases, leading to the strong presumption that these organisms are the source of all contagious and infectious diseases, it would be well to understand what these microbes are and how they harmonize with our ordinary conceptions as to the causes and effects.

Minute plants, varying in size from $\frac{1}{1000}$ to $\frac{1}{100}$ of an inch in length, have been discovered to be everywhere, floating or at rest—in the air, on and in the bodies of all animals, in the food and water, etc. They are found in healthy as well as in unhealthy animals. They are known by various names, according to their shape, or the functions they perform. Some have an attenuated, thread-like appearance, and propagate themselves by division—that is, when they attain a certain length, they separate into two pieces, each of which grows the allotted length and then divides again, and so on forever. These microbes are called *bacilli*. Others have a circular or spherical appearance and propagate themselves by spores or infinitesimal seeds, like most of our ordinary plants. These are called *micrococci*, the spores of many having strong vitality and may lie dormant for years, like the seeds of many of our weed plants. Microbes are also found in the soil, causing the decay of the vegetable matter, in which case they are usually called *bacteria*. They are the cause of all kinds of fermentation and decomposition. So much has been investigated, said and written on this subject of late years that it becomes commonly known as the "germ theory," and was much ridiculed until incontrovertible proofs were advanced to support it.

The vexed question now is: Are the microbes the cause or the result of disease? Can contagious or infectious diseases be of spontaneous origin? The strongest argument in favor of the negative is that as the spores may lie dormant almost anywhere for an indefinite period of time, they only require a favorable opportunity for their development. If this were not so, it would be impossible to account for the origin of some diseases otherwise than by spontaneous generation. With regard to those microbes which are clearly demonstrated, they are evidently the cause of the disease. The nature and effect of the germs or microbes which cause anthrax, pleuro-pneumonia, glanders, fowl cholera, and a few other diseases prevalent amongst our domestic animals, have been abundantly proved, as well as those of cholera, yellow-fever, and small-pox in man.

The microbes and their spores may be transferred from one animal to another, from the skin, or from the breath, causing the disease to spread. Each disease has germs peculiar to itself, and the aim of scientists is to discover a vaccine for all virulent diseases. The vaccine for small-pox had been accidentally discovered before the germ theory took any practical

shape. The germs can be cultivated to any degree of attenuation, producing more or less virulence at the will of the propagator, by strict attention, temperature and length of time. They can be cultivated strong enough to play havoc in a whole herd within a short period of time; they may be made so weak that they will produce no effect on the animal system, or they may be propagated so as to destroy only the weaker animals of the herd. In practice the object of applying the virus is to produce a mild form of the disease, which secures the animal or the individual, as the case may be, from attacks of the more virulent form.

Until recently the theory was prevalent that it was the oxygen of the air that caused the decomposition of meats, fruits, etc., but it is now known that it is caused by these germs. Animal and vegetable matter have been preserved indefinitely by filtering the air through cotton wool. The object, therefore, is to purify the air, not to exclude it. Who knows what is in store for us in the preservation of our meats, fruits, etc.?

Acute Gastric Indigestion in the Horse.

This results from the sudden filling of the stomach to excess, from suspended indigestion in connection with hard work immediately after a meal, from the washing in of undigested food, from a full drink after a feed of grain, from certain indigestible and easily fermented aliments, such as cause tympany in the ox, from irritant plants, and from hurried swallowing of hot cooked food.

SYMPTOMS.—These appear just after feeding and are at first those of simple colic, soon followed by fullness and tension of the belly, a drum-like sound when it is percussed, quickened, deep, oppressed breathing, dullness and increasing stupor. The pain is continuous, though of varying intensity, there is no disposition to eat or drink, draughts administered tend to aggravate the symptoms, the sufferer yawns, places his fore-feet apart, arches the neck, drawing the nose towards the breast, and in exceptional cases may obtain relief by belching gas, or even by vomiting, the food escaping mainly through the nose. More commonly the occurrence of vomiting implies rupture of the stomach and presages death. The pulse then becomes rapid, weak, and soon imperceptible, and the countenance very haggard and dejected. In the advanced stages the animal is usually sunk in stupor, and rests his head on the manger or pushes it against the wall, while in some instances nervous movements of the lips and limbs occur.

TREATMENT.—Give early, full doses of aromatics, stimulants and tonics (tincture of pimento or ginger, oil of peppermint, aqua ammonia, ether, alcohol, peppers, nux vomica, etc.), rub the belly, and if relieved, follow up with a dose of physic. Alkalies are sometimes useful, as in the ox. Warm water injections and walking exercises should also be given. The stomach of the horse cannot be safely punctured, hence the affection is too often fatal. When relieved give easily digested food frequently in small quantities, until the stomach has regained its tone. When horses bolt their food give a little hay to appease hunger before allowing grain.—[Prof. Law.

False Quarter.

This affection in horses comprises one or more clefts situated on any part of the crust or wall of the foot, and is caused by the destruction of the coronary band, the ligament of which secretes the wall. It is sometimes confounded with sand cracks, although the difference is very material, the crack being wider at the base. It is regarded as an unsoundness, as horses are liable to become lame upon injury being inflicted on the part. It may be caused by anything that destroys the coronary substance, which checks secretion of the horny matter.

It is treated by healing the wound inflicted on the coronet. This is accomplished by bringing the edges together as soon as possible after the infliction of the injury. The lips of the wound may be kept together by tow dipped in a solution of carbolic acid, then bandaging the foot. In old wounds, where the gap heals up without the edges being brought together, no cure can be expected, but the cracks may be filled occasionally with gutta percha, using a bar shoe on the foot. In examining a horse as to soundness, don't forget to wash the foot well and examine for false quarter.

Sand Crack.

This fissure may be of greater or less size in any part of the foot beginning at the coronet. It is generally found on the inner quarter of the fore and on the toes of the hind foot, and is due to an imperfect secretion of horn, making it dry and brittle. When the crack penetrates through the horny substance, lameness and inflammation are manifested. The pain becomes great, and sand and dirt find their way into the wound, producing irritation, and then suppuration and fever.

In the treatment the sources of irritation should be removed. If the edges of the crack press upon the tissue, pare them and allow the pus, dirt, etc., to escape. Remove the shoe, poultice the part, and give the sufferer a rest. A fungoid growth known as proud flesh is usually found in the crack. This should not be interfered with, as it will soon vanish. When the inflammation has ceased, put on a bar shoe, being careful to remove pressure from the part directly below the crack, done by paring part of the horn away. The upper part of the crack should be pared away from the coronary attachment, leaving no communication between the crack and the substance which produces new horn. As in false quarter, the cleft may be filled with gutta percha. The coronet may be blistered to accelerate the growth of horn.

Test for Glanders.

A bucket half full of water should be held under the animal's nostrils, and the mucus permitted to drop into it. If the substance remains on top, spreads, or dissolves, the disease is not glanders; but if the drop remains undissolved and sinks to the bottom it may fairly be assumed that it is.

I herewith enclose one dollar for my yearly subscription to THE FARMER'S ADVOCATE, although I am taking five other papers. I would not like to do without it.—ARCHIBALD RAMSEY, Hamilton, P. E. Island.

Sheaves from Our Gleaner.

Dr. A. M. Dickie suggests trial of sifted coal ashes, "perfectly dry," for egg packing, small end down and not allowed to touch each other. He has heard that they keep fresh several months when thus buried and the package stored in a place free from moisture.

The potato-beetle is now in *extremis*, and a little trouble would go a great way to finish the pest. It is the last brood which makes next year's seed, and if this be destroyed by gathering the tops when the crop is dug, with all the beetles upon them, and burning them with straw, a great many might be got rid of. Every possible means should be used to reach the desired end.

Flies lay their eggs in ordure and the larvae feed upon it. If stables are kept scrupulously clean in summer, all manure removed daily and the floors well sprinkled with gypsum or solution of copperas, and the domestic outhouses and sinks are kept clean, and all waste matter disposed of before it becomes offensive, the flies would become so much reduced in number by want of breeding places that we and our animals would enjoy comparative peace. It is a fact that where the flies abound sickness prevails.

Last year 70,000 tons of phosphate rock were exported from Canada to Britain to be manufactured into artificial fertilizers. This trade is one way of enriching Great Britain at our expense. If farmers knew the value of this material, which has often been explained in the *ADVOCATE*, they would not permit one pound to be exported to England or any other country, but would use it on their land to produce large crops of grain, beef, cheese, etc., and these could then be exported at vastly greater profits than under the present system of farming.

The wheat crop in Germany is reported to be an average one, while Austrian crops show some improvement. Hungary is ten per cent. deficient in wheat. In France there is a small shortage in wheat. England is receiving unusually heavy imports of wheat, while her farmers anticipate a crop above the average. In many sections of Russia wheat has been damaged, owing to continued drought and excessive heat. In Poland a good wheat crop is expected. The general outlook in Europe has had the tendency to depress prices, though it is yet too early to make definite figures upon the growing crops.

Bindweed, or wild morning glory, which is fast becoming very destructive in this Province, is one of the most difficult of weeds to exterminate. A writer in the "Prairie Farmer" claims to have discovered a sure cure, and has found it to work to perfection on his patches of bindweed. He fences the spot in with hurdles, turns in a number of hogs, giving them little or nothing to eat. They root up the ground and devour the roots of the weed most voraciously. The roots make a rich and wholesome article of diet, of which the hogs are very fond, and the tiniest fibres will not escape their maw. Another good plan is to plow the patch in hot, dry weather, leaving the roots exposed to the sun as much as possible. By repeating this treatment for two or three successive seasons, the weed will be completely eradicated.

In practice varieties do run out, as a rule. Let us remember that nothing in nature is stable. All varieties are undergoing modification. This extra instability in the cultivated varieties is due to the fact that the conditions we make for them are varying and constantly changing. Could we make absolutely constant conditions the varieties might be retained with considerable, if not absolute, stability. Now it happens that in practice most varieties are grown by people who do not give them as good condition as those under which they were developed, so degeneration follows inevitably. A potato fancier brings out a fine new variety under exceptionally good conditions. Now it will remain a fine variety so long as those good conditions are maintained, and no longer. This is the secret of most if not all of the degeneration of varieties.—[Dr. Charles E. Bessey in N. Y. Tribune.

A recent article in *Bradstreet's* speaking of the competition between United States and Canadian cheese during last season, says:—"Judging from the present outlook, it would appear as if the United States export trade in cheese had reached its maximum. For a long time the trade of the United Kingdom, which takes nine-tenths of the export, was entirely in our hands; but of late years Canada has become our keenest competitor, and if the exports keep on increasing from that quarter in the same ratio as they have been it will not be long before they exceed our own. The make in Canada last year was the largest ever known, and was the principal cause for low prices that prevailed at this centre. The advice to hand state that the make for the coming season over the border (i. e., in Canada) will be largely in excess of last, although the opening of the season is somewhat delayed. The progress of cheese-making in Canada in the coming year will be watched closely in America, as it is evident that the battle for supremacy will be commenced in earnest."

The "Preston Guardian" of July 18 thus refers to the Canadian exhibits at the Royal Show: There is always a lively interest manifested at the Royal Show in the exhibitions of produce from our dependencies. The Canadian Government as a rule make an exceptional show, and this year they have sent samples of produce on even a larger scale than previous years. The specimens of grain are remarkable, showing fertility of soil and heavy crops. The display of roots, too, is exceedingly good, and the show of general agricultural produce of Manitoba and the other provinces of the Dominion of Canada is well worthy of inspection. Mr. Alexander Begg, of 88 Cannon-street, has specimens of farm and agricultural produce grown in the Canadian North-West to represent the agricultural capabilities of that part of the British Empire. This is the South Pacific Railway Company's exhibit of produce from Manitoba and the Canadian North-West. The specimens shown are varied and of very fine quality. Amongst other products are samples of grain threshed and in the straw, potatoes, vetches, peas, oats, beans, prairie flowers, natural prairie grasses, coal, gold quartz. The samples were grown chiefly by emigrants on free grant and other lands along the line of the South Pacific Railway. The arrangement of the stand is exceedingly attractive, and visitors appear to take a great interest in the photographs and maps of the territory.

Correspondence.

NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but a guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. If an answer is specially requested by mail, a stamp must be enclosed. Unless of general interest, no questions will be answered through the *ADVOCATE*, as our space is very limited. 3. Do not expect anonymous communications to be noticed. 4. Matter for publication should be marked "Printers' MS." on the cover, the ends being open, in which case the postage will only be 1c. per 4 ounces. 5. Non-subscribers should not expect their communications to be noticed. 6. No questions will be answered except those pertaining purely to agriculture or agricultural matters.

Voluntary correspondence containing useful and seasonable information solicited, and if suitable, will be liberally paid for. No notice taken of anonymous correspondence. We do not return rejected communications.

Correspondents wanting reliable information relating to diseases of stock must not only give the symptoms as fully as possible, but also how the animal has been fed and otherwise treated or managed. In case of suspicion of hereditary diseases, it is necessary also to state whether or not the ancestors of the affected animal have had the disease or any predisposition to it.

In asking questions relating to manures, it is necessary to describe the nature of the soil on which the intended manures are to be applied; also the nature of the crop.

We do not hold ourselves responsible for the views of correspondents.

SIR,—I have read your article headed "Look for Ergot in Your Grasses," and will try to find it when the hay is ripe. In the meantime I will accept your kind request and give you a statement to the best of my knowledge of the disease they call *Charbon*, and how my cattle are cared for. The calves are allowed to suck all they want twice a day for the first three weeks or so. When the grass gets good they are fenced in a two-acre field with some shady trees to shelter them and plenty of fresh water. They suck all summer, but are put on short allowance when the grass gets good. They keep in good condition, and have a good healthy skin. My cattle graze on the prairie during the summer, and in the winter they get hay twice a day, morning and night, are let out to drink about eleven o'clock, and get all the straw and chaff they wish to eat from that time until they seem inclined to go in, when they are tied up until next day. If they do not want to stop out they are driven to water and tied in at once. I never had a weak cow here, and my steers are counted good for either working or for beef. I have a neighbor who's cattle were poorly housed in the winter of 1883-4. During the summer of 1884 he lost four of his cattle, one of which was so badly swollen that he supposed it to be bloated from eating soft grass, which I think is not at all likely, it being in the month of July. The natives tell us it is *Charbon*. My cattle meet his often on the prairie, hence the first question: Is the disease contagious? My neighbor's cattle having been poorly housed the winter before gives rise to the second question: Are cattle that are too much exposed to the cold in winter more liable to it than those that are well housed? The cow I lost was two years old in the spring. She died in the middle of August, and was in high condition. She was to have her first calf in the month of April, 1885. On the day she died she was found lying close to the house about 10 o'clock, after the rest had gone to grass. When made to get up she refused to walk or eat. There was a swelling on the right side, between the hip and the ribs, extending towards the back bone, about the size of a soup plate, and somewhat the same shape. We sent for the old cow doctor of the district, and he said it was a case of *Charbon*. He scarified the swelling in two places, and rubbed alcohol and camphor in, which seemed to give her ease and hindered it swelling so rapidly, but the heifer was dead at two o'clock next morning. The flesh in the vicinity of the swelling was very dark colored, and after death a thick black fluid came oozing from the mouth and nostrils. Any information from you or your subscribers will be thankfully received. J. K.

St. NORBERT.

[The disease is *Charbon* or *Anthrax*, and is contagious only in the fixed form, it being communicable to the horse, ox, pig, sheep and man by inoculation. Animals running with diseased ones are not liable to contract the disease. Animals either in too poor or too plethoric a condition, and especially when raised too tenderly, if exposed to the same influences, such as decomposing animal or vegetable matter, running in low damp pastures in hot months, or in morasses or stagnant pools of water, are most liable to the disease. Except in its very early stages treatment is generally unsuccessful. Give a light purgative, as linseed oil one pint, turpentine one ounce, followed by stimulants, as ale, wine or whiskey. It is also recommended to place a seaton in dewlap. Foment the swelling with very warm water; afterwards dress with equal parts of turpentine and oil.

