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Vol. I. No. 17. *Toronto, August 1st, 1882.* $1 per annum, in advance.

RURAL NOTES.

C. C. Bridges, Shanty Bay, Ontario, sailed from Liverpool for Quebec, June 1st, with a valuable shipment of Hereford cattle.

Wheat harvest was over in Illinois by the middle of July. Cool, favourable weather, and, above all, a big crop of excellent quality, are reported.

"Fashionable Butter Jerseys for Sale" is the heading of an advertisement in the *Country Gentleman* of July 20th. Is it the "butter" or the "jerseys" that the adjective "fashionable" is meant to qualify?

The presence of plants belonging to the sedge family will often indicate to an observant farmer the need of drainage in fields or parts of fields which he supposed to be quite dry. Such broad hints should be acted upon.

There is complaint in some localities of apple trees dying the present season. The leaves curl up, and finally wither, the bark shrinks, and the whole tree seems blighted. It is believed to be the result of the protracted drought of last summer.

The ensilage controversy still rages in the United States, and the battle is so hot that it is difficult to judge whether the *pros* or the *cons* have the best of it. When the smoke and confusion pass away, the truth of the matter will be more manifest.

At a recent meeting in Buffalo, the representatives of all the railroads leading westward met, and decided to advance freight rates from three to ten cents per one hundred pounds, from and after July 24th. If this rise is applied to the grain crop about to be moved, it will amount to a tax which the Congress of the United States dare not impose upon the American people, and, any way, this tax-levying power of great railroad corporations ought to have a legislative limit.

Prof. J. L. Budd, the able professor of horticulture of the Iowa Agricultural College, accompanied by Mr. Chas. Gibb, of Canada, has started on a trip to Northern Europe and Asia, to look up personally the apples, pears, cherries, plums, apricots, peaches, grapes, shrubs, trees, etc., grown on the northern steppes. The journey promises important results. While Southern Europe is well known in its varied products, etc., the region north of the Caucasus is unfamiliar to English and American horticulturists.

The shipments of beef cattle to England seem to be giving place to those of dead meat. This is not surprising when it is considered that there is a large percentage of loss on live cattle. An English journal states that of animals shipped last year from United States and Canadian ports, 8,721 were thrown overboard, 468 landed dead, while 472 arrived so much injured and exhausted that they were killed at the place of landing. The amount of money represented by these losses makes the fitting up of refrigerators on board ships a mere bagatelle in comparison.

The *Globe* is responsible for the following item:—"Canadian farmers will be interested to learn that from the seed of the Early Amber sorghum there can be made a splendid article of buckwheat flour; or, which comes to the same thing in these days, not one person in a million could tell the flour made from sorghum seed from that made from buckwheat. The sorghum flour is, in fact, the better of the two, as it does not, to the same extent as does buckwheat, furnish the consumer of griddle cakes with an insatiable longing to wear out the back of his shirt against the gate-posts."

The *Prairie Farmer* has this to say about Devon cattle:—"General Ross, the well-known Devon breeder of Illinois, has sold some of the best of his stock this season to go to Colorado. Upon hill pastures this breed will take the palm, and there is no question that the beef of the Devons is superior to either that of the Shorthorns or the Herefords, if indeed it is not better than that of the Galloways. Among the Devon breeders of Colorado are Levi Allen, Cary and Robert Culver and N. M. McCauslen, of Boulder county; J. R. Whicher, W. H. Thompson, Mr. A. Sherman and L. E. Eldred, of Fremont county."

A Bureau of Animal Industry is likely to be created in the United States, the Senate Committee having reported favourably on a bill for the purpose. The chief of this bureau is to be a competent veterinary surgeon, and the functions of the bureau are to be as follows:—"To investigate and report on the number, value, and condition of domestic animals in the United States, their protection and use; also to enquire into and report the causes of contagious and communicable diseases among them, and to collect such information on these subjects as shall be valuable to the agricultural and commercial interests of the country."

The London *Live Stock Journal* of June 28rd contained the following item: "Mr. Wilken, Waterside of Forbes, shipped for the Hon. M. H. Cochrane another consignment of Polled Aberdeens yesterday, from Glasgow. The consignment is the fourth Mr. Wilken has sent to Mr. Cochrane within twelve months. There are in the lot six cows with calves at foot, eight heifers and ten yearling bulls. They come from a number of herds, over twenty different breeders being represented. In this lot goes that fine cow, Blackbird of Corskie 2nd, 3024, the first-prize cow at Perth in 1879, and her heifer calf, dropped since she was purchased by Mr. Wilken at 200 guineas."

Shorthorn buyers appear to be coming to their senses. The *Farmer's Review* says:—"It is with pleasure that we note the increased price of Shorthorns this season. Except in a few instances where fashionable pedigrees (useless animals) were sold at fictitious prices, the sales of the season have been of a practical aspect. Good remunerative prices have been paid for good animals, while poor ones have brought only beef prices. We hope to see this state of affairs continue. Let pedigree be regarded as only a guarantee that the animal is purely bred, and let individual merit govern the selections in Shorthorns, and the result will be improvement in the breed."

A table showing the shrinkage of wool in cleaning has been issued by the Merino Sheep Breeders' Association of Michigan. It is based on testings made under the auspices of the Association in connection with a recent public shearing. Of the thirty-two fleeces taken off, eight were offered for trial, and these not the heaviest. They shrank from sixty-one to sixty-eight per cent., those in the dirt weighing from thirteen to twenty-four and a half pounds, and the loss from cleaning being from eight to seventeen and a half pounds each. It will be borne in mind that the test was had with the wool of the Merino sheep, which is peculiarly apt to gather dirt, but the percentage seems a large one even with this fact in view.

F. D. Coburn, author of a good, practical book on pig-farming, makes fun in the *Breeder's Gazette* of those sentimental people who maintain that the hog is "the cleanest of domestic animals, if he has only a fair chance." He says: "You might as well tell the farmer who knows his habits, that he is a singing-bird, or works well in harness. He cannot be induced to eat so much mush and sweet milk that he will not be willing to travel some distance to interview the carcass of a mule or cow diseased a fortnight before. I suspect that he would abandon the laughing brooklet at any time for an hour's repose in a bath of mud, mortar, manure and nastiness of such consistency as he likes. Of course this is all very shocking as well as new to some folks, yet the hog can do all these things and still be more cleanly than most dogs, or a good many people. He has his little peculiarities, but back of all of them he is chuck full of merit and meat."