Sir.—The farmers around here are trying to get up a sort of mutual fire insurance company among themselves, confined to a limited number, say 300 members. Can it be done legally without a charter? If so, please give us some hints as to rules and regulations. E. M. GALLINGSTOWN, ONT.

[It can be done legally without a charter. The statute bearing on the question is so voluminous that we cannot even attempt to epitomize it satisfactorily in our limited space. We therefore refer you to the Revised Statutes of Ontario, Chapters 160 and 161.]

Sir.—Will you kindly give me some information in regard to making sugar from the white beets, which I have growing now and are doing well at present. Do they require pulping and pressing the same as cider apples? If I can make it a success there will be others try it another year, so by giving the information required you will much oblige other subscribers to the ADVOCATE in this locality as well as myself. J. P. TREHNER, MAN.

[There is no simple method by which you can make sugar from beets; the process is extremely scientific, requiring great skill and expensive machinery to express the juice from the beet, and conduct the other departments of manufacture. Much less than half of the world's supply of sugar is made from the beet, between 60 and 70 per cent. being made from the cane, and it is doubtful whether or not the beet will be able to compete. A certain variety of beet may do well in your locality, but it is absolutely necessary that the variety which contains the highest percentage of sugar should flourish. The sugar business is much dilapidated just now, and the article can be manufactured so cheaply in other countries which possess all the necessary facilities that we cannot compete at present. But there is a bright future for us in this industry.]

Sir.—I have a mare three years old. She is pastured and fed like my other horses. She is broken to harness and worked very well for a long while, but last spring, when harrowing with her and another, she began to rear and plunge, and ever since, whenever she is in harness, either single or double, she rears and plunges so as to be useless. Will you be good enough to let me know some plan or treatment by which the mare can be cured of this vice? R. W. SUNBURY, ONT.

[First decide whether the rearing and plunging spring from viciousness or fear. If from the former you must let her know who is master of the situation without harsh treatment, and if from the latter you should gradually accustom her to the objects which cause the fear, treating her with great gentleness. The mode of treatment must be suited to the peculiar temper of the animal, and the circumstances under which the eccentricities are manifested. If the mischief is only displayed in the harrow, tie a strap or piece of rope to the girth, letting it pass between the forelegs and attaching the ends to the rings of the bit. This will act as a martingale and prevent rearing. If the plunging is very bad, and especially if the animal insist upon backing up, you should attach a temporary tongue to the harrow, using the neckyoke, as in a wagon. If the rearing and plunging take place on all occasions, just break her into such work by which you will have the greatest control over her, such as the wagon, and if you are a good saddle-man, you should first break her in to the saddle thoroughly. In some cases the animal should be unhitched as soon as it commences to pranks, and put right into the saddle, if it can be best controlled in this way, and then be put immediately into the harness again. Plenty of regular work is a good remedy.]

Sir.—My black currant trees, for the last year or two, have borne very little fruit, and that of rather an inferior quality. The trees have grown vigorously enough and have plenty of top, and I have thinned them out occasionally. They are in rich clay loam, and have been manured and well cared for, but still do not bear much fruit, and the fruit has not as much juice as it ought to have. The ground is rather hard, and we have only cultivated with the hoe, on account of the roots, which run very near the surface. Can you give me any idea of the probable cause of the partial failure in bearing? For the last four or five years we have only gathered a quarter of a crop. The trees throw out a great many suckers. W. W. FORT ROWAN, ONT.

[It would be very difficult to say why your bushes bear so meagerly without seeing them. It may be that, in thinning, you have cut out too much wood. In order to bear well, the wood should be two or three years old. Black currants are very irregular in their bearing qualities, which cannot always be accounted for by our best fruit men, although they give them every attention. None of the varieties grown at present are always reliable. Our leading fruit men are now using their utmost endeavors to obtain a reliable variety, and, should any be found, it will be some time yet before it can be thoroughly tested.]

Sir.—Thanks for your kind reply to my query re treatment of alkali lands in your July issue. I have set apart two acres of land on which to experiment as you suggest, and shall have pleasure in communicating the results in detail to you. As my experience of agriculture has been hitherto confined to tropical land, will you be good enough to inform me what "land plaster" is, how it is to be obtained, &c. Do you know anything of Barbadoes marl? If so, how is it in relation to the "land plaster" of Canada? As regards the "booming" of alkali lands here, no one who has had any experience of Manitoba has seen an ordinary, much less a large yield from these lands, with the usual means of cultivation. My lands have been subjected to breaking in spring of '83, backsetting in fall of '83, backsetting in fall of '84, being sown in spring of '84 and '85. The spring of 1884 produced an odd spear here and there about four or five inches high, which got red about the first of July and seemed to die then. This spring precisely the same success attends, only the spears grow somewhat stronger and thicker. R. S. G. MELITA, MAN.

[Land plaster, or gypsum, is a sulphate of calcium, or a union of lime with sulphurous acid, and about 20 per cent. of water. When heated so as to expel the water, it is called Plaster of Paris, and is then used for casting, plastering and cements. It is the cheapest means of supplying sulphuric acid to the soil. It is found in beds, and is very soft and easily quarried. It is kept by most dealers in fertilizers, whose names you will find advertised in your agricultural papers. You had better write to as many dealers as possible, stating the quantities you want, and they will quote prices. All marls are a carbonate of lime, except as to the impurities they contain. Lime in the form of the carbonate is unsuited to your purpose, being too hard until the carbonic acid is driven off by burning, leaving the pure lime. The difference between lime and plaster is that the former only supplies lime to the soil, while the latter supplies both lime and sulphuric acid. Thanks for your remarks about the alkali lands. We hope you will send us accurate reports of your experiments.]

Sir.—Could you, or some of your numerous readers, give me, through the columns of the FARMER'S ADVOCATE, the pedigree of a stud horse called Anglo-Saxon, that was advertised to travel by rail between London and Montreal, about twenty years ago, and where said stud served mares the following year? You will oblige yours, W. E. SMITH. NEW HAMBURG.

[Anglo-Saxon was got by Bond Eclipse, sired by Anglo-American (imported). After travelling on the cars he made several seasons in Middlesex, Oxford, and in Kent. He died in Prince Edward Island at the age of 22. If anyone has any of his descendants, either horses or mares, at the present time, at all approaching the standard of Anglo-Saxon, they might do well by reporting them at this office.]

Sir.—Would you kindly answer a few questions in your next issue, about the working of a creamery. Is the building, machinery, etc., expensive? Does one require a practical knowledge of the business? Is it usual to buy all the milk, or just the cream? What is the usual price paid? Is it a paying business at the present time? Would be thankful for any further information that might be useful. W. C. W. MITCHELL SQUARE, ONT.

[We are getting an illustration of a model creamery prepared for our next issue, with machinery required, cost, etc. You should first thoroughly study the principles, which you will find in the ADVOCATE, and then you should spend a few weeks with some practical maker of creamery butter. The usual practice now adopted is to buy the cream, paying for it the lowest price you can bargain for—usually the local market price per pound of butter for every 113 cubic inches of cream. It is a paying business both for the farmer and the manufacturer. You will find further particulars by reading our recent issues and in our next issue.]

Sir.—Will you or some of your numerous readers give me a preventative or a cure for lice on swedish turnips. They come on mine about the first of September. I have had acres of turnips destroyed with them. It is not worth while for me to describe them, as their ravages are felt more or less throughout Ontario. R. C. CAMPBELLFORD, Ont.

[Various remedies have proved effectual, but slug-shot which can be procured at most of the seed stores, is sure death. Many farmers sprinkle on lime, plaster, flour or bran—all of which have produced good effects. When the seed is planted thin, the damage by the insects is always greater.]

A prominent gentleman in this city recently received a letter from an English friend now living in Hutchinson, Kansas, U. S., and asks us to reply to the following extract from it. We do so through our columns with pleasure, as it is a fair specimen of the numberless falsehoods which are being circulated concerning our country

by wretched individuals and soulless corporations which are interested in immigration booms. The following is the extract:—

"I am still thinking of coming to London, but should like to know a few matters that I am cautioned about before taking the step. I am told that the ground is difficult to cultivate owing to the stumps of the forest trees being left in the ground, and it requires a boy's whole time to cut off the shoots. Another thing I am told is that Indian corn cannot be grown in Canada as here for 10 or 12 years in succession without manure. That the severity of the winters, from October until the beginning of April, is great, and there is great difficulty in getting water for culinary and other purposes, the pumps and wells being frozen. Besides, grapes cannot be grown out of doors as they can be grown here. Will you kindly tell me if these things are true, and whether much fruit is grown or able to be grown about or in Ontario."

[The stumps have been cleared from the London district, as well as from most other districts of the Province, many years ago, and when stumps did exist, there was no trouble whatever about the "shoots." Indian corn flourishes as well here, and especially in southern Canada, as in any part of the United States, but it is not grown so extensively, simply because more nutriment and valuable crops can be grown with less labor and more profit. No farmer here has ever experimented in growing crops 10 or 12 years in succession without manuring, for it is not the practice of our farmers to exhaust their soil as rapidly as possible, and then "go west," as is the case with American farmers. Our soil will stand as much cropping as any under the sun. Any expert can easily determine this by examination, and there is less waste land in this Province than on any other territory on this continent of equal size. There is a stiff clay in some sections; but this is regarded as one of the greatest advantages, for, when drained, such land is the most productive and the most profitable. There is an abundance of pure spring water on every farm, and it is a very rare occurrence to find wells or pumps frozen. Grapes flourish everywhere in the Province, and some sections are especially adapted to their growth, and the same remarks will apply to all fruits pertaining to the temperate zone. Some winters are undoubtedly severe, but our average winter is a real pleasure to foreigners as well as natives.]

Sir.—Please be kind enough to answer in your next issue if I hire a man for a year, with nothing said about holidays, how many would he be allowed to take? ST. GEORGE, ONT. A SUBSCRIBER.

[He is entitled to legal holidays only, viz.: New Years, Queen's Birthday, Dominion Day, Thanksgiving Day and Christmas.]

Sir.—Which of the ordinary grains grown on the farm makes the best food for cows when quality of the milk is the object arrived at? A. J.

[We suppose you mean which grain will produce the largest percentage of butter fats. This question is surrounded by difficulties on every side. Food fed to some breeds will produce more fat, but less butter than when fed to other breeds. A great deal also depends upon the other food in the ration. Some people think that foods rich in fat, such as corn, will make fatter milk than those rich in albuminoids, such as peas, but this is a mistake, as the albuminoids change into fat. It is not yet definitely known to what extent these transformations take place, and they vary with the different breeds and kinds of food given. We will discuss this question at length in a future issue.]

Special Notice to Correspondents.

We have received several specimens of weeds to be identified by us, there being in many cases little more than a leaf inclosed in the envelope. While some plants can be identified by the leaf, we don't wish to stake our reputation by making a practice of doing so. The whole plant should be sent, and if it cannot be conveniently folded into an envelope, it should be placed between two pieces of paste board and sent by parcel post. It will then only cost one cent for each four ounces of its weight. While we desire to accommodate all our correspondents as much as possible, yet in some seasons of the year it would be impossible for us to publish all the letters we receive. Our correspondents should do us the favor of reading this column every month so as to avoid the asking of questions which we have repeatedly answered. Other correspondents, whose questions are not answered, will generally find the information they require in some other part of the paper. We want all the questions we can get, providing they are pointed, sensible and of general interest, and they must relate to agricultural matters only. Any letters reaching us, which comply with our conditions, but are not answered in this column through oversight of ours, will be answered by post.

The Household.

Ennui: Its Symptoms, Causes, and Cure.

BY A FAMILY DOCTOR.

It is only of late years that the symptoms I am about to describe have been dignified by a specific name; and even now, so far as I know, the term *ennui*, as a distinct ailment or disorder, has not found its way into books on medicine. Physicians fight shy of describing it; they seem rather ashamed of it than otherwise, and feel a very human inclination to quietly laugh at or pooh-pooh it. But, nevertheless, they treat patients for this ailment every day. They do not consider it, as a rule, a deadly disease; it occasions medical men no distress of mind; it is never a subject for carriage meditation. So far, so good; and much more could be said about doctors and the treatment or consideration of *ennui*, which I leave to be inferred. However, there the symptoms are, distinct enough, and no doctor would attempt to deny: first, that they are really distressing; and secondly, that may, and often do, lead to something far worse. These two reasons form my apology for devoting a paper to this peculiar ailment.

The symptoms of the complaint differ, from a simple feeling of weariness or "boredom" to downright depression of spirits, or even melancholy.

It is also periodic in its character. Patients themselves say their ailments come and go according to the state of the atmosphere. It is no uncommon thing to hear people talk about being "under the weather." Well, the weather, like that unfortunate organ the liver, has to put up with a deal of abuse. But nervous people are far more easily affected by atmospheric changes than others.

The symptoms of *ennui* are so numerous, and vary so much with different individuals, that I need merely summarise them, and that itself I can only do imperfectly. They are those of nervousness and debility combined. Their periodicity even adds to their distressfulness. The sufferer or patient is well and happy one day, and weak and peevish the next, or may continue ill for a week or a month, then suddenly brighten up, only to relapse once more into the old condition in a short time.

And yet all the while he or she may be unable to point to any particular organ as the aching one, or say where the trouble lies. Some sufferers consult medical men; these are the cases in which bodily symptoms are in the ascendency: where there are stomachic troubles, flying pains, headache, &c. Others suffer without seeking for aid; in such cases the mental miseries are worse than the bodily. They do not care to call in a medical man, or even consult him in his house. I have known a person so afflicted to send for a doctor, and then refuse to see him.

But the rule is for the sufferer from *ennui* not to seek for skilled advice at all, though he may readily enough tell his troubles to a friend, and probably actually feel pleased to know that there are other people in the world who are just as bad as, and even worse than he is.

I think myself that the case is bad enough, and deserves commiseration, when a man feels

really ill—bodily and mentally ill—and yet cannot summon up the resolution to consult a physician.

It is in the very nature of his complaint to despair of relief.

"What would be the good," he says to himself, "of consulting a doctor? That would be giving in altogether. I don't want to consider myself actually sick. The doctor might do one of three things; he might laugh at me, or he might be too polite, and merely give me a lot of good advice and a lot of physic and stuff, the former of which I should forget, and the latter pitch away; or, worst of all, he might discover some hidden disorder that must soon prove fatal, and tell me so, for some doctors have a nasty way of 'putting on the black cap.' Besides, I believe my troubles are all fancy, or I'm over-worked or over-worried. I must bear up. It will all come right in the end, though I must confess I feel a miserable wretch."

A person of this kind is always going to do something, always going in for something, but in most cases his good resolutions never lead to anything very practical. The truth is, he wants guidance.

A distressing symptom is that mentioned by the old physician from whom I quoted: bad sleep and restless nights. But this is not always the case, for if bile predominates in the blood, or if the blood be insufficiently aerated from want of exposure during the day to a free current of wholesome air, there is a lethargic, thick-headed kind of sleep, which passes the weary hours of night away after a fashion, but does not bring much refreshment.

The causes of *ennui* are manifold, and differ in different cases. I believe that in the vast majority of instances the patients themselves know a good deal more about the cause of their ailment than any doctor could, for I do not believe there is a man, or woman either, who is so ignorant as not to be aware that direct disobedience to the ordinary laws of health must entail bodily trouble, and even mental torture of some kind, sooner or later.

"*Ennui* is often caused by idleness," so we are told, but I, for one, do not believe that idleness alone produces *ennui*. Let me here explain that the ailment is not a mere whimsical one: it has its seat in the brain, and I maintain that, from the very day it commences, changes in the brain-matter of a physiological nature have already begun. Idleness alone will not produce this changed condition of cerebral matter.

Take a healthy man, and throw him into a dungeon for years, you will not induce the disease we call *ennui*; no—he will make a companion of a spider or mouse, or he will plait straws, or construct puzzles therefrom; but depend upon it, he will find employment of some kind, and in that employment pleasure. But if you were to over-feed him, why, then you would have *ennui*, and the case might end in madness.

Ennui—I speak advisedly and from experience—is a disease of the temperate zones and civilised peoples. Among the languid, idle inhabitants of the torrid zone, it is unknown. Among the hardier and harder inhabitants of the far north it does not exist. And why? Because the latter, although they may live as high as we do, take more exercise, and breathe a

stronger air, while the former are free from it owing to the abstemious nature of their diet.