FARM AND FIELD.

THE PEA WEEVIL—(BRUCHUS PISI.)

This insect is a comparatively recent importation, and at the present time a source of great loss and injury to the agriculturist. It has not only rendered the pea crop nearly valueless to the home consumer, but it has well-nigh destroyed a profitable trade in seed peas carried on with the States. (*See Fig. 23.*) The following description is given of the pea bug by Mr. Bethune:—

"It is a very remarkable creature in its habits. The parent insect is a little beetle, which deposits its eggs in the blossom of the pea, just before the petals fall. The egg hatches out a little worm which penetrates down inside of the growing pod, fastens upon and enters the young pea. The hole which it makes when entering the pea is completely filled up by the subsequent growth, consequently when the pea is ripened the insect is found inside without any visible aperture at all, and the wonder to the ordinary observer is, how the creature ever got there. The pea develops in the ordinary way, and seems to grow as large as usual, but, of course, is very deficient in weight. The insect does not eat away the whole interior of the pea, but simply a hole in it, in which it goes through all its transformations. When it arrives at the stage of the perfect beetle, it gnaws its way through, flies away, and appears again to lay the eggs for the next crop of insects. I have no doubt these insects are eaten very often in peas which are brought to the table, but having fed upon nothing but the pea, they have no taste, and do harm to nobody."

Numerous references have been made to this pest in the course of the inquiry. Mr. Brodie says of it:—

"The pea weevil is rapidly moving northward and westward. In the vicinity of Toronto, in favourable seasons, there are two broods. From close personal observation, I am quite sure of this. I have been assured by careful observers that there are two broods in the townships south of London, so that the expedient of early or late sowing is of little avail. So rapidly is this insect increasing in the county of York, that unless some remedy is applied, farmers will have to give up the cultivation of peas."

Mr. Hobson, of the county of Wellington, says:—

"We have not grown many peas lately, on account of the pea bug. There is a bug to each pea. The only remedy I know of for this pest is to stop growing peas altogether for two or three years. I was told by Mr. Renton that it was very bad in Wentworth about twenty years ago, and that the farmers generally gave up growing it for two years, and the result was that the bug was destroyed. I don't think there is any other remedy."

Mr. Bethune suggests some remedies, of which one is the following:—

THE PEA WEEVIL, OR PEA BUG—*Bruchus pisi.*

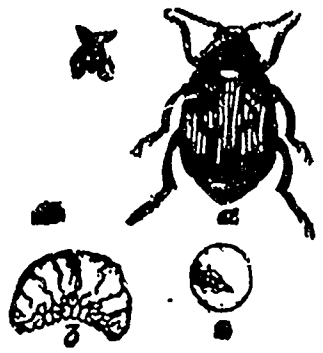


Fig. 23.

THE CABBAGE BUTTERFLY—*Pieris rapæ.*

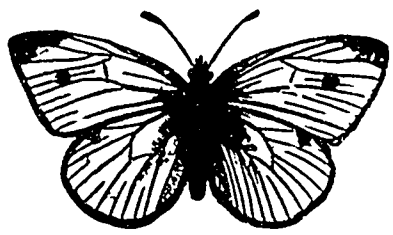


Fig. 24.

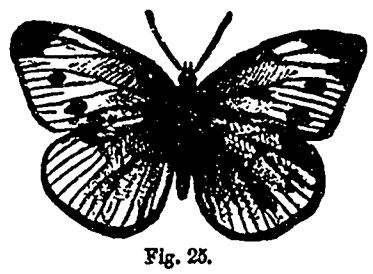


Fig. 25.

THE ZEBRA CATERPILLAR—*Mamestra picta.*

Fig. 26.

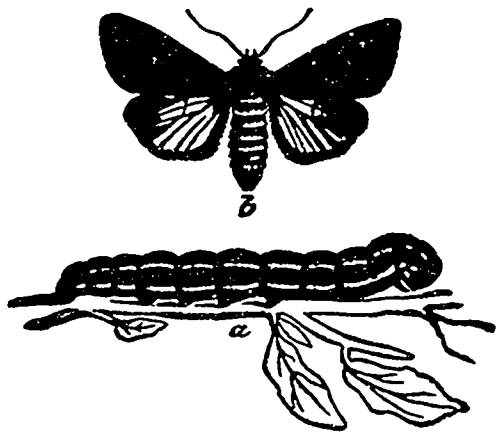


Fig. 27.

Fig. 24 shows the male; *Fig. 25*, the female; and *Fig. 26*, (*a*) the larva, and (*b*) the chrysalis.

THE CABBAGE PLUSIA—*Plusia brassicæ.*

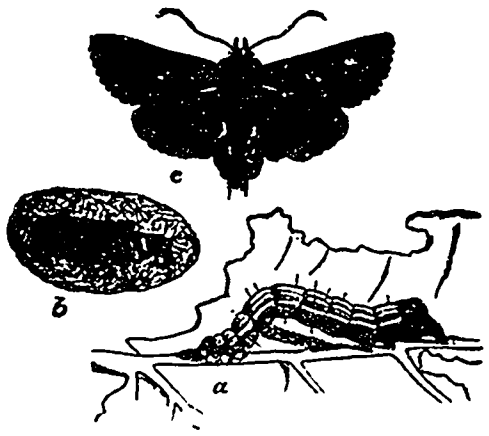


Fig. 28.

THE CUT-WORM—*Agrotis messoreia.*

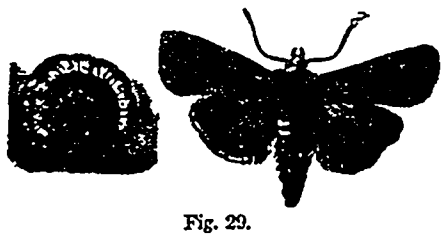


Fig. 29.

Fig. 29 shows the larva and moth of the dark-sided cut-worm (*Agrotis messoreia*), one of our commonest species.

THE HARLEQUIN CABBAGE BUG—*Strachia histrionica.*

Fig. 30.

"One remedy, which I have seen practised to avert it, is to keep the seed peas, if they are observed to be infested at all, over the year in tight vessels. The peas, for instance, are gathered this year, and next year the beetle would mature and come out of them, and being unable to escape from the vessel it would die. There would be no place to lay its eggs, or, if any eggs were laid, they would be valueless. If these peas were sown the following year, many of them would probably die, but a very large proportion would retain their vitality and germinate, and the ensuing crop would be entirely free from the bug."

This is obviously only a partial remedy, and its complete success depends upon the chance that the bug has left the pea in a vital and germinating condition. But it is probably a safer measure than the next suggestion, which is as follows:—

"Another remedy is to pour water which has been heated almost to the boiling point over the peas, a few seconds' exposure to the water sufficing to kill the insect, but not the vital part of the plant. This method of treatment, however, would have to be carried out with a great deal of care. I have noticed that a very large number of the infested peas will float on the water, while the uninfested ones will sink to the bottom, during a brief immersion. The sound peas might in this way be roughly separated from the unsound, but it would not be a complete mode of separation, as in many cases only those in which the greater portion of the interior had been eaten out would float."

It is, however, stated that by placing the peas in a warm room the insects will be prematurely hatched into life, come forth from their holes in the peas, and, finding no means of sustaining life, will die, the peas being then used as seed without danger of propagating the pest.

As is very usual in face of obvious danger, there is a call for legislation to avert the calamitous consequences the total destruction of the pea crop would entail. In Kent the bug has been known for twenty years, probably gathering in numbers all the time, and yet there does not seem to have been any concerted action, any deliberation, or effort, to provide remedies. Mr. White says:—

"There is no hope of getting rid of it, in my opinion, until the people are compelled to quit sowing peas."

The Cabbage Butterfly (*Pieris rapæ*) was first seen in Quebec in 1859. (*See Figs. 24, 25 and 26.*) It is supposed to have taken passage in an Allan steamer, and now is found over a large portion of the Dominion and United States. In numbers it is very destructive to the cabbage plant, and it is exceedingly prolific. On this point Mr. Bethune remarks:—

"There is, unfortunately, a constant succession of broods; we find

the larvæ and butterflies in all stages, from early in the season until late in autumn; in fact, the butterflies are at this moment engaged in laying their eggs. Their ravages, happily, are not at their maximum during the early stages of the plant, and a good deal may be done by destroying the insects at this time."

Hellebore and other poisons are hardly eligible in connection with the cabbage plant, however effective in killing the caterpillars. Hot water or brine at a temperature sufficient to kill the caterpillars but not injure the cabbages is suggested. But here, again, we have most to depend on a friendly little parasite to whose performances reference will be made presently. *Pieris rapæ* has relatives on this side of the Atlantic, in two native butterflies (*Pieris casta* or *oleracea* and *Pieris protodice*), but they are rare and practically innocuous.

The Zebra Caterpillar (*Mamestra picta*) also attacks the cabbage. It is not very common here. The caterpillar and its moth, one of the night-flying species, are shown with other illustrations. (*See Fig. 27.*)

The Cabbage Plusia (*Plusia brassicæ*) turns into a moth and feeds freely on the cabbage and cauliflower. The remedies fatal to the cabbage butterfly would also destroy the other above-mentioned cabbage plant enemies. (*See Fig. 28.*)

Of the Cut-worm (*see Fig. 29*) which attacks the cabbage, Mr. Bethune says:—

"The cabbage plant, in its young stages, is very liable to the attacks of cut-worms. Every gardener is familiar with the annoyance, after he has set his plants out, of finding them in the morning cut down and dead.

"This is the work of a caterpillar that hides under rubbish in the daytime, and comes out only at night. It divides the stem of the cabbage, pulls down the foliage, and feeds upon it during the night."

For this pest Mr. Bethune suggests the following remedies. He says:—

"One remedy is to dig around the plants that have been cut, bring up the insect and kill it. Another of the best remedies is to wrap a piece of stout paper around the stem of the plant when setting it out; place it a short distance below the surface of the ground, and a short distance above, so as not to interfere with either the root or leaves of the plant, and it will be found a pretty good protection against the cut-worm. Sometimes soot is put about the stem just on the surface of the ground, sometimes ashes, and sometimes salt. If the paper is used it will be found that by the time it becoms soft and useless, the plant is beyond the stage at which the worm is harmful. These cut-worms attack vegetation of all kinds, and are especially troublesome to young plants."

The Harlequin Cabbage Bug (*Strachia histrionica* (*see Fig. 30*), while a great annoyance to farmers in the States, is little known in Ontario.—*Ontario Agricultural Commission.*

HEALTH ON FARMS.

Farmers are wont to think that miasm is mostly confined to cities and large villages, and that country air is pure, and farm-houses necessarily healthful; but whoever has carefully inspected the premises of the average farmer has found abundant occasion for the low fevers which are the scourge of the country as well as the city. In the first place, all farmers should look well to their cellars. In too many of them will be found rotten apples, cabbages, turnips, onions, etc. In some will be found old brine, with pieces of decayed meat, sending forth an odour, when the cover of the barrel is taken off, vile enough to wrench the stomach of a pig. In others there will be musty cider barrels, possibly vinegar casks, in which the vinegar has passed on to the putrefactive stage, disseminating the spores of decay and death, not only through the upper part of the house, but even escaping through the cellar windows and polluting the out-door air.

Decaying wood generates one of the most subtle of poisons, because the odour is not particularly offensive. Rotten timber in the cellars and mouldy wood and chips in the wood-house fill the air with spores, which, breathed by a person in the full vigour of health, may be thrown off with impunity; but inhaled by one whose blood is low may find a congenial seed-bed and generate disease. Under the cider and vinegar barrels, and around potato bins, may often be found old timbers and boards that are full of dry rot, ready to propagate itself wherever the rotted particles may find a lodgment. In the well, also, rotten wood is a subtle poison, more dangerous than a decomposing toad, as the latter makes his presence known, while few tastes are so keen as to detect the presence of decaying wood.

Probably the most prolific source of disease around our farm houses is the cesspool into which pass the kitchen and chamber slops. In the cities and large villages these are carried off in the sewers, but seldom does any farm-house have any system of sewerage. The slops are too often thrown out of the kitchen door, and left to generate vile odours on the surface of the ground. To keep the air of the cellar and around the house pure and sweet, we have never found anything more economical, pleasant and efficacious than a free sprinkling, as occasion may demand, of dry, air-slacked lime. Chloride of lime is a great absorbent of vile odours, but this is itself offensive to most olfactory nerves, and is also quite expensive. Common lime is cheap, and if scattered freely in the cellar and wherever there are impurities, will render the air sweet and wholesome, even in the most decomposing dog-days.—*Country Gentleman.*

THE VALUE OF OATS.