These facts—and facts they are—almost alone suggest a cure for this peculiar ailment of "advanced civilisation." And I might add that the simple natives of the torrids do not drink tea or coffee, or smoke to the extent we do.

And now, what am I to say about the treatment of this complaint? Nothing individually, that is obvious. Shall we seek for a panacea in the Pharmacopoeia? Alas! there is none. And yet I do not bid the sufferer despair. On the contrary, I preach hope. At present he may see all things dark and dim, as through a glass; it is in the very nature of his complaint so to look at matters. He must take heart of grace. Shall he make an attempt to shake off his trouble? No; the effort would end in failure and further exhaustion. But I will not have him sit indoors gazing outwards at the gloomy weather, and inwards at the gloom on his own mind. Without actually forcing himself to any great exertions, either mental or bodily, he must not sit idle and worry. He cannot force a cure; he may induce one, though, by degrees.

If he believes that the ailment from which he is suffering is to a great extent a blood disease, he will have made a good start towards recovery. He must get his blood purified. He must live abstemiously, eat but little, especially if weak. The mistake weakly people constantly make is forcing into their systems food which cannot be digested, and continues to poison the blood; or they drench themselves with tonics, in doing which they are but breeding heat and fever; or they take stimulants. This last is almost a fatal mistake, for the brain of one suffering from *ennui* is far too weak to bear stimulation. By-and-by, when the sufferer feels lighter, happier, and more hopeful, then tonics may be begun most cautiously—mild vegetable tonics first, with cod-liver oil.

The cure will be complete only after months of living by rule, the daily use of the bath, and all the healthful exercise possible, with—this is a *sine qua non*—something to occupy, without harassing, the mind.

Ammonia Cheaper than Soap.

Ammonia is cheaper than soap, and cleans everything it touches. A few drops in a kettle that is hard to clean makes grease and stickiness fade away, and robs the work of all its terrors. Let it stand ten minutes before attempting to scrape off, and every corner will be clean. It cleans the sink and penetrates into the drain pipe. Spots, finger-marks or paint disappear under its magical influence, and it is equally effective on floor and oil-cloth, though it must be used with care on the latter, or it will injure the polish. There is nothing to equal it in cleaning the silverware, and gives it a higher polish and keeps clean longer than anything else. If the silver be only slightly tarnished put two tablespoonfuls of ammonia into a quart of hot water, brush the tarnished articles with it and dry with a chamois. If badly discolored, they may need a little whitening previous to the washing. An old nail brush goes into the cracks to polish and brighten. For fine muslin or delicate lace it is invaluable, as it cleans without rubbing the finest fabrics. Put a few drops into your sponge, bathe in hot

water and you will be astonished at the result, as it imparts coolness to the skin. Use it to clean hair brushes, and to wash any hair or feathers to be used for beds or pillows. When employed in anything that is not especially soiled use the waste water afterward for the houseplants that are taken down from their usual position and immersed in the tub of water. Ammonia is a fertilizer, and helps to keep healthy the plants it nourishes. In every way, in fact, ammonia is the housekeeper's friend.—[Ladies' Home Journal.]

Effect of the Imagination on Health.

The case of Dr Taft, of Hartford, who was informed by eminent physicians that one of his lungs had been destroyed by disease and that he could not live six months, but who did not believe it and lived on comfortably till 60 years of age, leads the *New York Hour* to comment on the frequent blunders about certain internal maladies and the effect of imagination on the physical health:

It can not be doubted that every year thousands of people are frightened into their graves by unfavorable reports on the condition of their lungs. Each vital organ has disorders and weaknesses peculiarly its own; and the lungs have their full share. Pain in the chest is always attributed, by persons afflicted, to diseased lungs, and the influence of the imagination upon the vital organs is so powerful that the malady may be quickly increased. There are some forms of malarial fever which induce terrible aching in the chest. The victim, knowing nothing of pathology, or even of physiology, attributes the cause to either pneumonia or consumption, and begins at once to break down. Consultation with an ordinary country practitioner usually verifies his fears, and unless he dines at a well-spread table and has a good appetite—which seldom accompanies malaria—he either gives up and dies or he hurries away to a health resort for consumptives.

Heart disease is another popular humbug which physicians too often support. The heart is the most vital of the physical organs, but, like all the others, it can and does endure a great deal of abuse. It is very easily affected sympathetically, so any temporary disorder of the stomach, lungs or liver may make its action irregular or cause pain which seems to be located directly in the heart. Almost any one has many acquaintances, apparently healthy, who have told them in strict confidence that they have heart disease. A well known physician had a son whose heart, tested by every appliance which professional skill could suggest, seemed terribly diseased, so the youth was for ten years treated as a delicate invalid. Finally his father noted that the paroxysms of pain, followed by extreme exhaustion, always came after meals, which either were extremely hearty—the patient's appetite being fitful—or after repasts, the viands of which were incongruous or very rich. He immediately changed his treatment, sought the malady in the stomach instead of the heart, found it was indigestion, acted accordingly, insisted upon regular meals, with plenty of nutritious but plain food, and the heart disease disappeared as if by magic.

It should be remembered by the afflicted or the frightened that all the vital organs are out of sight, and that the extreme of skill and ex-

perience can only imperfectly ascertain their condition. The kidneys are the only exception to this rule, for their condition, for the time being, can be judged to some extent by what comes from them. But even this test may be misleading, and it is the means of a frightful amount of abuse of the feelings and pockets of quacks and unscrupulous regular physicians. The excreta of the kidneys is uniform only in persons whose habits of eating, drinking, sleeping, bathing and working are absolutely regular.

The natural deduction from all this is that no person should give up to fears regarding the heart, lungs, or any other vital organ until he has first tried the effects of absolutely regular and intelligent physical habits. Plenty of well-cooked food, few or no stimulants, regular rest, frequent bathing, and either easy work or plenty of moderate physical exercise, have in a short time restored to health thousands of persons who have been given up to die of vital disorders. Such treatment costs no more than the ordinary methods of life, and as soon as fairly begun it becomes very pleasant. Beyond doubt it is far preferable to dying of fright.

School "Composition."

One of the lions in the path of every girl or boy is the weekly school composition. What to write about, and how to write it, are questions which perplex their inexperienced brains more than all the lessons set before them. Perhaps they may find a useful hint in a story which is told of an exhibition once given in a grammar school at Helston in England.

Some of the great men of the county were present, and listened, civil but weary, to essays by the boys on great political and historical subjects, in which the facts and ideas were necessarily borrowed from books, and re clothed in their own turgid language.

At last, a bony, awkward boy, who stammered badly, handed in a paper which proved to be an account of his last half-holiday, which he had spent in the fens and on the beach. It was the simplest of all records. Nothing had happened to him which might not happen to any boy every Saturday in the year. But he described the rocks, the wild fowl, the fish, and the people whom he had met, with keen, accurate strokes, and attempted to describe nothing which he had not seen and accurately noted. The other boys laughed contemptuously, but Bishop C— drew the tutor aside.

"There is great promise in that lad. Who is he?"

"His name is Charles Kingsley," was the answer.

Dickens never introduced into his books a place or a person that he had not seen. His chief success came from the strength and accuracy with which he described London and the minute countless phases of condition and character in it, which he studied in every season and every hour of the day. A sketch on his thumb-nail or cuff would suffice to bring home a face or scene, to live again in his next book.

Tennyson tells us that whenever he saw a striking landscape or change in Nature's face, he did not leave the spot till he had found the words which exactly described it, and had written them down.

No author ever succeeded in interesting a

reader who was not acquainted with the subject of which he wrote and thoroughly interested in it.

In your school "compositions," then, which are the beginning of authorship, choose ground which you have trodden with your own feet. You will be able to put more strength and feeling into a history of your pet dogs than into a history of the Cæsars, and will show more originality in an argument on affairs of the school than in one on complications in Europe. In a word, talk of what you know, and the "composition," instead of being an echo of other thinkers, will become a genuine individual utterance.

How to be Acceptable.

If we could only impress upon all mankind the fact that a sacred duty, which devolves upon each individual, is to keep himself or herself pure, sweet, and acceptable to those about them at all times, we should feel that we had accomplished a work of priceless value. Of course, we cannot do this, nor can we expect to influence any large proportion of the people in the direction of that cleanliness which so nearly approximates to godliness. But we do stimulate a select few to greater care of themselves, to greater consideration for the tastes and feelings of others; and in this we have a sweet and lasting reward.

Thousands of our young readers will by-and-by reflect that to our teachings they owe something of their good manners, not a little of their good morals, and very much of their good habits, and they will, some way, thank us for our earnestness in their behalf. So we remember that when we preach temperance, and cleanliness, and a life of thoughtful purity, we are teaching our readers an all-important lesson, and one which cannot be too early learned. There is a great deal of selfishness in the world, and this trait is manifested in nothing more than in personal habits.

No Homely Girls Necessary.

Mr. Ruskin said disagreeable things about women's brains and the female sex in art and literature in his younger days, but he has lived long enough to know better, and take most of them back. He is adored by women now in his old days and has many correspondents among young ladies. Some of them wrote him a letter asking: "What are plain girls to do?" Mr. Ruskin answered right gallantly. He told the young ladies that girls who are well bred, kind and modest can never be "offensively plain." Whatever the shape of a girl's mouth may be she can refine it by culture and sweet bright thoughts till it ceases to be unattractive. She can not make her ears smaller, physically speaking, but any girl can make herself graceful and attractive in manners if she give her head to it. By genuine kindness and good temper, by cultivating her intellect, by studying what is best and brightest, acting on her woman's natural impulse to please, she can come to have such winning ways that nobody will think of her as not beautiful. Mr. Ruskin is right. There need be no homely girls.

There have been many definitions of a gentleman, but the prettiest and most poetic is that given by a lady. "A gentleman," says she, "is a human being combining a woman's tenderness with a man's courage."

Destiny.

It is when men having nothing higher than themselves to believe genuinely in that they attach the most importance to such odds and ends of circumstance as the flight of a bird, or the falling of a leaf, or the blaze of a meteor, or the emphasis with which a particular word is accidentally spoken in the ears, and call such things the indications of destiny; whereas, if there be a destiny at all, it must be through the command of a Being who is able to see and determine the end from the beginning, and to help us much better through the heart than through the eyes.

To Alleviate Pain.

Take a pan or shovel with burning coals and sprinkle upon them common brown sugar, and hold the wounded part in the smoke. In a few minutes the pain will be allayed, and recovery proceed rapidly. In my own case a rusty nail had made a bad wound in the bottom of my foot. Pain and nervous irritation were severe. This was all removed by holding it in the smoke for fifteen minutes, and I was able to resume my reading in comfort. We have often recommended it to others with like results. Last week one of my men had a finger nail torn out by a pair of ice tongs. It became very painful, as was to be expected. Held in sugar smoke for fifteen minutes, the pain ceased, and it promises speedy recovery.—[Tribune and Farmer.

Aprons.

As fancy aprons are very fashionable this season, I have been looking around to see how some of them were made. The variety is great and most of the aprons are very pretty, and many kinds of goods are used; scrim, all kinds of muslin, both figured and plain, linen, fine crash, pongee, mull, surah, and all kinds of silks.

I will describe a few of them, first the Mother Hubbard. Take a straight piece of goods, of any kind you choose, hem it across the bottom, sew on some lace that has been gathered a little. Turn the top of the apron down one inch, three quarters of an inch from the top, gather it with a thread, half an inch below, gather again, and then once more same distance down; draw the threads up and fasten, leaving the top about thirteen inches wide. Stitch the gathers evenly on to a band laid on the under side; fasten it round the waist with ribbon; tie at the side, or in place of the ribbon you can make ties of same material as the apron. If you want pockets, make square ones, gather top and bottom to match top of the apron; put bows of ribbon on them.

Those of our readers who intend to have a winter window garden should lose no time in getting up their plants for the purpose. Taken out of the ground thus early they have their roots well set by the time they have to be removed indoors. Beginners had best start with two or three plants at first, and, as experience is gained, each autumn increase their stock. Letters on the care of plants and varied experiences with them would much increase the interest of our correspondence department. All are not flower-lovers, but it is safe to state the majority of girls are, and very many boys, and such we need not ask a second time to try window gardens of their own.

Family Circle.

LOVE OR MONEY.

"No, sir, I can't say yes to any such nonsense," said Mr. Philbrick, "old back Philbrick"—all the irreverent youngsters of Hartley Corners called him. "Why? Simply because my niece can do better. Isn't that a good reason? I think it one of the best reasons. Good, better, best. You may be a man to make her happy, therefore a match with you would be a good one. But the man I have in view for her would not only make her happy, but he's got something besides his head and hands to live on. Therefore a match with him would be a better one, don't you see?"

"No, I don't see it so," answered Mark Anderson, "because she loves me, and not the man you've set your heart on her marrying."

"Love! Fudge!" exclaimed Bachelor Philbrick, disdainfully. "I have lived twice as long as you have, young man, and I never was in love."

"Were you ever in E. gland?" asked Mark.

"No, and never want to be," answered Mr. Philbrick.

"Then why aren't you logical, and argue because you never were there, that there is no such place as England? You might just as well do that as to pretend there is no such thing as love because you never experienced it."

"I don't want any words with you," responded Mr. Philbrick. "I won't have any. You're like a lot of other young men of these days; you think you know a good deal more about matters and things, as what's for the best, than a der heads do. I calculate to look out for my own affairs yet a while, and for Kittle's also. She's a self-willed, obstinate girl, and I mean to convince her that she's foolish in listening to your fol-de-rol. You needn't try to convince me that I am wrong, for you can't do it. I am not one of the kind to be bamboozled when my mind is made up."

"I am sure that I have no intention of trying to bamboozle you," answered Mark. "I have your niece's promise to marry me. It would be much more agreeable to her and me, if we could obtain your consent to our marriage. But, if you choose to refuse it, for no better reason than you have yet given, we shall marry without it, sir."

"Eh! What's that?" exclaimed Mr. Philbrick. "My niece marry you against my wishes? If she does she shan't have a cent of my property. Not a cent, sir."

"I don't know as she wants any of it," answered Mark, proudly. "I have two strong arms to work with, backed up by a big heart, and I'll see that she doesn't come to want."

"Oh, fiddlesticks!" exclaimed Mr. Philbrick, with infinite contempt. "That's all nice enough to talk about now, but wait till you have to get down to real hard work, and grub for a living. Then you'll sing a different song. Why, hang it all, young man, don't you see that I am considering your welfare, as much as her's, in withholding my consent to this foolish plan of yours?"

"I am greatly obliged, I'm sure, for your great and sudden interest in me," answered Mark, with keen sarcasm. "I have great respect for age and the wisdom belonging to it, but not enough to ignore my own conviction, and be guided wholly by the opinions of others, especially when they are not backed by better reasons than any you have given me."

"That's as much as to say, I suppose," said Mr. Philbrick, wrathfully, "that you snap your fingers at me and my opinion?"

Mark made no reply.

"You can do as you please about it," added Kittle Philbrick's niece. "She's her own mistress. If she is fool enough to throw herself away on a poor young man, when she can have her choice of the two richest ones in town, she can do so for all of me, but she must understand that she won't ever handle any of my money."

"Your money is something that has never been taken into consideration by us," said Mark.

"Oh, no, I suppose not!" sarcastically. "No, no, of course not! But I thought there would be no harm done in giving you to understand what to expect, or rather what not to expect, from me."

"Mr. Philbrick, I am not the man you take me for," answered Mark, proudly. "If you know me better you would never insinuate that possibly fortune was what I looked at in wishing to marry your niece. I want her because I love her, and she loves me. But your mind is made up, and there is no use in wasting words about the matter. Good afternoon, sir!"

Mark bowed himself out.

"I must say I like his grit," admitted Bachelor Philbrick, as the young man went down the walk. "But the idea of marrying for love, when there is money to be made in the transaction! Stuff and nonsense!"

Two days later Kittle came to him with traces of tears on her pretty face, but a look of quiet determination showed through.