The better farm economy and the feeding value of crops are understood, the more oats will be appreciated, and the larger will be their consumption upon the farm. The claim is frequently made that they are not profitable as compared with corn, and hence, though possessing merit, they must always take a secondary place. Let us compare the cost of producing an acre of oats, and their value with corn.

It is estimated that four dollars per acre will cover the cost of ploughing, sowing, harvesting and stacking an acre of oats, including seed.

The straw, if valued by the amount of proteine and fat it contains, is worth by the pound more than one-half good meadow hay, or one-third that of corn. When corn is worth twenty-five cents per bushel, oat straw is worth three dollars per ton; or if the product per acre of oat straw be one ton, its equivalent in corn is twelve bushels. The feeding value of oats by the pound is determined by the proteine about twenty per cent. above corn; this places the value of a bushel of oats at about two-thirds that of a bushel of corn. If a crop of corn be thirty-six bushels per acre, it will require the oat field to produce one ton of straw and thirty-six bushels to make an equivalent in feeding value. If the product of corn be sixty bushels per acre, it will require one ton of straw and seventy-two bushels of oats on an acre to make its feeding equivalent. These are, however, simply theoretical values, measured by proteine; practically, the oats and straw are worth more than the corn, because they will be better masticated and they furnish more bulk.

Again, there is a difference in the cost of production in favour of the oats amounting to nearly three dollars per acre, if the oats be fed in the sheaf; so that upon an average, if the number of bushels of corn and oats in two fields be the same, the greater profit for feeding to cattle is in the oats. This supposed the oats to be cut early, and fed in the sheaf; and it makes no allowance for the corn stalks, for which the oat-field makes full compensation by allowing the farmer to plough in a crop of rye for fall pasture.—*Prof. Knapp, in Iowa Homestead.*

HUNGARIAN GRASS.

A large crop of good fodder may be secured upon early rye or other stubble by Hungarian grass. The ground should be prepared as for oats or any other grain, well manured, and the Hungarian sown broadcast and harrowed in slightly. The seed may be sown as late as the middle of July, about one bushel per acre, but the best results are obtained from sowing in early June. If it is desired to have green fodder for a number of weeks in autumn, the Hungarian seed may be sown at intervals of a week or so for upwards of six weeks. The ripe heads of this grass contain a large number of hard and sharp awns or bristles which are irritating to the stomach of animals, especially horses. This trouble can be avoided by cutting the crop soon after the heads mature, and before the awns have grown to full length and become hard. This grass when cured is equal in feeding value to good hay. If there is a demand for late fodder, it would be well to sow some Hungarian during the present month.—*American Agriculturist.*

THE MANURE HEAP.

The mine of wealth to a farmer is his manure heap. Upon his ability to get a large one depends his profits, to a great extent. An exchange gives the following practical advice to farmers: Manure should be forked over occasionally to make it fine. If it is heating, then muck or loam should be mixed with it to absorb the ammonia which is formed during the process of decomposition. Sprinkling the manure pile with ground plaster is advisable. The plaster will absorb any ammonia which escapes from the pile, and save it for the use of growing plants. Ammonia is too valuable an element of plant food to allow it to be wasted. Again, upon some lands plaster is an excellent fertilizer. A great deal of material to add to the heap could often be got together, and the heap made to grow in size considerably.

PRESERVING FENCE POSTS.

Mr. Parker Earle, the well-known horticulturist, writes to the Chicago *Times:* "In building a fence around our young orchard, several years ago, we tried many plans for preserving the posts. Having occasion to remove the fence this winter, we noted the condition of the posts as follows: Those set with no preparation were decayed an inch or more in thickness; those coated with a thick wash of lime were better preserved, but were quite seriously attacked by worms; those posts coated with hot tar were as perfectly sound as when first put in the ground; those painted with petroleum and kerosene were equally sound, and as good as new. In future we shall treat all posts in the following manner before setting: Let the posts get thoroughly dry, and then, with a pan of cheap kerosene and a whitewash brush, give the lower third of the post (the part to go into the ground) two or three good applications of the oil, letting it soak in well each time. Posts so treated will not be troubled by worms or insects of any kind, but will resist decay to a remarkable degree. This we find to be the simplest, easiest, cheapest and best method of preservation."

GARDEN AND ORCHARD.

FRUIT FOR THE NORTH-WEST.

HOW TO PROCEED TO OBTAIN HARDY VARIETIES.

The following is the advice of Mr. Phœnix, a veteran American orchardist:

"Were I a farmer, I would plant fruit seed, take a farm paper, plant a sugar orchard, plenty of timber and sorghum, belong to a farmers' club, learn how, and teach my children how to bud and graft, if I knew anything about it; our farmers bitterly need more horticultural knowledge and skill.

"Sow apple seed very early, as soon as the ground will do to work in spring. Sown on ground well sheltered, thoroughly protected from wind, live stock, rabbits and mice. In light soil, fresh seed or new pomace can be sown in the fall, mulching just after ground freezes to keep the ground soft and moist over winter. Early in the spring take off the mulch, cover apple seed in rows or drills an inch deep, pressing the soil pretty firmly over the seed. When the seed is up, weed and hoe as with young vegetables, killing worms and insects as fast as they appear. The young seedlings the first fall should be, say, a foot high, root grafts rather taller. If the trees stand too thick, thin out to six or eight inches in the row, burying those taken up root and branch, covering roots a foot deep, treading the soil firmly on the root, and covering the ground after it freezes with six or eight inches of permanent mulch, to keep the roots from weather changes and extremes. Seedlings winter well in moist, not wet, dirt, in a cool frost-proof cellar, best in mice-proof box. Early in spring shorten roots to eight inches, and plant an inch deeper than they grew in the nursery, rows four feet apart, and six or eight inches apart in the row.

To winter seedlings, where they grow just before the ground freezes, haul up eight inches of dirt in the row just after the ground freezes, mulch all over with six inches of manure, or something that will keep in place and not harbour mice. Next spring take away mulch or dirt, then weed or hoe up to July 15. After that let the soil harden, and weeds will help check and ripen off growth perfectly before cold weather. Any late-growing tops pinch and drop off Sept. 15 Before the ground freezes the second fall, the trees, now about three feet high, should be well ridged up, say twelve inches in the row. To protect roots, mulch as in the first fall. To protect tops against snowdrifts, severe cold, rabbits and mice, set bundles of straw, hay, flax, or corn-stalks solid on each side of the row. In nurseries over winter I have never seen any protection for tree tops or bodies above ridges of dirt ploughed against the rows. But in farm nurseries I would prefer greatly to protect every fall, and so keep on the safe side. The first three or four winters from seed or graft, trees are most subject to (1) killing back in top; (2) blackheart in bodies; (3) root killing in dry freezing and thawing ground.