"Uncle John," she said very calmly, but in a tone that told her mind was fully made up, "I am going to marry Mark Anderson next Sunday."

"Just as you please," answered her uncle. "It don't concern me any, but I must say you're a fool in taking up with that fellow when you could have Scire Askham or Lawyer Goodsell if you'll only say the word."

"I wouldn't marry either of them if they were the last men on earth," declared Kittle, bravely. "I am going to marry Mark and I know we'll be happy; and I do wish, Uncle John, that you would look at it as we do, and come and visit us after we're settled."

"Don't go to asking people to visit you on nothing a year," responded her uncle.

Then he walked out of the room.

Mark and Kittle were married in a very simple, quiet fashion, and went house keeping in a pleasant little place a few miles from Hartley Corners. Uncle John sent over all her things by his hired man, but did not go near her

himself, or send her any word that told her he had concluded to accept, and make the best of the inevitable.

"Well, if he chooses to cherish a grudge for what we have done, so be it," said Kittle. "I am satisfied."

"And I hope you'll never have cause to be sorry for it," supplemented Mark, kissing his wife's rosy cheeks.

"I am sure I never shall," with her head upon her husband's shoulder, in an attitude of perfect content with her life and its outlook.

"I heard some bad news to-day," announced Mark one evening. "The bank in Glovertown has failed, and your uncle must have lost every cent he had there."

"Poor Uncle John," said Kittle. "He always kept his money there, so he must have lost everything. Isn't there any prospect of his saving anything?"

"None at all," answered Mark. "I'm sorry for him. It must be hard to be reduced to poverty in old age, especially through the dishonesty of men you have trusted."

"I'll tell you what I'm going to do, if you are willing," said Kittle. "I'm going to write to him and ask him to come and stay a while with us. I'll tell him that we hardly felt like doing this before, for fearing he'd think we wanted to effect a reconciliation on account of his money. Now he can't think that of us."

"I'm willing, of course," assured Mark. "I'm too happy to feel sore over what he said to me when I asked him to consent to our marriage. Tell him I'd like to have him come."

So Kittle sent her letter.

About a week after the stage stopped at the gate, and who should Kittle see clambering out of it but Uncle John.

"Oh, I'm glad you've come," she cried, running to meet him. "I was afraid you wouldn't." And Mark will be glad, too. We don't think a difference of opinion ought to prevent our being friends."

"No, of course not, since you had your own way," replied Uncle John gruffly.

But Kittle knew his way well enough to feel satisfied that he was really glad to visit them, and consequently she felt very much elated.

"Well, I must say you look tolerably comfortable here," he remarked, after he had looked the premises over.

"Of course we haven't been able to fix things up yet just as we'd like to," answered Kittle, "but the crops are looking well, and Mark feels sure there'll be enough to turn off to make a payment on the place this fall."

Before Mark came into supper Uncle John was quite at home, and he greeted his nephew cordially.

"Thought I'd come over and stay a few days," he remarked. "Since that bank smash-up, I've been thinking of quartering myself on my friends, you know."

Then Uncle John chuckled in a way that a man would hardly be supposed to who had lost all he had at one fell swoop of misfortune.

Uncle John stayed a week before he said anything about going. Then one morning—

"I am going to the Corners when the stage goes," he informed them. "I will be back Monday, I guess."

"You are welcome to come and stay as long as you like," said Mark.

"Monday back came Uncle John, as he promised.

"There's something for you," he said, tossing a folded paper into Kittle's lap.

"Wh, Uncle John," cried Kittle, with flushed cheeks and surprised eyes. "It is a deed of this farm to Mark and me. What does it mean?"

"Means that the farm is yours, of course. Is dinner nearly ready? I am half-famished."

"But I want to know where this came from, and how," persisted Kittle. "I do not understand."

"I can't explain till I've had something to eat," he replied.

And nothing could be got out of Uncle John until after the meal was over.

"There isn't much to explain," he said, pushing back his plate. "I drew all my money out of the Glovertown Bank two weeks before it failed, so I didn't lose a cent. That deed is the wedding present I ought to have given you when you got married. I own up I was mistaken in this husband of yours, and I've been convinced that there is something in love, after all, but don't you go to crowing over me for having to own up that you were right, or I'll—I'll do something, for I hate to give up that I was wrong, the worst way, and I can't stand it to be twitted of it after I have acknowledged the corn."

A Hint to Grumblers.

"What a noisy world this is!" croaked an old frog, as he squatted on the margin of the pool. "Do you hear those geese, how they scream and fuss? What do they do it for?" Oh, just to amuse themselves," answered a little field mouse. "Presently we shall have the owls hooting; what is that for?" "It's the music they like best," said the mouse. "And those grasshoppers, they can't go home without grinding and chirping, why do they do that?" "Oh, they're so happy they can't help it," said the mouse. "You find excuses for all; I believe you don't understand music, if you like the hideous noises." "Well, friend, to be honest with you," said the mouse, "I don't greatly admire any of them, but they are all sweet to my ears, compared with the constant croaking of a frog."

Minnie May's Department.

DEAR NEPHEWS AND NIECES.—As soon as the Aug. No. was ready to be placed in your hands I thought I would take a little jaunt with the Canadian Press Association, who had arranged for their annual excursion, a trip to the White Mountains, Boston and New York. The entire party, numbering 55, met at Toronto on Tuesday, Aug. 4th, and at eight o'clock in the evening boarded a special Pullman car bound for Montreal. Many of us had met on previous excursions, and all having much in common as journalists, the work of becoming acquainted was as easy as it was pleasant, especially when facilitated by the courtesy of our gentlemanly officers, Mr. President Pattulo, of Woodstock, and Mr. Secretary Climie, of Bowmanville.

At last the hour came for wooing the God of sleep, and, perhaps some were refreshed with sleep, but I have a distinct recollection of having very little with the train rushing at the rate of 40 miles an hour, puffing, roaring and whistling loud enough to rouse a mummy to life, but we soon became accustomed to this, and long before the end of the trip I could sleep the whole night, whether on board train or boat.

The morning came at last, and with it came Montreal, but as I have described this city in previous letters, and as our principal places of interest lie farther on, I will not dwell here. Leaving Montreal with a special car on the Central Vermont Railway, we pass through St. Albans, a pretty city overlooking Lake Champlain, and by noon arrived at Montpelier, another very pretty, quiet spot, where we merely halted for dinner, then off again in the direction of the White Mountains in New Hampshire. A son of Erin is said to have exclaimed, on seeing the White Mountains for the first time. "Bedad there is, then, so much land in America that they have to stack it." These mountains embrace an area of about 40 square miles; they include amongst them the peaks of Mount Webster, 4,000 ft. above the sea; Monroe, 5,300; Jefferson, 5,710; Adams, 5,800, and Washington, 6,285, the highest peak with one exception, east of the Mississippi. Compared with the Alps, these mountains are indeed hills. Mount Washington scarce climbs a third way to the snow-clad height of Mount Blanc; but these are over the sea. Our Switzerland is at our very doors; it has all the grandeur of true mountains, to which is added a wild picturesqueness that Switzerland can never show.

THE MOUNT WASHINGTON RAILWAY.

This railway, built under peculiar difficulties in 1869, at a cost of more than \$100,000, climbs 3,625 ft. in going three miles, and is one of the most remarkable roads in the world. The track is laid on a strong trestle-work of heavy

timber, braced and bolted in the most substantial manner, and resting on the rocky foundations of the mountain itself. The seats of the car are hung so that they adjust themselves to the varying steepness of the grade. Self acting brakes are attached both to the engine and car, and one feels as safe when making the ascent as when travelling on an ordinary train. The trip occupies an hour and a half. The cold, rough walls are constantly wet with tiny streams that do not run, but glide unperceived down, furnishing sustenance to ferns, trailing vines, mosses, delicate flowers that cling or droop along the craggy way. Nothing could be more cunning than to see these hardy little waifs thus extorting a subsistence from the rocks which nourish them in spite of themselves. The glitter of falling water through the trees, the splendid light in the midst of

scenery or the vast view from the mountain top; words fail and even a photograph seems pale and unsatisfactory. Around you in every direction are confused masses of mountains bearing the appearance of a sea of molten lava suddenly cooled while its ponderous waves were yet in commotion. As Bryant writes:—

"Thou who would see the lovely and the wild
Mingled in harmony on Nature's face,
Ascend our rocky mountains. Let thy foot
Fail not with weariness, for on their tops
The beauty and the majesty of earth
Spread wide beneath, shall make thee to forget
The steep and toilsome way. There, as thou
stand'st,
The haunts of men below thee, and around
The mountain summits, thy expanding heart
Shall feel a kindred with that loftier world
To which thou art translated, and partake
The enlargement of thy vision. Thou shalt look
Upon the green and rolling forest tops
And down upon the secret of the glens,
And streams that with their bordering thickets strive
To hide their windings. Thou shalt gaze, at once,
Here on white villages, and tith and herds,
And swarming roads, and there on solitudes,
That only hear the torrent, and the wind,
And eagle's shriek.

* * *

To stand upon the beetling verge,
and see
Where storm and lightning, from that huge gray wall
Have tumbled down vast blocks,
and at the base
Dashed them in fragments, and to lay thine ear
Over the dizzy depth, and hear the sound
Of winds that struggle with the woods below—
Come up like ocean murmurs. But the scene
Is lovely round."

By seven a.m., after we had partaken of breakfast, we began making the descent to the base through an ever-varying scene, which so many hills, rocks, trees and vapors made particularly attractive. Upon our return we first visited the renowned Fabyan House, where a short stop was made. I never saw such beautiful decorations as this house could boast of in the way of moss, ferns and all manner of flowers. Before noon we reached the spacious and inviting Profile House, which is hid away in a deep and narrow glen nearly two thousand feet above the sea. No situation could be more sequestered or more charming. The place seems stolen from the unkempt wilderness that shuts it in. An oval grassy plain, not extensive, but bright and smiling, spreads its green between a grizzly precipice and a shaggy mountain. In front of the long white-columned hotel was a pretty flower garden, like those flowers; on the lawn were beauties sauntering up and down in exquisite morning toilets, coquetting with their bright colored parasols; little children playing tennis or fluttering about the grass like butterflies, and misses in their stiff grenadier caps and white aprons, made up a scene which we soon adapted ourselves to and are reconciled with, because we see that for each in his way it is good to be here.



THE POND AT SUNNYSIDE.

deepest gloom, the solemn pines, the odorous forest, the wildness and the coolness—impart an indescribable charm. It was arranged that we should stay all night for the chance of seeing the sunset and the sunrise; but the night was cold, and clouds rolled past which covered the whole world below from sight. It seemed a hopeless sort of place; the peak then became like a contracted island, with gray mist for a sea. So for the night we contented ourselves with amusements and a good night's rest in the well heated Summit House.

SUNRISE AT MOUNT WASHINGTON.

By four o'clock in the morning the whole house was astir, and dressed in winter clothing, we stepped out to witness the glorious sunrise, for it had cleared up during the night, which made a wonderful transformation. It is quite useless to try to describe either sunrise, cloud

ous and inviting Profile House, which is hid away in a deep and narrow glen nearly two thousand feet above the sea. No situation could be more sequestered or more charming. The place seems stolen from the unkempt wilderness that shuts it in. An oval grassy plain, not extensive, but bright and smiling, spreads its green between a grizzly precipice and a shaggy mountain. In front of the long white-columned hotel was a pretty flower garden, like those flowers; on the lawn were beauties sauntering up and down in exquisite morning toilets, coquetting with their bright colored parasols; little children playing tennis or fluttering about the grass like butterflies, and misses in their stiff grenadier caps and white aprons, made up a scene which we soon adapted ourselves to and are reconciled with, because we see that for each in his way it is good to be here.

Peals of laughter startle the solemn old mountain. You hear them high up the mountain side. There go a pair of lovers, the gentleman with his book, whose most telling passages he has carefully coned, the lady with some trifle of embroidery, over which she bends lower as he reads on. Ah, happy days! What is this youth which, having it, we are so eager to escape, and when it is gone we look back upon with such infinite longing?

Taking one of the well-worn paths conducting to the water side, a short walk finds us standing by the shore of Profile Lake. Although a pretty enough piece of water, it is not for itself this lake is resorted to by the thousands, but for the mountain rising high above, whose wooded slopes it so faithfully mirrors. Upon the high cliffs of this mountain is the remarkable and celebrated natural rock sculpture of a human head, which, from a height twelve hundred feet above the lake, has for uncounted ages looked with the same stony stare down the pass upon the windings of the river, through its incomparable valley. The profile itself measures almost forty feet from the tip of the chin to the flattened crown. It has been christened the Old Man of the Mountain, and is unquestionably the greatest curiosity of this or any other mountain region.

FRANCONIA NOTCH.

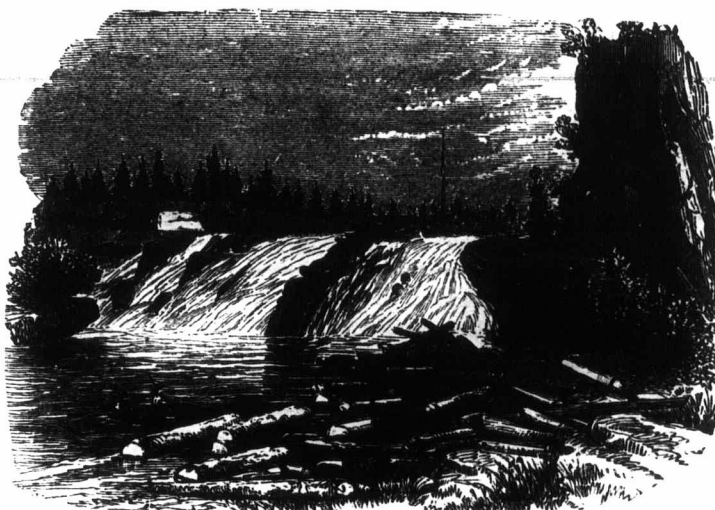
After dinner five coaches were in readiness to convey the party through the far-famed Franconia Notch to North Woodstock. Franconia Notch is a pass with close and precipitous walls of about eight miles in length. The valley is about half a mile in width, filled with the curious, the wild, and the beautiful in mountainscenery. The vista of mountains on either side seems to become every moment more and more extended and more and more interesting. Through a beautiful green valley, with the road as smooth and level as a floor, and a river rushing over a bed of rock, by one side, and the trees joining over our heads, and a jolly coach load of sixteen and two spans of horses, I think it certainly the liveliest drive I ever had in my life, and venture to say that a more enjoyable day was rarely ever passed by travellers than that on which the Press party traversed the district of the White and Franconia Mountains. Arriving at North Woodstock, we took the Boston & Lowell Railway, and passing through Plymouth, Concord, Manchester, Nashua, we arrived at Boston at nine in the evening.

CITY OF BOSTON.

Here we remained for two days, making the best use of our time sight-seeing and visiting such places of interest as Trinity Church, Old South Church, built in 1730, one of the most noted in the country; Philip Brooks' Church, Museum of Fine Arts, Public Library, Boston Commons—a beautiful park of fifty acres right in the heart of the city—the Public Gardens, Hotel Vendome, Bunker Hill and monument, and Harvard University; to enter upon a description of each would entail too much space. We also took a

sail to Nantasket Beach, one of Boston's popular seaside resorts. We visited some of the principal stores, in some of which 2,500 people are employed. Such fashions, such handsome trimmings and house furnishings, such tiers and stacks of lovely things to tempt the eyes of the visitor! A few of our party went up to the roof of the Equitable building, some dozen stories high, and which surpassed the top of Bunker Hill monument, from the fact that we were taken up on an elevator instead of climbing 294 steps up a circling stairway, where we had a splendid view of the city. As far as the eye could see in every direction (except on the harbor and river) was a solid mass of houses, and here and there throughout the mass arose the dense smoke of some large factory, with its toiling hundreds of men and women. Down, down below on the streets like swarms of flies, were crowds of little men and women bustling, hurrying, restless, toiling after a living or amassing a fortune.

On Saturday evening we left the grand old city of Boston with many pleasant memories, for it is indeed a great city, its streets beautifully clean, and its citizens kind, courteous and



JESSUP'S FALLS, HUDSON RIVER.

cultured. After a quick run of 49 miles on the Old Colony Railroad we reached Fall River, where we boarded the renowned steamship "Pilgrim," the finest vessel, we believe, that floats en route down the Atlantic coast for New York. The entrance to New York harbor by East River was very interesting, passing under the great Brooklyn Bridge. How large, how splendid, how grand it seemed! Some of us had never before mingled with the surging population which almost blocks New York's thoroughfares. To us everything was new, and we made the most of the two days spent in seeing the sights in that vast and wonderful city—its streets, stores, public buildings, waterworks, Stock Exchange, Central Park, all its special features exciting surprise and admiration. To give you an idea of what was expected of us, the following was the programme arranged for us by the New York Press Club and Mr. Erastus Wiman, whose efforts were indefatigable to make us enjoy ourselves while in New York:—

MOVEMENTS WHILE IN NEW YORK.

1.—Arrive on Fall River Line at 7 a. m.; repair to cor. 11th Street and University Place, Albert Apartment House.

2.—Breakfast at the Canadian Club Café North Washington Square, after leaving hotel.

3.—10 a. m. Take Third Avenue Elevated Railroad from 9th Street Station to Harlem River, and then by steamboat from Harlem to High Bridge.

4.—12 m. Take Ninth Avenue Elevated Railroad from Harlem to the Battery.

5.—1 p. m. Take Sixth Avenue Elevated Railroad to 125th Street to visit Grant's Tomb, and return by Surface Road to Central Park; walk through Central Park, visit Reservoir, Museum, the Mall and hear band.

6.—5 p. m. Return to hotel, and prepare for dinner. Dinner at Club Restaurant 6 p. m. to 8 p. m.

7.—6.30 p. m. Churches—Trinity Chapel 25th Street near Broadway; St. Patrick's Cathedral, 5th Avenue and 51st Street. Amusements—Casino, Concerts, &c.

MONDAY, AUGUST 10TH.

1.—7 to 8.30 a. m. Breakfast at Club Restaurant.

2.—9 a. m. Walk or ride down Broadway to Wall Street to see decorations.

3.—10 a. m. Visit New York Stock Exchange at opening, at 11 precisely, and National Petroleum Exchange, and Press Club Rooms.

4.—11.30 a. m. Cross Brooklyn Bridge.

5.—12 m. Elevated Railroad through Brooklyn and return.

6.—12.45 p. m. Cross Wall Street Ferry.

7.—1 p. m. Walk leisurely up Wall Street to Broadway and visit Trinity Church and New Produce Exchange, and ascending to Tower.

8.—2 p. m. Lunch on Roof of Field Building.

9.—3 p. m. For balance of afternoon and evening become guests of Erastus Wiman. Meet at Bay Ridge Route Pavillion, foot of elevated railroads.

10.—3.10 p. m. Take boat for Bay Ridge and Manhattan Beach.

11.—4 p. m. Arrive at Manhattan Beach, visit Music Stand, and take dip in Old Ocean.

12.—6 p. m. Dinner at Manhattan Beach Hotel, meeting twenty representatives of New York Press.

13.—8 p. m. Fireworks, or visit west end Coney Island.

14.—10 p. m. Meet at New Iron Pier, West end Coney Island, for return to New York by Iron Steamboat to Pier 1, North River.

15.—11.30 p. m. Return to Albert by Sixth Avenue Elevated from Battery Station to Eighth Street.

God save the Queen.

The above was carried out almost exactly, but to give a description of all the different places in this letter would be almost impossible.

Next morning we took the beautiful Hudson River steamer Albany, en route to Albany. The whole distance is most remarkable for the beauty of its scenery. Sunnyside on the east bank was the residence of Washington Irving, one of the greatest of American writers. Irving was a great lover of natural scenery, and spent much time and money in beautifying his place. The pond illustrated on preceding page is just a hollow in the hills filled with water. It is made by damming the stream, and it has a pretty cascade at its outlet. Jessup's Great Falls are just below the confluence of the Hudson and Scandagoo rivers, and thus the whole distance of 170 miles the scenery was charming, which proved a de-

lightful change from the glaring walls and pavements of New York.

We arrived at Albany about 6 p. m. After spending a few hours in that city, visiting the capitol, park, etc., we again took the train bound for Niagara. Berths were then in requisition, the train sped on in darkness, and at seven o'clock on Wednesday morning we reached the Falls. Here we remained till the afternoon; visited the museum and gardens, and were conveyed in carriages across Suspension Bridge to the International Park, lately opened. At one o'clock all aboard was again sounded, when we left for Hamilton, Toronto and home. So closed one of the most pleasurable trips our association has ever had. "Happy to meet, sorry to part, happy to meet again."

MINNIE MAY.

MY DEAR NIECES.—Before giving the bleaching process, as we promised last month, we will tell you what the writer of that useful book says about skeletonizing seed vessels, which are quite indispensable in making Phantom Bouquets.

Different varieties of the Ground Cherry family are specially noticed. The particular characteristic of this family of plants is the berry, enclosed in a bladder-like receptacle. These berries are about the size of the cherry. The green covering becomes of a yellowish color when the fruit is ripe, and they fall to the ground together; they should be immediately gathered and put into the macerating vessel, allowing the berry inside to remain until softened, in order to avoid tearing the delicate little bladder. Two or three weeks will be long enough to allow for their preparation. They may be washed by passing rapidly to and fro in hot water, when the softened berry may be pressed out, then dried with a soft blotter.

Wild Hops is a membranous capsule surrounded by a leafy border, which, after about two weeks soaking, becomes very lace-like and beautiful. Before bleaching, the seed may be removed by making an incision on one side of the capsule, being careful when afterwards arranging it, to place that side downwards.

One of the most desirable and showy seed-vessels for this purpose is the blue Nicandra. The calyx, enclosing first the flower and afterwards the seed capsule, is of a curious balloon shape, of a bright green until the seed is ripe, when it becomes brownish. Each one has a tough stem, which is retained through maceration, and is attached to the stalk of the plant, the latter being covered by the calyxes at a distance of an inch apart, quite to the end of the branch. This calyx, when pressed open and bent in shape, has after bleaching, every appearance of a flower, so they can be used both in their natural form to represent buds, or in the way described. They require about three weeks to macerate, when they can be cleaned in hot water, aided perhaps by the toothbrush. A whole branch may be done without separating from the main stem.

Wild cucumber or balsam apple is one of the most curious specimens of beautiful seed-vessels. They vary in size from an inch to nearly two inches in length and about half that in thickness. They become perfect skeletons on the vine, where they should be allowed to remain until the frost has opened them and

dropped the seed. If not entirely clear when gathered, they may be completed by a few weeks soaking.

Lobelia is very beautiful and will macerate in about three weeks, when they can be cleared by passing to and fro in a basin of hot water.

The poppy will macerate in a week or two. The black lines which radiate from the centre may be removed by aid of a pin, when a beautiful lace work appearance will be imparted to it.

Of course these are only a few of the many varieties of plants that may be brought into use: the different localities will unquestionably furnish different specimens. The writer gave these rules and ideas as her own practical experience after long trial and numerous disappointments. Now we will give you some, for it would be impossible to give all, of her hints on bleaching, which she says is of great importance, and requires the greatest care, as upon the perfect whiteness of all the component parts of a bouquet its beauty will depend. No matter how perfectly the leaves and seed vessels may have been skeletonized, if they are permitted to retain any shade of their original yellow they are deficient in beauty.

The first step in this part of the process is to procure proper bleaching materials. Many persons are successful in the use of chloride of lime, while others prefer Labarraque's solution of chloride of soda; but the best preparation for this purpose is Powers & Wrightman's solution of chloride of soda. One bottle of this will whiten a large number of leaves, without injuring the fibre or making them brittle, as is the case with chloride of lime. The proper proportion for mixing will be about half a teaspoonful to a pint of water. This will generally whiten two sets of leaves; that is, as soon as those first put in are perfectly white, they may be taken out and a second lot placed in the same mixture. Sometimes it will be necessary to add a small quantity, say a tablespoonful, in order to complete them.

When ready to commence the bleaching, take a glass jar, such as is used for pickles or preserves, having a mouth wide enough to admit the largest leaf. Do not place leaves and seed vessels in the same jar, for if mixed the latter become so entangled in the fine network of the leaves, that in removing them, the latter will be injured.

In putting the delicate leaves into the jar, care should be taken to arrange them beforehand with the stems all pointing downwards, for the bleaching begins at the bottom of the vessel and the thick stems and mid-ribs require more time to whiten than the lace-like portion of the leaves. After placing, cover with soft, clear water, and add the bleaching solution. The jar should be covered tightly and set in a warm place. A jar of leaves will usually require from six to twelve hours for bleaching, but being of glass, an outside inspection will enable the operator to judge of the degree of whiteness without raising the lid until time to remove the leaves.

When entirely white they must be taken carefully out with the hand and laid in a basin of clean warm water. If left too long in the jar they will become too tender for removal. Wash them thoroughly, else they will become yellow and discolored, from the chlorine, by changing several times into fresh water, and

finally dry them as before by laying between blotting pads, while the more delicate ones, which are apt to curl in drying, should be laid between the leaves of a book until quite dry.

Seed-vessels and flowers require the same treatment in bleaching and washing, only that the coarser seed-vessels may need a stronger infusion of the bleaching preparation. A little experience will soon inform the operator as to the exact quantity required for all kinds of leaves and seed-vessels.

The bleaching of ferns will need some special directions. Having gathered fern of different varieties during their season of maturity—which is when the seeds are to be found on the back of the leaves—they should be preserved by pressing them between the leaves of a book, there to remain until required for bleaching. Then place them carefully in a jar, causing them to curl around the sides rather than with the stems downward. Fill up the jar with warm water, leaving room for the bleaching solution, in the proportion given above. Cover the jar tightly and set in a very warm place. After twenty-four hours gently pour off the liquid and replace with fresh, mixed as before. They should remain in the second water about forty-eight hours, when this in like manner will require to be changed. In about three or four days the ferns will begin to whiten at the edges, gradually extending over the entire surface of the spray. Each one must be carefully taken out as soon as quite white, without waiting for the whole contents of the jar to be finished. If a portion of a long spray becomes perfectly white, while dark spots remain on the upper or stem end, it will be safest to lay the spray in a basin of water and cut off the white portion and return the unfinished part to the jar. Afterwards, when both are ready for the bouquet, the two portions can be neatly united with gum arabic.

As the sprays are found to be entirely white, they must be taken from the jar with the fingers, always holding them by the stem, and laid on a broad basin of clean, warm water, where they should be allowed to remain for several hours. They may be thoroughly rinsed by changing the water several times, but they will not bear handling in the same manner as will the skeleton leaves. When ready to be dried, take one spray by the stem and lay it in a broad dish or basin of water, allowing it to float on the surface, then pass under it a sheet of unsized white paper, and in this way lift it from the water. The spray will cling to the paper and assume its natural shape. Should any of the small side leaves become crooked or overlapped, they may be readily straightened by using the point of a pin to spread them into proper shape upon the paper. Lay the sheet on a soft blotter for a few minutes to absorb the water, thence between two sheets of the same unsized white paper, and pressed in a book. When all are ready place the book under a heavy weight to insure smooth drying. When entirely dry, if some of the thinner varieties are found to adhere to the paper, they may be loosened by pressing the thumb nail on the underside of the paper. It is better, however, even after they are thoroughly pressed and dried, to keep them shut up in a book until wanted for the bouquet, as they have a tendency to curl when exposed to the air.

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With such clear directions I am sure my nimble-fingered nieces will be able to produce some charming phantom bouquets, which will be wonders to yourselves as well as your friends, and I shall hope later to hear of your success.

We now offer a prize of a beautiful Silver Bracelet for the best written article upon any one of this year's exhibitions held throughout the country. All communications must be in by 20th of October.

MINNIE MAY.

Work Basket.

FLUTED LACE.

Cast on 18 stitches.

First row—knit plain.

Second row—purl 14, leaving 4 on left hand needle, not knitting them.

Third row—slip 1, k 9, k 2, tog. tt o 2, k 2.

Fourth row—p 14, making 1 stitch of the two loops.

Fifth row—s 1, k 13, next knit all the 18 stitches. This makes one quilling.

Sixth row—k 4, p 14.

Seventh row—k 1, n, tt o 2, k 11.

Eighth row—s 1, p 13, knit the two loops as one stitch.

Ninth row—knit the whole 18.

Repeat from first row.

FOR CRYSTALLIZING GRASS.—Take 1½ lbs. rock alum, pour on 3 pints boiling water; when quite cool put into a wide-mouthed vessel, hang in your grasses, a few at a time. Do not let them get too heavy, or the stems will not support them. You may again heat alum and add more grasses. By adding a little colouring it will give variety.

An old, small-sized table, with several inches of the legs sawed off, standing in one corner of the kitchen, is very convenient, for a great deal of work can be done sitting down that would otherwise have to be performed while standing. It is also useful when giving little girls their first lessons in kitchen work, as ironing, washing dishes, etc.

BAY WINDOW DECORATION.—A novel decoration is a wheelbarrow, ordinary gardener's size. Fill it with flower pots containing flowers, hiding the pots with green moss. Round the edges inside fix a wooden trough, and in this and all along plant hanging creepers and lucopodium, also some ivy, and let this latter all over the wheel. After the flowers are arranged, gild the barrow on the outside. It is best to get the dry gilding powder, two packages of bronze, and four of the yellow gilt packages, with a liquid that comes for mixing with it. Use a flat camel's hair brush an inch wide. When the gilt is thoroughly dry, varnish the surface with white varnish and it will retain its brightness. Stand on a bright red rug or mat. —DORCAS MAGAZINE.

A pretty jewel case can be made as follows: Cover the outside with silk or satin any desired color, line the inside with cotton batting and cover with the silk or satin; nail around the edge with small brass tacks a box pleating of narrow satin ribbon. The outside can be made more elaborate by painting or embroidering a pretty spray of flowers on the top.

Scarf for large chair or easel is made of a long half-width of coarse linen cheese-cloth, of a most æsthetic yellowness. Each side has an

inch-wide hem, with the hem-stitch taken with red silk. On each end is a three-inch wide hem finished in the same way. An inch above the wide hem is an inch-wide band of drawn work, and another the same width six inches above. The space between is occupied by a jumble of figures cut from chintz, not thick cretonne, and French calico,—birds, flowers, foliage, circles, diamonds, and all sorts of small figures being laid on without apparent design, and couched on the edges with gold thread.

Answers to Inquirers.

WINNY.—(1) Crab apples are best for preserving when the frost touches them; take a darning needle and prick each apple through in two or three places; weigh them, a pound of sugar to a pound of fruit; make a syrup and squeeze in the juice of a couple of lemons, if desired. Throw in the apples; let them boil in the syrup till clear, but not to pieces. When each one is finished, take them up with their stalks on; leave the syrup to reduce, and then pour over the apples. (2) You will find your question among queries.

J. E. LOVEKIN.—Elderberry wine is made as follows:—Boil 3 gallons of elderberries in 2½ gallons of water for twenty minutes; then strain through a fine sieve, not bruising the berries. Then measure the liquid into a boiler, and to every quart add one pound of moist sugar and the peel of four lemons. Place on the fire and heat scalding hot; add the whites of four eggs, well beaten, stirring into the liquid. When the liquor is cool, place it in a keg; spread a piece of toasted bread with compressed yeast, as you would butter, and put in the keg; bung the keg air-tight; ¼ lb. of bruised ginger placed in the keg gives the wine a fine flavor. Let it remain in the keg from six to eight weeks, when it will be ready to bottle.

TROT.—(1) Much less jewelry is worn now by ladies than formerly, especially on the street. A brooch, short watch chain and a ring or two are the most one sees. (2) Arrow-root is so called from having been originally used by the Indians as a remedy for the poison of their arrows, by mashing and applying it to the wound.

HOUSEWIFE.—(1) A bowl of quicklime placed in your cupboard will absorb all the moisture, so you need not feel uneasy about the dampness of which you complain. (2) A damp flannel dipped in the best whiting will remove the discoloration from your custard cups.