Against all three dangers we protect by (1) ironclad seedlings or ironclad grafts or ironclad roots; (2) cultivating early in season only, pinching off any late shoots Sept. 25, to secure perfect maturity of growth; (3) thorough fall ridging up in row; (4) thorough mulching in fall over winter; (5) thorough protection of bodies and tops while trees are young with bundles of straw or the like, as already mentioned—such protecting straw and dirt to be removed early every spring.

In three or four years from seed, trees should be five to seven feet high, and fit to transplant into the orchard. Trees got through the first three or four winters perfectly sound and healthy. Prune if you must in the spring, but an ounce of preventive nipping, pinching shaping tops just at the right time when shoots are starting, is worth a pound of compulsory after-pruning. In severe climates I much prefer low heads, commencing only a foot or two above ground. In handling trees do not expose the roots to the sun, air or frost. Keep roots always moist, and covered well under-ground with dirt trod on them.

Until North-Western nurserymen are well supplied with choice grafted winter ironclads, why not for orchard planting grow seedlings from best winter ironclad seeds? There need be no fear of having too many seedling winter ironclads from which to select future best cultivated varieties. To select out such varieties must take many years of trial.

I repeat, sow ironclad winter apple seed. The poorest farmer or lot-owner, or child of such, may grow only one seedling that in tree and fruit may excel all competitors.

Sow ironclad pear seed, or the hardiest you can get. Next to apple, nothing so needed, so promising in the West, as pears from hardy seed.

Sow hardy plum seeds, especially of our most delicious native plums. Large, luscious, beautiful native plums are grown in Northern Dakota along the line of the Northern Pacific Railroad. Let us get sprouts and seeds to try in our several localities.

Sow hardy cherry seed, including seeds of the best sorts of the hardy, late, prolific native black cherry. I have seen fruit of this of nearly twice the common size, and better in proportion.

Sow hardy grape seed, and seed of all other hardy edible fruits, of flowering shrubs and plants, to keep improving our assortment of cultivation.

In the present depressed condition of Western horticulture, whoever brings into bearing an ironclad fruit seedling is so far a public benefactor.

CAUSES OF NON-BEARING.

1. Want of proper fruit-forming food in the soil. This fruit-forming food is so small in many orchards long in bearing, that it becomes so nearly exhausted with a full crop that the tree has not strength sufficient to produce another crop the next year, the fruit buds for the crop not forming even, but when the buds form and the tree blooms it cannot perfect the fruit; so either the blossoms fall or the fruit is shed prematurely.

2. Again, when there is abundance of fruit-forming food in the soil and the tree tends to enlarge its growth of root, branches and leaves at the expense of fruit. This it may do with some varieties of apples, pears, and perhaps with other fruits, for years, until the patience of the fruit-grower is exhausted in waiting.

3. Injurious insects are sometimes destructive to the fruit crop in some localities, and some seasons more than others. The injury from insects is felt most with a light crop, or what is called non-bearing years, and usually when the fruit orchard is most neglected.

The remedy for non-productiveness must depend upon the cause.

1. If caused by lack of fruit-forming food, which we think is frequently the case with old orchards, the necessary pabulum must be supplied. Fertilizer rich in potash, phosphoric acid, soda, sulphuric and carbonic acids, should be used broadcast in the orchard, several feet from the trunk of the tree, where the extending roots will find it. Wood ashes, unleached, contains all the fruit-forming elements needed. As a substitute we use the following cheap preparation: Caustic lime slacked in a saturated solution of common salt and sulphate of potash. Apply early in the spring, at the rate of a peck to a large tree; if attainable, mix with fine charcoal. In the fall apply about one pound of ground bone.

2. If the tree tends to too great a growth of wood, and refuses to bear when in good ground, cut a trench around so as to cut off the gourmand roots about two-thirds of the distance that the branches extend. Cut the roots with a sharp instrument. Fill up the trench with surface soil in which is sprinkled the above mixture. This should be done in the autumn.

3. If insects destroy the fruit, they must be fought by destroying the fallen fruit of fruit years, and by wrapping the trunks with bandages and destroying the larvæ or by burning fire around the favourite trees.—*Ohio Farmer.*

DESTROYING CABBAGE WORMS.

Water heated to 180 degrees has been found effectual in killing cabbage worms. Where this would be too troublesome, Paris green or London purple might be used. These poisons should never be used on the cabbage, as it is impossible to be thoroughly washed before using in the kitchen. The experiment with pyrethrum is thus described by Prof. Riley: "I placed ten cabbage caterpillars (*pieris rapæ*) in two small wooden boxes, which were covered with wire gauze. In one box I dusted the least possible amount of pyrethrum, mixed with flour, in the proportion of one part of pyrethrum to two parts of flour. I sprayed those in the other box with a liquid mixture, using one teaspoonful of pyrethrum to twenty gallons of water. In five minutes all the larvæ were on their backs, nor did any of them recover A large number of caterpillars on the cabbage plants were sprinkled or dusted with pyrethrum, the proportion being the same as above. In one hour the plants were examined, and in every case the caterpillars were dead.

THE TETOFSKI APPLE.

This is one of the hardiest of the Russian apples, and well north still holds a prominent place among varieties. Some years ago it was extensively planted in Ohio, Indiana, Illinois and Missouri, but of late years comparatively few trees of this variety have been set. In Ontario, Michigan, Iowa, Wisconsin and Minnesota, it is grown as a summer or early fall apple, according to latitude. In Iowa it would seem to be especially well liked. Curiously enough, in Louisiana it seems to have been received with great satisfaction, and to have been extensively planted, probably because it is prolific, and a good early cooking apple. The curious fact, however, is that it should be reported so favourably on there, since its chief merit in the north is allowed to be contained in its hardiness. It is of Russian origin, among the most early of apples, used almost entirely in the kitchen; yellow-red in colour, and of medium size.

BEST MANURE FOR FRUIT TREES.