NELLIE K.—Do not undertake to dye or bleach your hair. Leave it to nature, after you have done your part by washing and brushing.

J. A. R.—How can I make a mattress, having no corn husks, and not being able to rest on feathers? ANS.—There are several substitutes for feathers. Curled hair, which, however, is costly, is the best. The next best is the Southern moss, which is quite cheap. Then there are the heads of bullrushes, which when stored are as light and fluffy as feathers, and cost only the gathering. Oat chaff thoroughly dusted and stitched down through and through every 6 inches apart is a soft and healthful mattress.

Oat straw managed the same way is also very good. It will not be difficult to get corn husks; if one will get two quarts of early Canada corn and plant it in hills 3 feet apart and 3 grains to a hill, in May, there will be enough husks for two or three good mattresses

Queries.

WINNY would be glad if any of our readers will send her a recipe for making Castile soap.

Recipes.

JELLIED CHICKEN.—Boil a fowl until it will slide easily from the bones; let the water be reduced to about 1 pint in boiling; pick the meat from the bones in good sized pieces, taking out all gristle, fat and bones; place in a wet mould; skim the fat from the liquor; a little butter; pepper and salt to the taste and ½ ounce of gelatine. When this dissolves pour it hot over the chicken. The liquor must be seasoned pretty high, for the chicken absorbs.

ROLLED JELLY CAKE.—Take 1 cup each of powdered white sugar and flour, 1 level teaspoonful of baking powder, 4 eggs, 1 tablespoonful of cold water, a pinch of salt; mix together the flour, baking powder and salt; sift into bowl, then sift in the sugar; add the beaten yolks of eggs and water; then stir in lightly the well-beaten whites of the eggs. As soon as mixed spread evenly in tins lined with ungreased paper; bake quickly; turn out as soon as done and spread the bottom of the cake with sugar jelly; roll while warm; sugar may be sprinkled over the rolls if desired.

SCOTCH SHORTBREAD.—To 2 lbs. flour allow 1 lb. butter, ¼ lb. pounded lump sugar; beat the butter to a cream; gradually mix in the flour and sugar; work the paste until quite smooth; roll out to the thickness of an inch; pinch it round the edges with the thumb and finger; ornament the top with comfits or strips of candied peel; bake in a rather slow oven for half an hour.

AN ATTRACTIVE DISH is made by putting a thick layer of canned red raspberries into a deep fruit dish, then on top put one pint of whipped cream with the whites of three eggs and a teaspoonful of powdered sugar mixed with it, the eggs to be beaten to a stiff froth. If you choose, this meringue may be flavored with raspberry flavor or vanilla. The dish may be prepared with fresh fruit in its season. The canned berries should be drained somewhat, or the juice will endanger the beauty of the dish.

Flower-lore for September.

September is an important month to the flower culturist. A practical florist makes the following notes which may be of service to those who have had less experience:

Give no plant a dirty pot.—Fall planting is the best for lilies.—This is a good time for sodding lawns.—Asters make fine window plants at this season.—Every flower looks the best backed by its own foliage.

Moss in a lawn indicates that the soil is either poor or wet.—Ivy-leaved geraniums are among the best of window-plants.—Calculate on lifting all tender pot-plants before the month is out.—Preparations should be made towards getting hyacinths and other Dutch bulbs planted soon.

Remove the annual plants as soon as their beauty is over, excepting those for seed.—The same flowering bulb never blooms but once, future flowers coming from a new progeny.

Aim to grow window-plants with good, healthy foliage, and they will be handsome even without flowers.—Lovers of flowers are a happy

people, never failing in each month to find something new to delight them.—If chrysanthemums receive an occasional dose of liquid manure after the buds have set, the increased bloom later will pay for the attention.

It is worth while to take special pains to protect summer flowers against the first frosts, for usually after these we have a good deal of fine, warm weather.

The planting of memorial trees, commemorative of births or other events, is a beautiful custom that should be increased.

A mass of crocuses or snow-drops cannot be well grown in one year. They should be planted in the fall months, giving them a place where they may remain undisturbed for half a decade at least.

In an atmosphere that is moist enough to suit plant-life, flower-pots get green in time. In washing such, if a little chloride of lime be put in the water, it will be a longer time before they will become green again.

Geraniums that are lifted, potted and cut back to about one-third of each branch, and then kept in a cool, light and airy place, but where it never freezes, will flower handsomely about midwinter or later.

A glass filled with triternas, or flame-flowers, cut at from one to three feet long, with ricinus or acanthus leaves, forms an attractive table-ornament. It should be stood on an opened paper, however, because of the defect of this flower in showering down minute particles of sticky moisture.

One great secret in keeping plants free from insects is to keep them healthy. There is something about a healthy plant that insects do not like, and such a one will seldom be badly troubled; never if sickly ones are near for them to get upon. Health depends mostly on diet, light and air, and if these points will be more studied and physicking less, the plants will be better off.

Propagation by cutting is an easily accomplished and delightful means of raising new plants, and this is the right season to go about it for getting stock for next spring. The saucer system is recommended to amateurs, because of its simplicity and certainty. Any dish that is water-tight and about two inches deep and filled nearly even full of sand, with answer as to equipments. Into this, cuttings made from the ends of shoots, and with the leaves of the lower parts that go into the sand cut off, should be inserted, placing them so close together as almost to touch. Set the saucer thus filled in a sunny window, and supply it with enough water all times to keep the sand just covered. In from one to three weeks, depending on the kinds, roots will appear.

To determine when this takes places exactly, the cuttings of the different kinds should be examined from time to time, and as soon as roots, however small, appear on any, the cutting should be potted. Set them in light earth, in rather small pots at first. They should also be shaded lightly from the sun for a week, as now, with the soil not saturated to the extent the sand in the saucers was, they would, if unshaded, flag to their injury. After growth begins, the young plants should have as sunny a place as can be provided for them, and all through the winter.

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—In a few days the youth of the nation will be at their books for another term. At these writing preparations for school are going on in many homes, and bright anticipations are cherished by parents and young people of progress in knowledge and high standing in studies.

A splendid holiday you have had, no doubt, and now I hope you feel like setting to work again with earnest good will.

I did not receive as many good puzzles as I should have liked last month. I suppose you were too busy. I hope the busy season will soon be over and that those who are competing for the prizes will wake up and work in earnest till the end of the year, and these cool short days tells us it is not far distant. UNCLE TOM.

Puzzles.

1—DIAMOND.

A consonant; a preposition; fear; a proprietor in a parish; a noted person in the North-west trouble; a color; to banish; a body of water; a consonant. THOS. J. LINDSAY.

2—DROP VOWEL PUZZLE.

B - w - s - t - d - y ' t - s m - d n - s s t - d - f - r
N - x t d - y t h - f - t - l p r - o - d - n t w - l l p l - - d ;
T h - s - n - t - l l w - s d - m - s p - s h - d - - t
- f l - f .
P r - c r - s t - n - t - - n - s t h - t h - f - f - t - m .
THOS. J. LINDSAY.

3—ILLUSTRATED REBUS.



4—SYNCOPIATIONS.

A mere show = Expense.
An enemy = To discover.
A locality = A step.
A kind of flower = A horse.
A poet = Another poet.
A river in Ireland = Part of the body.
Syncopated letters will give a vegetable
HENRY REEVE.

5—METAGRAM.

Whole I am a garment. Change my head and get successively:—A relish; plague; a joke; to try; bird's home; a point in the compass; a pause.
ANNIE M. SCOTT.

6—GEOGRAPHICAL PUZZLE.

One day in (river in Austria) I went for a drive, and on the way home being very (country in Europe). I stopped at an (river in Switzerland), and going to the keeper, who was a very (islands in the Pacific) (island in the Irish sea) and dressed in a suit of (river in Scotland) clothes, I asked for something to eat. Immediately a (river in South America) placed upon the table some bread which was very (sea in Europe) and a (country in Asia) dish on which was a (city in France) roasted (country in Europe) well seasoned with (Lake in the United States). After dinner I drove on again, but as it was a very (lake in the United States) time of the year the road was covered with (lake in

the United States), and as the weather was very (country in South America) I was quite cold when I reached home.

ELLIS AUGUSTINE.

7—ANAGRAM.

Het ebwakgri savew seddha gihh,
No a rtmes dan korc-ubdno sotac,
Nad eht dwoos ngaait a rytmsso yks,
Erhtei atgni cbarnesh sotdse.

ANNIE B. CRAIG.

8—SOME HIDDEN PRODUCTS OF ONTARIO.

1. He always rose very early.
2. I was not hurt but terribly frightened.
3. I cannot see how he attends to so much work.
4. He said he would go at six if you were ready.
5. I climbed the rope as easily as a sailor.
6. His kindness will never be effaced from my memory.
7. Many teachers teach one year in a place, then flit away.

W. S. HOWELL.

9—ENIGMA.

My first is in office but not in wheel,
My second is in orange but not in peel,
My third is in run but not in jump,
My fourth is in ground but not in stump,
My fifth is in tree but not in brush,
My sixth is in satin but not in plush,
My seventh is in Mike but not in Pat.
My eighth is in mouse but not in rat,
My ninth is in tin but not in wire,
My tenth is in lard but not in squire,
My eleventh is in stove but not in fire,
My whole is the name of a sentimental flower.
AGNES M. FROOD.

Answers to August Puzzles.

1. —
L
P A R
M I N T S
R U S S E L L
L A N S D O W N E
H A N O V E R
M O W E R
O N E
2. —
Sects—Sets—C
Holly—Holy—L
Cheat—Chat—E
Grain—Grin—A
Horse—Hose—R. Cape Clear.
3. —
T A P E R
T E A S E
A L L I E
N E T
T
A T E
S T E E L
- 4.—Straw, warts; was, saw; gum, mug; ram, mar; room, moor.
- 5.—Lonely; lone; one.
- 6.—Though the world smile on you blandly,
Let your friends be choice and few;
Choose your course, pursue it grandly,
And achieve what you pursue.
- 7.—Brawl, crawl; mound, bound; rend, send; jacket, packet; barley, barley; tart, dart.
- 8.—As a man lives so shall he die,
As a tree falls so it shall lie.
- 9.—One curls up and dyes and the other makes faces and busts.

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

Henry Willson, Robert Wilson, E. W. Hutcheson, Annie M. Scott, Jane Thompson, Robert Kerr, Frank L. Milner, Henry Reeve, Jane L. Martin, I. J. Steele, Belle O'Phee, Joseph Allen, Wm Webster, Alice Mackie, Georgia Smith, William A. Laidman, Willie B. Bell, Will Thirwall, Minnie A. Stevens, Becca Lowry, Wm. Jackson, Lottie A. Boss, R. J. Risk, Tillie Hodgins, Alice Hume, Emma Dennee, Ellen D. Tupper, Mary Morrison, Charles H. Foster, Thos. J. Lindsay, Emily McKeen, Lizzie Carter, Ada Montgomery, Frank Tomlinson, H. G. Moran, Joseph Ellison, Carrie Cousins, Geo. J. McPherson, Peter Sill.

The Little Ones' Column.

Making Cookies.

"Saturday morning, no lessons to-day; Hurrah for business, and then we can play," So merrily say my little girls three, While they are busy as they can be, Making ginger cookies!

"Two cups of molassas, of butter one— O, mamma, isn't this jolly fun? The ginger and soda we'll not leave out; We must mind closely what we are about, Making ginger cookies!

"We mix the dough in a nice little lump, And knead it together thumpety-thump; Never allow it to stick to the pan, We must do it just right if we can, Kneading ginger cookies!

"We'll roll it so gently, this way, then that, Till its as thin as the rim of your hat; Then cut them out smoothly, firmly and true; Remember, no ragged edges will do, Cutting ginger cookies!

"We'll make for papa a bouncing big one, As ever was seen in the light of the sun; Dear Baby Ernest shall have a fat pig, 'Twill set him to dancing, jigety-jig— Funny ginger cookies!

Then in a buttered tin, all in a row, Into a piping-hot oven they'll go, Please go back, mamma, and shut up the door, I'm sure we don't need your help any more, Baking ginger cookies!"

—CARRIE W. PEMBER.

One Wrong Brick.

Some workmen were lately building a large brick tower, which was to be carried up very high. In laying a corner, one brick, either by accident or carelessness, was set a very little out of line. The work went on without its being noticed, but as each course of bricks was kept in line with those already laid, the tower was not put up exactly straight, and the higher they built the more insecure it became. One day, when the tower had been carried up about fifty feet, there was a tremendous crash. The building had fallen, burying the men in the ruins. All the previous work was lost, the materials wasted, and, worse still, valuable lives were sacrificed—and all from one brick laid wrong at the start. The workman at fault in this matter little thought how much mischief he was making for the future. Do we ever think what may come of one bad habit, one brick laid wrong? Young people are now building a character for life. How important to see that all is kept straight.—Observer.

Bessie Adair.

The pride of my heart is sweet Bessie Adair, There was never another so radiant and fair; Never were eyes so bonny and blue, Never was heart so faithful and true. A bright little fairy, with golden brown hair, Is my own little darling—my Bessie Adair.

Her voice is the sweetest I ever have heard, She's merry—light-hearted—free as a bird. I love—but am silent—in silence adore. I try to forget her—yet love her the more: If I only might tell her—But no! I don't dare. And yet how I love her—sweet Bessie Adair.

And now I will tell you my reasons for this, How I long for—but dare not ask even a kiss. She's rich, I am poor, with my fortune to make,

And no one can tell how long that will take, So until I can marry—it would not be fair To whisper "I love you—sweet Bessie Adair."

—Jessie Forbush Hanaford.

Commercial.

THE FARMER'S ADVOCATE OFFICE, London, Ont., Sept. 1, 1885.

August has been a trying month for the farmers in Ontario. The early part of the month was very hot, and culminated in a very heavy rain storm, and for nearly three weeks past the weather has been very wet, so much so that it has seriously delayed the harvest work and done a good deal of damage to the crops. Trade, on the whole, is very quiet, but dealers are looking forward to a fair trade this fall. A leading commercial paper in the States, the "Prices Current," gives the situation across the lines as follows:—

"The most hopeful feature in the business outlook is the change in public sentiment which has taken place during the last few months. Everybody believes that the prices of commodities in general have touched bottom, and that changes must now be for the better. We say everybody, but of course there are exceptions to the rule; the constitutional croakers can see nothing encouraging because their line of vision is circumscribed by the habit of looking only at the dark side of things, but fortunately their ranks have been thinned out, and they are now in the minority. Public sentiment has undoubtedly assumed a more confident tone, and this sentiment has substantial grounds for its existence. First of all, liquidation of debts has gone on until most of the debris from the May panic of last year has been cleared away, leaving an open field for solvent business men, who can never compete with the insolvent and reckless. Second, good crops of all agricultural productions, except winter wheat, are either an accomplished fact or so near it that no general failure is to be feared. Third, stocks of general commodities in distributors' hands have been reduced by the conservative methods of business, until it is no longer practicable to cut them down further, and therefore the demand upon original sources of supply must be at least equal to the current consumption, which consumption, if only slightly enlarged, will make all the difference there is between dull times and a fairly prosperous trade."

WHEAT.

The trade in this article is very dull, and prices have declined considerably the past month. How long this will last is very hard to say. One thing is certain, there is not much danger of famine prices for wheat this winter.

The crop of spring wheat in Ontario will not be more than half what it was last year, while in some sections there will be a good deal of damaged winter wheat. In the States the damage to the spring wheat crop is not nearly so great as was at one time reported. The average quality of the winter wheat in the States it is estimated will be better than last year, and the spring wheat not so good.

BARLEY

has been pretty well ruined by the rains in many sections, except for feed.

PEAS

are good where they have been saved before the rains came on.

OATS

will not be the crop they were last year, from the fact that they were very badly lodged in

many instances before they were well out in head. The wet weather has made it very tedious cutting, and plenty of fields are still uncut, and will have to be cut with the scythe.

LIVE STOCK.

The Montreal "Gazette" reports the British market as follows:—

"There has been some change for the better in the condition of the British cattle trade, which is evidenced in an improved demand, and a half cent gain in values as compared with a week ago. Receipts of cattle from Canada and the United States have fallen off materially, in fact have been light during the week, which has contributed to the development of a more healthy tone. The supplies from other sources, however, have continued to reach fair proportions. Our special from Liverpool today reports trade in better shape under a steady demand from buyers, who paid an advance from the figures ruling last Monday, and this afternoon a fair clearance was effected. Prime Canadian steers sold at 13½c. Fair to choice grades were at 13c.; poor to medium at 12c.; and inferior and bulls at 9c. to 10½c. The sheep trade has been demoralized, and seems to be going from bad to worse. Supplies at all the markets are heavy, and values have sharply declined one cent per pound, with a very dull demand. Best sheep at Liverpool today were at 12c.; secondary qualities at 10c. to 11c.; Merinoes at 9½c. to 10½c.; and inferiors and rams at 7c. to 8½c. All the foregoing quotations are calculated at 480 in the £. Refrigerated beef in Liverpool is cabled higher at 6½d per lb. for hindquarters and 4½d for forequarters. London also is cabled higher at 4s 6d for hindquarters and 3s 2d for forequarters, per 8 lbs. by the carcass. The following shows the prices of prime Canadian steers in Liverpool on the dates mentioned:—

Table with 3 columns: Date, 1885 per lb. cents, 1884 per lb. cents. Rows include August 24, August 17, August 10, August 3, July 27, July 20, July 13, July 6, June 29.

The following shows the price of best sheep in Liverpool on the dates mentioned:—

Table with 3 columns: Date, 1885 per lb. cents, 1884 per lb. cents. Rows include August 24, August 17, August 10, August 3, July 27, July 20, July 13.

CHEESE

has ruled very dull the past month. July cheese are still in the factories unsold, and we shall not be surprised to see them move out at very low figures. What these figures will be is hard to say. Factory men have been acting very unwisely in not accepting the market price for July cheese. The result is that Canadian factory men have their July make, and the States July make are all sold and on the way to market. Buyers who have examined July cheese lately say that they are not keep

ing well, and are badly off in many cases. Another fact that factory men have lost sight of is that August make will be fit to ship in another week, and then buyers wont want July cheese at any price. Those who were wise enough to sell may well congratulate themselves on their good luck.

BUTTER.

The annual improvement on butter, which is almost certain to be experienced at about this period of the season, seems to have set in, and although there is no excitement or vigor to be noted, there is a manifestly better feeling, which, however, is confined to creamery and best dairy, for which more enquiry has been developed. The creamery make in this province has been closely sold up and at full prices. Recently sales of over 2,000 packages have been made at 19c to 19 1/2c at the factory, and the market is unquestionably firmer. Fresh cable orders have been received since Saturday, and on creamery at least matters are looking satisfactory. Private letters from Liverpool report that finest creamery will be wanted at about 100s, but hint that no higher prices may be looked for just yet. There has been some enquiry for finest dairy, for selections of which 17c would be paid. It is reported that a large local operator is quietly buying in the Townships all the desirable lots he can pick up, and it begins to look as if the farmer would come out ahead as usual. here is, however, not much prospect for low and medium grades of dairy butter, of which there is a large supply held in the country.

APPLES.

A London, Eng., circular reports the apple crop of England as follows:—It is generally admitted throughout Kent (and this county sends more apples to the London market than any other) that the aggregate yield of marketable fruit will barely reach an average crop, mainly earlier. In the Midlands the prospects are more encouraging. Both early and late varieties are well ropped, but owing to the continued drought and presence of blight on the trees, fears are entertained that size and quality will not come up to the average production.

After due consideration of the whole of the facts set forth in the various reports, the impression produced and net result obtained for practical purposes is:—

- (1) That the apple crop of Europe, taking it as a whole, will be in excess of that of last year.
(2) That fall shipments of American and Canadian apples to Glasgow and Liverpool should meet with fair demand at values ruled by supply.
(3) That shipments to London of winter fruit will, as in similar seasons, compare favorably in net proceeds with other markets on this side.

PRICES AT FARMERS' WAGONS, TORONTO.

Table with 2 columns: Item and Price. Includes Wheat, Barley, Oats, Peas, Rye, Beans, Dressed hogs, Beef, Mutton, Hay, Straw.

PRICES AT ST. LAWRENCE MARKET, TORONTO.

Table with 2 columns: Item and Price. Includes Chickens, Ducks, Butter, Lard, Bacon, Turkeys, Geese, Cheese, Eggs, Potatoes, Apples, Cabbage, Turnips, Carrots, Beets, Parsnips, Onions.

LIVE STOCK MARKETS.

Buffalo, Aug 25, 1885.

CATTLE.

CATTLE—Receipts, 7,246, against 7,370 the previous week. The cattle market opened up slow on Monday with 141 car loads on sale. The attendance of buyers was good, and later in the day trade became fairly active at an advance of 10 cents per hundred over the rates of the previous Monday. Sales to shippers ran from \$4 75 to \$5. Some lots of best going at higher figures. Stockers were only three car loads received on Tuesday and Wednesday which were sold to the local trade. Anything like a fair supply would have made a decline, as the reports from the east were unfavorable. Of Michigan cattle 20 steers av. 1,020 lbs., sold at \$5 25; do. av. 1,332 lbs. at \$5 65; 16 do. av. 1,378 lbs. at \$5 85; 24 do. av. 1,077 lbs. at \$5 20; 20 do. av. 1,077 lbs. at \$5 25; 15 cows and heifers av. 956 lbs. at \$4 15. The following were the closing

QUOTATIONS:

Table with 2 columns: Item and Price. Includes Extra Beeves, Choice Beeves, Good Beeves, Medium grades, Oxen, Good Butchers' Beeves, Heifers, Cows and Heifers, Texas and Cherokees, Mixed Butchers' Stock, Stockers, Canadian feeders, Stock bulls, Butchers' do., Veals.

SHEEP.

Receipts, 27,100, against 28,000 the previous week. The supply of sheep numbered 9,600. The market opened up with an active demand at prices 1 1/2c higher than those ruling at the close of the previous week. The receipts were light on Tuesday and the market steady. On Wednesday 9 carloads were on sale, and prices were stronger at the close fair to good 70 to 80 lb. sheep sold at \$3 50 to \$3 90; 80 to 90 lb. \$3 90 to \$4 00; 90 to 100 lb. \$4 to \$4 15; 100 to 115 lb. \$4 25 to \$4 50; culls, \$1 75 to \$2 50; lambs, fair to good, \$4 to \$5 75. We note sales of 39 Michigan sheep av. 87 lbs. at \$3 85; 105 av. 81 lbs. \$3 60; 191 av. 63 lbs. at \$2 50; 168 av. 62 lbs. at \$2 20; 101 av. 64 lbs. at \$2 50; 128 av. 108 lbs. at \$4 15; 67 lambs av. 87 lbs. at \$5 75.

HOGS.

Receipts, 23,115, against 34,817 the previous week. The hog market opened upon Monday with a fair demand at former prices, ruled steady on Tuesday and Wednesday, closing with good to choice Yorkers selling at \$4 30 to \$4 90; fair do. \$4 65 to \$4 75; medium grades fair to choice, \$4 70 to \$4 75; good to extra heavy, \$4 70 to \$4 80; pigs, common to choice, \$3 50 to \$4 50; skips and culls, \$3 to \$3 50.

Dates of Coming Fairs.

Table with 2 columns: Location and Date. Includes Stratford, Provincial, Industrial, Berlin, Malahide, Central, Mitchell, Hay, Southern, Lindsay, Osnabruk, Collingwood, Union, North Lanark, North Perth, Hullett, London Tp, Union, South Ontario, Saltfleet, Central, South Huron, Horticultural, Huron.

Table with 2 columns: Location and Date. Includes Stephenson, Peninsular, Grey, Lincoln, Northern, East Grey, North Bruce, Western, Central, Peel, North Simcoe, South Lanark, Tuckersmith, West Huron, South Grimsby, Somerville, Dufferin, West Durham, East Lambton, Blenheim, Kincardine, Georgina Union, Port Elgin, Chesley, Glenelg, West Middlesex, Greenock, Esquesing, South Norwich, Southwold, Dunwich, East Simcoe, South Oxford, Palmerston, Holland, Elma, N-scazawa, South Perth, South Simcoe, Union, Pickering, Tara, West Elgin, North Ontario, Melancthon, Haldimand, North Brant, North York, Northern, Mornington, Prince Edward, Southern, West Simcoe, Puslinch, Osprey, Stanley, East York, South Waterloo, Northumberland, Halton, Wallace, Euphrasia, Rosemont, Harwich, Brighton, Fullarton, Forest Union, East Riding, Peterboro, Morris, King Tp, Asphodel, Belmont and Dummer, Essex, Framosa, Reach, Manvers, Norfolk Union, Murray Tp, Uxbridge, Caledonia.

LEADING MANITOBA FAIRS.

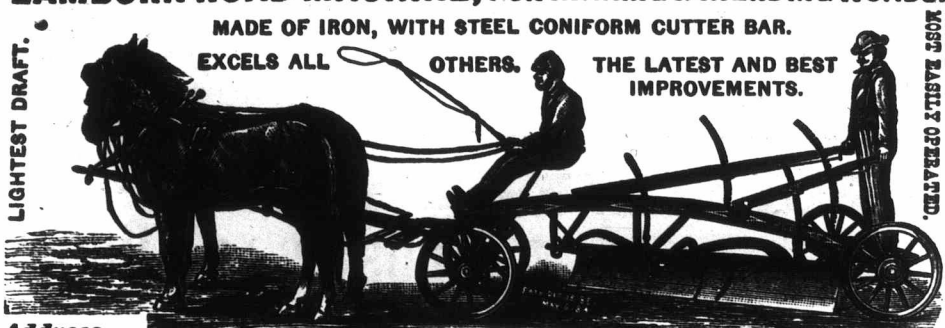
Table with 2 columns: Location and Date. Includes Provincial Exhibition, Brandon, No. 1, No. 2, Emerson, Dominion City, Portage La Prairie, Turtle Mountain, No. 1, Minnedosa No. 1, Rapid City.

LEADING AMERICAN FAIRS.

Table with 2 columns: Location and Date. Includes Am Institute, Illinois, Michigan, Milwaukee, Minneapolis, Minnesota, New England, New York, Pennsylvania, Rhode Island, St. Louis, St. Louis, Tri-State, Vermont.

Exhibition Notice.

The tent of the FARMER'S ADVOCATE will be pitched upon the grounds at both the London and Toronto exhibitions. All farmers desiring to have a sample copy gratis can have one by applying at the tent. We will also send sample copies to any of their friends whom they think would be likely to become subscribers. Mr. Weld will attend the London exhibition on the 9th and 10th, and will be at Toronto on the 16th and 17th, at which places he will gladly meet his friends and patrons.

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Canada Business College

CHATHAM, ONT. Undoubtedly the most thorough in the Dominion. Entered on its Tenth Scholastic Year on Tuesday, Sept. 1st. Ten years of earnest efforts; Ten years of increasing success; Ten years of concentrated and well directed energies, has given this institution an enviable reputation among the business colleges of America. For catalogue address **D. McLACHLAN, Principal.** 237-c

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Horses, Cattle, Milch
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HERBY CLIMAX is the only Feed in the Dominion to which an affirmation has been filed as to purity. Read the following from the Ontario Agricultural College, Guelph, May 7th, 1885:—The London Feed Co., London, Ont.—Gentlemen,—I have much pleasure in reporting that during the past winter we used your food on various classes of cattle, under a variety of conditions, and found it a decided advantage in improving condition, giving a healthy tone, as well as relieving highly fed cattle. Yours faithfully, **W. BROWN.**

For further information address **LONDON FEED CO., Box 195, London, Ont.** 237-f

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FIRST-CLASS PLANTS—LOW PRICES

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 ARKONA, ONT., CANADA.

237-tf

Notices.

A three days meeting of the American Pomological Society will be held at Grand Rapids, Mich., U. S., commencing on the 9th of Sept. May practical and interesting papers will be read by prominent American and Canadian fruit growers.

Probably the most important novelties to be seen at our exhibitions this year will be two portable traction agricultural engines, both having novel and valuable improvements. One is being constructed by Mr. White, of London, the other by F. W. Glen, of Oshawa, Ont. Both are working better than any we have yet seen. You should not fail to examine them.

Mr. W. W. Hilborn, of Arkona, Ont., is introducing his new Black Raspberry, "Hilborn." Mr. W. Crawford, of Ohio, U. S., has tried it for two seasons, and says it is altogether the best Black Cap he has ever seen.

The Ontario Veterinary College, Toronto, is doing a good work in giving our farmers' sons practical experience in the veterinary art. This institution has not only furnished us with many excellent veterinary surgeons, but has gained such a reputation that students attend from all parts of the Dominion and from nearly every State in the neighboring Republic. Many consider it the best Veterinary College on this continent, and many of its graduates occupy permanent positions as veterinary teachers in colleges in the United States, and the majority of the pupils turned out hold lucrative practices.

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40 COTSWOLD RAMS
60 SOUTHDOWN RAMS

For sa'e, also a number of choice Ewes, both Cotswold and Southdowns.

14 SHORTHORN BULLS
15 HERFORD BULLS,

12 to 20 months old.

The Moreton Lodge Herds and Flocks will compare favorably in regard to breeding and individual excellence with any on this continent.

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Best PLACE in the West to get a Business Education, learn Shorthand or Spencerian Penmanship is at the **DETROIT BUSINESS UNIVERSITY,** Detroit, Mich. This school comprises the Goldsmith, Bryant & Stratton, Spencerian and Maynew Business Colleges, all recently consolidated. The University has rooms in two buildings, five departments and twelve professors. Has had 12,000 students since organized in 1850 and now has an annual attendance of over 600. Circulars giving full information mailed free. Address, **DETROIT BUSINESS UNIVERSITY, Detroit, Mich.** 237-c

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EASE, COMFORT AND THRIFT.

The only practical SWING STANCHION invented. Thousands in use. Illustrated Circular free. Manufactured by

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233-h



J. N. ANDERSON, M. D.,
 M. C. P. S. Ont.—Eye
 and Ear Surgeon, 24 James St.
 Hamilton, Ont. Dr. Anderson
 gives exclusive attention to
 the treatment of the various
 diseases of the EYE and EAR.

CROSS EYES STRAIGHTENED.

232-v

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Prices of FALL WHEAT offered by
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SEED MERCHANTS, LONDON, ONT.

Niagara Red (new).....\$3.00 per bu., 2 bu. \$6.00	Tasmanian Red.....\$1.50 per bu.
Landreth.....\$1.60 per bu., 2 bu. \$3.00	Hybrid Mediterranean...\$1.50 per bu., 2 bu. \$2.75
Martin Amber, per bu. \$1.50, 2 bu. \$2.75, 5 bu. lots \$1.25 per bu.	Tuscan Island.....\$1.25 per bu.
Democrat.....\$1.25 per bu., 2 bu. \$2.25	Scott, Roger, Clawson, &c., price on application.

The above prices are free on board cars here. Cotton Bags 25 cents each, in all cases. To anyone ordering one bushel of Niagara Red, or five bushels of any other variety, we will send one pound of Manchester for trial. We purchased a small quantity of this wheat last year at \$1.00 per pound, and it did well. Our Fall Wheat Circular mailed free to all who apply. Address
PEARCE, WELD & Co., LONDON, ONT.
CASH MUST ACCOMPANY ALL ORDERS. 237-a

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1886. — THE — 1886.
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—AND—
HOME MAGAZINE.

237 TWENTY-FIRST YEAR OF PUBLICATION.

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It discusses all agricultural subjects impartially, endeavors to keep down all unnecessary taxation, and protects the interests of the farmers fearlessly. It has ever been true to its name. All honest and independent people speak highly of it.

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School Teachers Recommend

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Only ONE DOLLAR Per Year.

The FARMER'S ADVOCATE for 1886 will be printed on fine expensive super-calendered paper, and improved in other respects.

Subscribers for 1886 will have remainder of 1885 free.