I prefer the manure of decayed vegetable matter to the excrement of cattle. In the latter the material that makes and supports the animal has been extracted, and the excrement or dung is not so rich on that account. If the vegetable matter be rotted and its ammonia fixed by charcoal dust, all the chemical substances are present. This rotted vegetable matter is more beneficial than the dung of cattle, quantity and quantity alike. Before I regularly manured my trees they only bore every other year. Since then they bear every year. This year—a bad one for fruit—found my manured trees full, and those not manured were barren. The drought this year was fatal to fruit; yet my manured trees had abundant moisture, and were fruitful.—*R. L. Pell* (Orchard on Hudson River, above New York).

THE DAIRY.

HOW BUTTER MAY BE SPOILED.

Good butter may be spoiled in churning. Over-churning ruins the texture and changes the proper waxiness to a disagreeable, sticky greasiness. This is the more easily done in a churn with dashes, which will press the butter against the sides of the churn and squeeze and rub it until it is spoiled. Too long churning spoils the quality by the oxidation of the butter and the premature formation of strong flavoured acids in it, the full presence of which we call rancidity. It may be spoiled at too high a temperature, by which it is made soft and oily, and of a greasy texture and flavour. No subsequent treatment can remedy this error. It may be spoiled before the cream reaches the churn by keeping it too long, or what is practically the same, by keeping it in too warm a place; 50 degrees is about the right temperature if the cream is kept a week; if it is kept at 62 degrees three days is long enough. White specks are produced in butter by over-churning, or by having the cream too sour. Either of these faults produces curd in the milk, and the small flakes of this cannot be washed out of the butter. Milk from a cow in ill health, and that is acid when drawn, will produce specky butter. So will the use of salt containing specks of lime, which unite with the butter and form insoluble lime soap. White specks are covered up to a large extent by using good colouring, which is made of oil as the solvent. But this use of colouring, being to disguise a fault and to add an undeserved virtue, is worthy of denunciation.—*Rural New Yorker.*

EFFECT OF ODOURS ON MILK.

Upon this question, Prof. Arnold, in the work "American Dairying," says: "The *London Milk Journal* cites instances where milk that has stood a short time in the presence of persons sick with typhoid fever, or been handled by parties before fully recovered from the small-pox, spread these diseases as effectually as if the persons themselves had been present. Scarlatina, measles and other contagious diseases have been spread in the same way. The peculiar smell of a cellar is indelibly impressed upon all the butter made from the milk standing in it. A few puffs from a pipe or a cigar will scent all the milk in the room, and a smoking lamp will soon do the same. A pail of milk standing ten minutes where it will take the scent of a strong smelling stable, or any other offensive odour, will imbibe a taint that will never leave it. A maker of gilt-edged butter objects to cooling warm milk in the room where his milk stands for the cream to rise, because he says the odour escaping from the new milk while cooling is taken in by the other milk, and retained to the injury of his butter. This may seem like descending to little things, but it must be remembered that it is the sum of such little things that determines whether the products of the dairy are to be sold at cost or below, or as a high-priced luxury. If milk is to be converted into an article of the latter class, it must be handled and kept in clean and sweet vessels, and must stand in pure fresh air, such as would be desirable and healthy for people to breathe.

CONSUMPTION IN COWS.

Of all diseases which cow flesh is heir to, none is more to be dreaded in a breeding herd than tubercular consumption, while in a milking herd, if the recent assertions of the veterinarians and physicians of "the continent," perhaps of England also, prove well founded, the danger to be feared is not so much the spread of the malady among the cattle as its communication through the milk to children and delicate persons who partake of it. The speedy death of young pigs to which the milk of ailing cows was fed has been reported in this country, and the cows proved to have consumption, while the pigs died of some lung trouble, but were not examined. This is one of those diseases especially likely to affect the cow kept in badly ventilated stables, and liable to render the milk utterly unwholesome and repugnant, if not deadly, and not only the milk but the flesh; and yet, such cows are systematically milked as long as possible and then killed, and the meat, if of fair appearance, sold openly.

Consumption in cattle may be communicated "in ordinary generations," like "original sin," by both sire and dam. It may also be communicated by the breath: a consumptive cow giving it to those standing next her in the stable.—*American Dairyman.*

COURSE OF THE CHEESE TRADE.

"In conclusion, I give the following table, showing receipts and exports at New York, with cable, freight and price for each week from April 29th as compared with same time in 1880 and 1881:

RECEIPTS AND EXPORTS OF CHEESE AT NEW YORK.

	Receipts, Boxes.	*Exports, Boxes.*	*Cable.*	*Freight.*	*Price.*
May 1, 1880...	17,092	15,619	75s.	35s.	14c.
April 30, 1881,	17,229	17,935	70s.	22s.6d.	13c. new.
April 29, 1882,	10,723	21,103	62s.	10s.	13c. new.
May 8, 1880...	25,713	16,962	73s.	35s.	13½c.
May 7, 1881...	26,718	24,915	70s.	22s.6d.	12½c.
May 6, 1882...	18,794	17,742	62s.6d.	15s.	12c.
May 15, 1880,	38,762	30,596	68s.	32s.6d.	12½c.
May 14, 1881,	36,794	28,816	63s.	20s.	11½c.
May 13, 1882,	21,393	26,804	60s.	...	11½c.
May 29, 1880,	61,808	50,202	71s.	35s.	12¾c.
May 28, 1881,	47,970	50,485	55s.	25s.	10c.
May 27, 1882,	30,278	29,339	60s.	25s.	11½c.
June 5, 1880..	108,116	75,237	71s.	35s.	12½c.
June 4, 1881..	76,329	57,473	54s.	25s.	9¾c.
June 3, 1882..	47,872	41,166	57s.	7s.6d.	11c.
June 12, 1880,	96,762	97,300	60s.	35s.	12c.
June 11, 1881,	82,190	79,343	50s.	25s.	9½c.
June 10, 1882,	61,035	47,918	58s.	20s.	11½c.
June 19, 1880,	116,974	100,156	63s.	40s.	10½c.
June 18, 1881,	103,111	107,310	54s.	25s.	10c.
June 17, 1882,	82,902	64,678	58s.	30s.	11½c.
June 26, 1880,	106,143	87,935	49s.	40s.	7¾c.
June 25, 1881,	158,363	129,614	53s.	25s.	10c.
June 24, 1882,	78,938	65,438	58s.	30s.	11½c.