Send all money by registered letter or money order. Address

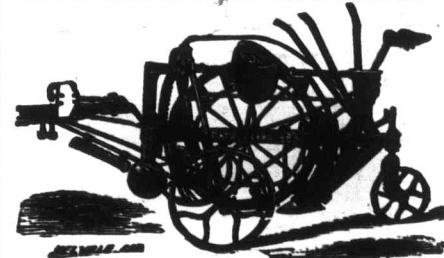
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Catalogues sent as follows: No. 1, Fruits, 10c.; No. 2, Ornamental Trees and Shrubs, 15c.; No. 3, Strawberries, No. 4, Wholesale, No. 5, Roses, No. 6, Bulbs free.
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ELEVATOR DITCHING MACHINE FOR UNDERDRAINING.

One man with The Elevator Ditching Machine can do more work than thirty men with spades. Manufactured by **WM. RENNIE, TORONTO.** 237-a

TREES

New Catalogue free. Address **PHOENIX & EMERSON, Nurserymen** Bloomington, Ill. 237-b
CANADA'S GREAT Industrial Fair and Agricultural Exposition, 1885
will be held at the City of **TORONTO** from Sept. 7th to 19th.

\$25,000 IN PRIZES
are offered for Horses, Cattle, Sheep, Pigs, Poultry, Dairy and Agricultural Products, Manufactures and Ladies' Work, &c., &c.
Live Stock and Agricultural Products are only required to be on exhibition from the 14th to 19th September.
An immense programme of Special Attractions is being prepared for this Exhibition. Cheap fares and excursions on all railways. Entries close Saturday, Aug. 22nd. Prize Lists and forms of entry sent to any one on application by post card or otherwise to the Secretary at Toronto.
H. J. HILL, Manager and Secretary, Toronto.
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TORONTO & LONDON FAIRS

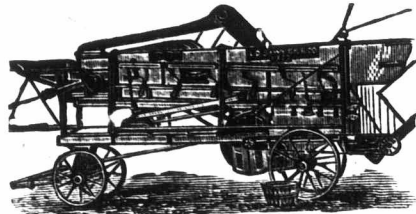
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Durability, Workmanship, Fast and Clean Work, Perfection of Parts, Ease of Management, Simplicity of Construction, Lightness of Draft, Capacity for Work.

We have Machines working in all parts of Canada, giving the very best action, when driven by either Steam or Horse Power.

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Special Size Made for Steam Power.

Address us for Circular and Price List of THRESHERS, CLOVER MILLS, HORSE POWERS, REAPERS and MOWERS. A personal inspection is solicited.

233-loom

L. D. SAWYER & Co., Hamilton, Ont., Can.

Stock Notes.

F. A. Fleming, Weston, Ont., has in quarantine at Quebec, a fine importation of Herefords, which arrived in good healthy condition. He will have some of them at the Provincial and Industrial Exhibitions. His royal prize winner, Miss Broady, did not leave England with the others, as he wished her to remain there until in calf to Lord Wilton. Some of the heifers are in calf with this same animal.

The analysis that I have on record of the milk of the various breeds, indicates a slight advantage in favor of the Ayrshires over the Holsteins, but we have too few analyses for the purpose of generalization, says Dr. Sturtevant. In the hundreds made at the Station we very frequently find a greater variation between milk of the same animals upon successive trials, that occurs in these published analyses of the milk from various breeds. I think it may be safely accepted as a general rule, that the percentage of fat decreases with the increase in quantity of milk, other conditions being equal, but I am scarcely ready as yet to prove this assertion.

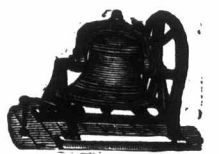
The National Live Stock Journal, Chicago, has the following item:—"Some weeks ago the Michael Brothers, large cattlemen near Bloomington, Ill., shipped sixty-one head of stock cattle from Hutchinson, Kas. On their arrival they appeared to be in perfect health. Last Friday, Aug. 14th, they showed signs of sickness, and Aug 16th, fifteen of them were reported already dead and twelve more down with the disease, which is believed to be genuine Spanish, or Texas fever. The state cattle commissioners have been notified." We hope our Government authorities will be sharp on the look out, and prevent the possibility of this terrible plague reaching our shores.

Henry Arkell, Farnham Farm, Arkell, has recently sold the following stock to Mr. Wm. D. Privett, Greensburg, Ind., U. S.: Twelve Cotswold sheep for a fair figure, consisting of one four-year-old imported ram, and two two-year-old, from imported sire and dam; five yearling rams; two two-year-old ewes, two yearling ewes and one lamb, all from imported stock; imported ram Mayor, weighed 340 lbs.; two-year-old ram Colonel, 241 lbs.; Duke of Wellington, 320 lbs.; yearling ram Duke of Arkell, 280 lbs. The rest averaged from 220 to 270 lbs. Mr. Privett has purchased all his show sheep from Mr. Arkell, for the last five years. He exhibits them at twelve different fairs throughout the U. S., the leading ones being St. Louis, Indiana State Fair, Toledo, Ohio, Illinois State Fair. He claims to have won for sheep alone at the various fairs the last four years the tidy sum of \$2,000.

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3,000 IN USE IN EUROPE AND AMERICA.

Frank Wilson, Esq.
Dear Sir,—I having bought and used the first Centrifugal Cream Separator in Ontario, take much pleasure in giving you the following facts.

I first bought a Burmeister & Wain Machine, which is the same as the Danish Weston. It did good work for a time, but before the end of the first year it had cost me over (\$200.00) two hundred dollars for repairs and would not work satisfactorily, so I put in a DeLaval and have given it a thorough trial, and find it does its work to perfection. I will recommend it to all, as any boy or girl can run it, and I must state that nothing short of a first-class machinist can manage the Burmeister & Wain.

I have seen the DeLaval running now the second year, and it has not cost (\$2.00) two dollars for repairs the whole time, and is doing as perfect work as ever.

I also find that the DeLaval will work at its best by setting it level on any ordinary floor, and the Burmeister & Wain requires a solid stone foundation. The foundation for my Burmeister & Wain cost me over (\$50.00) fifty dollars.

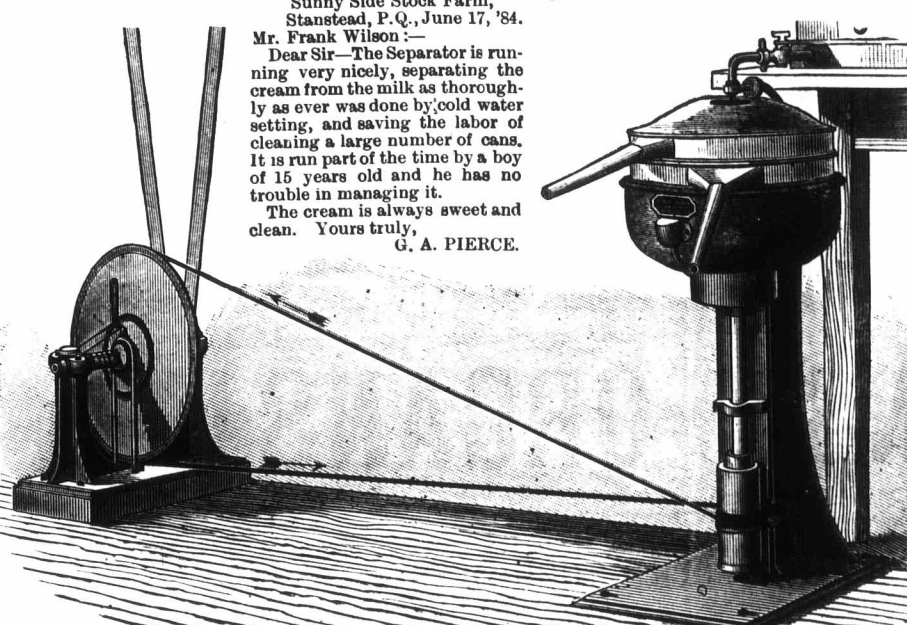
I do the largest cream trade in Canada as well as manufacture butter and cheese, and I can, with the DeLaval Separator, make a better sample of cream for a city trade than can possibly be done with the Burmeister & Wain, and equally good for butter.

All parties wishing to buy Separators are invited to come to my place in the centre of the City of Hamilton, and see the Burmeister & Wain and the DeLaval working side by side, and draw their own conclusions.

Notes.—It is a well known fact that, as an engineer and machinist, Mr. W. G. Walton stands second to none. He is also manager of the Farmers' Dairy Company of Hamilton, and his opinion is well worth the careful consideration of all intending purchasers of Cream Separators.

The Judges of the great English Dairy Fair, just held in London, have made a report of an exhaustive comparative test between the DE LAVAL and DANISH machines resulting in favor of the DE LAVAL on every point covered by a Cream Separator. They give it the highest recommendation for superiority in construction, operation and results that any implement has ever received, and their endorsement clinches the evidence of the great merits and advantages of this most useful of all dairy appliances.

They state that no butter-maker can afford to be without one. They say, also: "In regard to the essential points of construction, separation, temperature and quality of cream, and analysis of cream, the De Laval was far ahead of its opponents, and quite deserved the GOLD MEDAL given by the Council. The power of raising the skim milk after separation to a lighter level seemed to entitle the large A Danish to a second prize, but the failure to separate the milk satisfactorily debarred the other Danish machine from any further recognition."

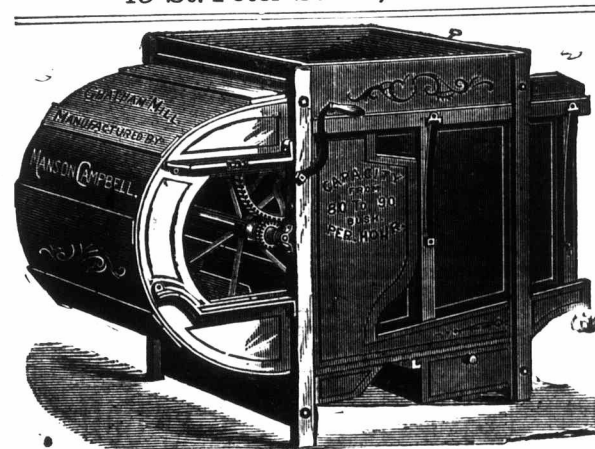


Sunny Side Stock Farm, Stanstead, P. Q., June 17, '84.
Mr. Frank Wilson :—
Dear Sir—The Separator is running very nicely, separating the cream from the milk as thoroughly as ever was done by cold water setting, and saving the labor of cleaning a large number of cans. It is run part of the time by a boy of 15 years old and he has no trouble in managing it. The cream is always sweet and clean. Yours truly,
G. A. PIERCE.

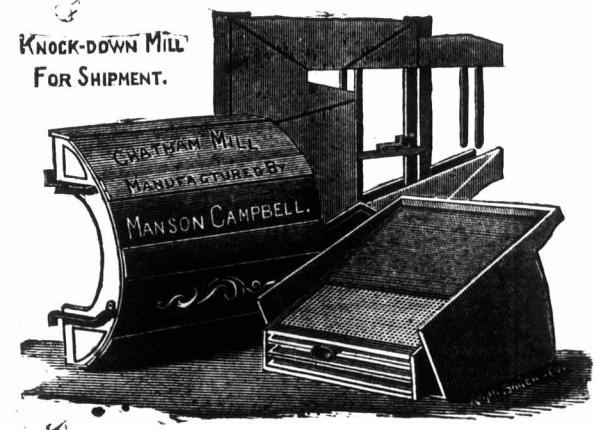
Bloomfield, Ont., Sept. 3rd, 1884.
Mr. Frank Wilson :—
Dear Sir,—I am running the two DeLaval Cream Separators purchased from you with perfect satisfaction, one has been in operation fifty and the other thirty days. The Separators set as close together as the bottoms will let them and one driving belt runs both machines. One hand can attend them both and the engine easily. I would not attempt to make butter without them. The quality is pronounced by all to be the best butter they ever used. Yours truly,
L. V. BOWERMAN.

Stockwell, Canada, October 14th, 1884.
Frank Wilson, Gen. Man.:
Dear Sir—After a thorough test of the De Laval Cream Separator, I have no hesitation in saying it will do all you claim for it, and have much pleasure in recommending it to the dairymen of Canada. Yours very truly,
WM. SAUNDER

DE LAVAL CREAM SEPARATOR CO.
FRANK WILSON, General Manager for Canada, 19 St. Peter Street, MONTREAL, Quebec.
JOS. H. REALL, President, 32 Park Row, NEW YORK.



THE CHATHAM FANNING MILL
Over 10,000 of these Mills are now in use!
FARMERS, BUY THE CAMPBELL AND HAVE NO OTHER, IT CANNOT BE SURPASSED IN AMERICA.



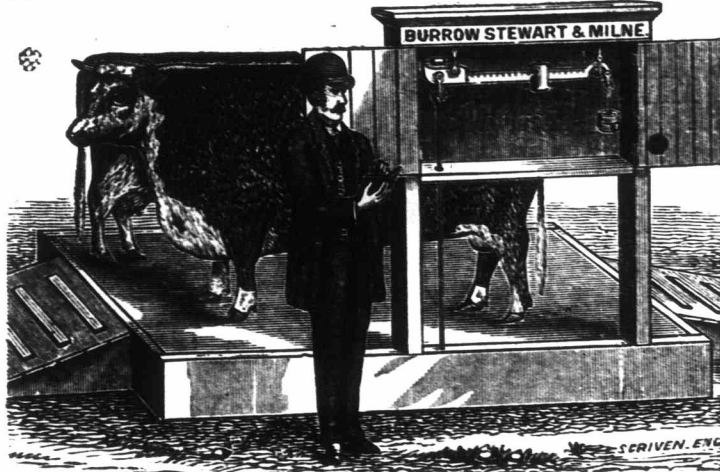
More Improvements for 1885:
Increased capacity. Shoe being 25 inches wide (inside measure) giving a capacity of from 30 to 90 bushels per hour.
A Screw Feed to raise and lower the Hopper Slide with ease.
Shoe can be given six different shakes—fast or slow, short or long—as desired.
Each Mill will be furnished with my Patent Riddle for Extracting Cockle and Wild Peas or Tare from grain. It will separate as much Cockle as ever grows in wheat with one running through the mill.
A first-class Gang Riddle and Grader goes with each mill for separating oats from wheat, which does a thorough first-class job that any farmer or grain dealer will be pleased with.
In addition to the Cockle Riddle and Gang and Grader for separating oats from wheat, each mill will have Screens and Riddles for cleaning Chess and Whitecaps from wheat, also to clean Oats, Barley, Peas, Beans, Corn, Clover Seed, Timothy Seed, Flax, and first-class for Chaffing.
Send for descriptive circular. Address
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Mills sold wholesale in lots to suit agents. AGENTS WANTED. 231-a

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Secretary. Principal.
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The Platform of this Scale is 6 feet by 4 feet.
 No Farmer, Stock Raiser or Produce Dealer should be without one.
 It weighs Accurately from half pound to 4,000 pounds.
DAIRY SCALES, SPECIAL FAMILY SCALES, COUNTER SCALES, PLATFORM SCALES, HAY SCALES, & C., & C.
 Quality, Accuracy and Beauty of Workmanship Unsurpassed.
BURROW, STEWART & MILNE
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FRUIT EVAPORATOR FOR SALE

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Paid Up do. - 575,000
Reserve Fund, - 61,000
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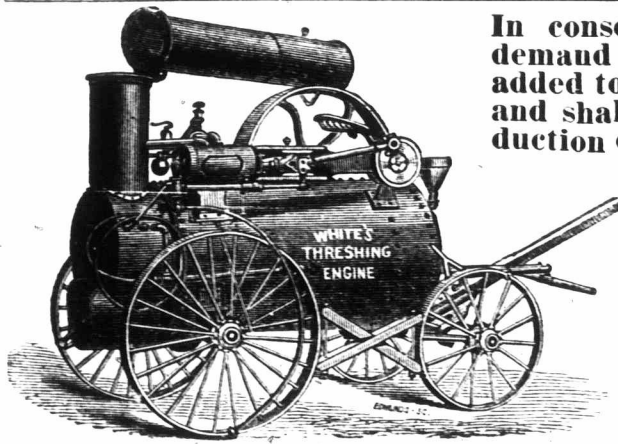
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