On the whole, I think dairymen have no reason to complain as to this year's prices. But the shortage of the crop is another matter, and will doubtless bring less returns on the same number of cows than last year. So far as I have heard from dairymen, they estimate the shortage at about one-fourth less than last year up to June 15th. This shortage of the early make may, however, be more than made up during the remainder of the season; and I think there is some probability of this, as the season last year was very hot and dry, with scanty afterfeed in the fall.

As to prices in the future, nothing with *certainty* can be said. Some opinion of course will be formed from the course of trade in the past, and it is with the view of presenting some data from which an opinion may be formed as to trade in the future that I have given the foregoing statistics."—*X. A. Willard, in Country Gentleman.*

WHAT MILK DO COWS GIVE!

Cows that are compelled to perform much muscular labour, as going far to pasture, or to roam over a large area in order to find a supply of food, or to climb mountainous pastures, will be found to give milk deficient in butter, with an increase in casein. So when cows are poorly sheltered from the cold and exposed to driving winds, the butter and sugar of their milk is consumed by the respiratory process in the effort of nature to keep warm. The cattle of Switzerland, which pasture in exposed situations, and are obliged to use much muscular exertion, yield a very small quantity of butter, but a large proportion of cheese; yet the same cattle when stall fed furnish a large amount of butter and very little cheese. The kind, quality and quantity of food supplied to the cow, together with atmospheric influences and general surroundings, have much to do with the character of the milk produced.—*Food and Health.*

MILKING THREE TIMES PER DAY.

The experiment has lately been made in France of milking three times instead of twice per day, and the report is, that the milk is more in quantity and richer in cream, and that the butter globules are more numerous. They state that cows will give from two to three quarts more per day, milked thrice than twice. Milking three times per day has been practised in this country only when the cow yielded so largely that the udder could not properly contain the secretions of twelve hours.

It is well worthy of careful experiments to determine what effect it may have upon cows that yield only moderate quantities of milk. It has been tested in a comparative way upon cows that gave but a small quantity of milk in winter, once per day; and then in early spring, on milking twice per day, found an almost immediate increase, without any other apparent cause, the feed being the same. It requires accurate experiments before anything can be definitely asserted on the question.

CURING KICKING COWS.

Seeing inquiries in your paper for the way to treat a kicking cow, I send mine. Take a snap ring, attach a half-inch cord about a dozen feet in length, put the snap in the kicker's nose, draw the cord around her, letting it rest on her gambrel joints or below. Let a person stand at her shoulder and hold the cord just tight enough so that it shall not slip down to the floor. Anyone can then proceed to milk her without trouble. This course of treatment pursued for one week has never failed to cure the most obstinate kicker, and without any struggles or harshness.—*Cor. Country Gentleman.*

MANY dairymen practise milking their cows steadily, without allowing the animals to go dry. They feed heavily on cornmeal and oil-cake until the milk fails, when the cow is replaced by a fresh one. A dairyman who keeps one hundred and fifty cows says such a practice is more profitable than to lose the time between their going dry and coming in.

Cows, when at liberty to select their sleeping-places out of doors, will be observed always to lie upon the side of a dry knoll, if there is one in the yard or pasture, never lying with the back down hill, but always with this towards the higher ground. This affords more than one lesson pointing towards thrift; and bear in mind that there can be no full measure of thrift without comfort. These lessons are (1) no farm animal will select a resting or sleeping-place that is not entirely dry, unless forced into a wet one; (2) that the comfort of the cow, while confined in her stall, can be added to, by giving her an abundance of bedding, that this may afford an ample cushion in whichever direction she turns her back.

MR. JOHN MEADOWS, of Brussels, has a hydrangea that measures two feet from the pot to the top of the plant. There is but a single stem for nine inches, then three branches, each with a flower twenty-one inches in circumference.

HORSES AND CATTLE.

THE DURHAM OR SHORTHORN.

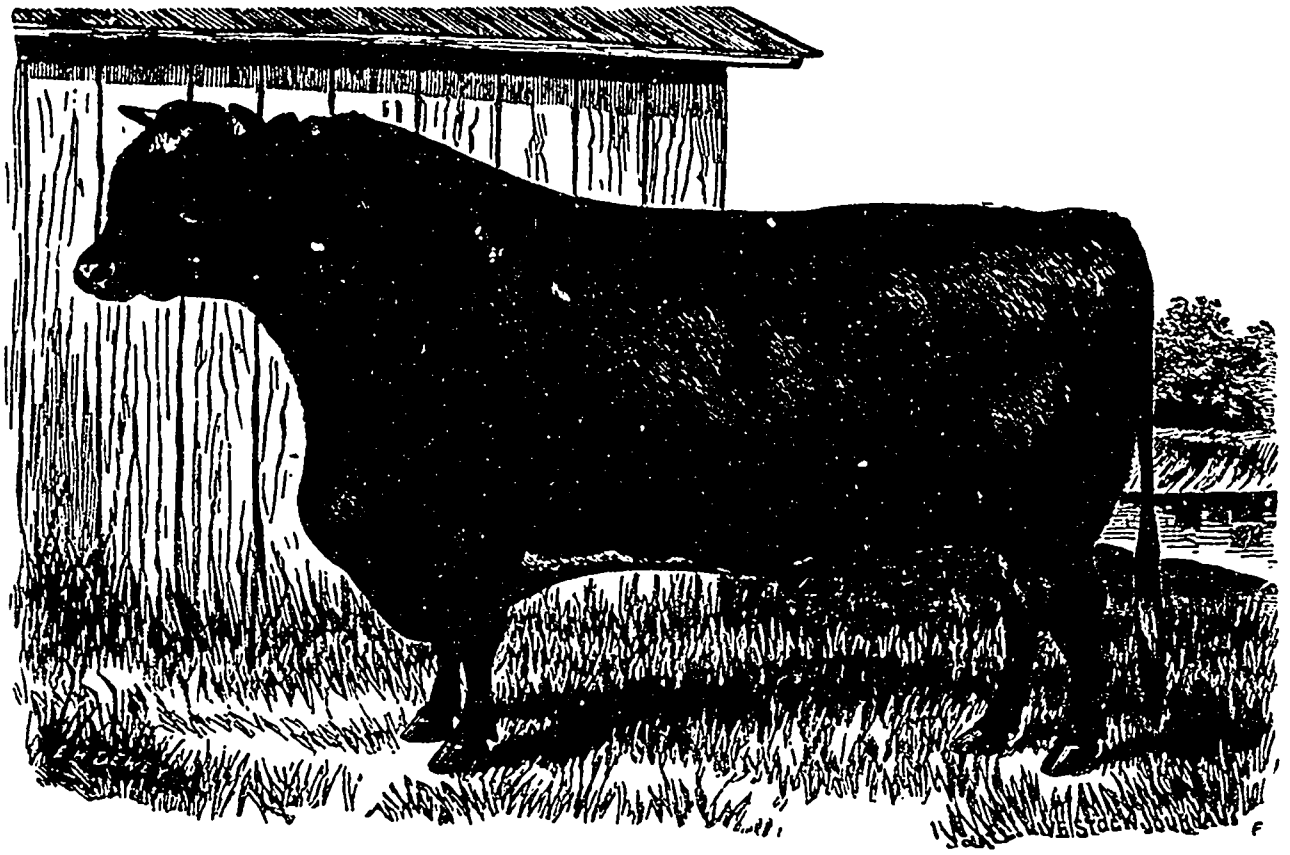
The Durham, or as it is more frequently and popularly termed, the Shorthorn, is by far the most numerously represented breed in Canada, or on this continent, as well as in Great Britain. That fact alone, if it does not attest the supremacy of the breed absolutely, certainly establishes it by inference. But the true position and value of the Durham will have to be shown by actual facts as set forth in the evidence. Mr. Clay, of Bow Park, puts the case of the Durham as follows:—

"The combination of blood that produced the Shorthorn has not been discovered. It is supposed that the Shorthorn originated two or three hundred years ago in Teeswater, and those Teeswater cattle were long looked upon as the best race of cattle in England. About the latter end of the eighteenth century the Brothers Colling, among other breeders, took up this class and improved it. The bull to which most of the cattle of the present day owe their superlative merit is one called 'Favourite' (252). After the days of the Brothers Colling, and building upon their foundation, came Bates and Booth; and they, by a continuous process of in-breeding, have been able to raise the Shorthorn to its excellence in the present day. There are legends connected with the Shorthorn which it is scarcely of any use to refer to now; a great deal concerning its origin is based upon mystery, but it no doubt owes a great deal of its excellence to the Brothers Colling. The system of in-breeding, though producing good results in the case of the Shorthorn, will not do for all animals. 'Hubback' was the bull that originated the family of the Duchesses."

Mr. Charles Drury says:—"I am engaged to a considerable extent in stock-raising. I keep good grade cattle, which I feed for the English market. I breed my own animals, though I would prefer purchasing and feeding if I could do so. In my breeding I always use thoroughbred male Shorthorns."

Mr. Dickson, of Tuckersmith, "looks upon the Durham as the best animal for the country."

Professor Brown's testimony is:—"Beginning with the famous Durhams or Shorthorns, I would say that either for beef or for milk, I do not think there is anything that can equal them. I say this advisedly, after many trials of the different breeds. They may not do so well as some other breeds on poor pasture, but for improving other breeds, and for early maturity and weight in itself, I do not think there is anything in the hands of man at the present time to excel the Shorthorn."



PURE SHORTHORN BULL, 30TH DUKE OF AIRDRIE.

THEY ALL KNOW.

Once in a lifetime you meet a man who will admit that he doesn't know all about a horse, but he may come around next day and claim to have been temporarily insane when he made the admission. As a rule, every man knows exactly what ails a horse, whether anything ails him or not, and can point out a dozen instances where nature could have improved on her work, no matter how well she did it.

Recently a horse which had been looked over by the Fire Department, and rejected on account of size, was tied to a post on Griswold street. He was as sound as a dollar, not even showing a wind-puff. Pretty soon along came two lawyers, and one of them remarked:

"Pity such a fine animal as that is foundered."

"Yes, and I can see that he is wind broken to boot," was the ready response.

Then the cashier of a bank halted and took a look at the horse's teeth. He was going away, when a mail carrier asked:

"How old do you call him?"

"Some men might buy him for twelve, but couldn't fool me. That horse will never see sixteen again."

The best judges had called him six, and his owner had proofs that he wasn't a month older. The mail carrier felt of the animal's ribs, rubbed his spine and observed:

"He's got the botts, or I'm no judge of horses."

Then a merchant halted and surveyed the horse's legs, lifted its front feet, pinched its knees and feelingly said:

"Been a pretty good stepper in his day, but he's gone to the crows now."

The next man was a book-keeper. It took him but five minutes to make up his mind that sweeny was the leading ailment, although poll-evil, heaves and glanders were present in a bad form.

"What is sweeny?" queried an innocent bystander who had made up his mind that the horse had liver complaint.

"Sweeny?" repeated the book-keeper—"look at the way he carries his tail, and learn what sweeny is."

"Oh, no," put in another--sweeny affects the eyes."

"I guess not," said an insurance man; "I guess sweeny affects the lungs."

"Lungs!" cried a broker—"you mean the stomach!"

And they were jangling over it when the owner of the horse came and led him away.—*Detroit Free Press.*

SENSIBLE ADVICE ON TRAINING HORSES.

Forty-six years ago, David Lewis, then a handsome, round-headed Welshman, was driving from Utica, Oneida County, to Hamilton College, having a load of lads returning after a spring vacation to their studies. As he neared Middle settlement, attention was called to a farmer maltreating a colt which could not and would not keep up in his work with an older horse harnessed beside it. David, displeased at the unreasonable farmer, murmured, "Tu-ra-lu-ral" (but did not swear), and stopped for the farmer to come to the roadside, and the two commenced talking in Welsh. We college boys had no Welsh professor, and were ignorant of the language. The tongues of David and his countryman had a short spat. As we started on our way, I asked for a translation of the Welsh dialogue. Says David: "The man asked me to tell him how to break his colt, and I told him to go in the house and first break himself." No man can master a colt properly who cannot control himself. There is no mystery in education. The whole method is according to law. Rewards and punishments underlie just government. Beware of an improper punishment of a colt, as you would of a human being, for you must command respect if you would educate either. Never trifle nor deceive. When you must draw the whip to compel attention, remember to reward obedience with sugar, or some pleasing gift. First make your colt your friend, and then educate without impatience or severity. Condescend to talk to your horse and

be clear in your language, for he can hear, and is glad to be coolly and intelligently directed. "Go on! Steady! Whoa!" are three magic words which should be used to start, to moderate, or to stop the movements of a colt. Repeat them clearly, as you have occasion to use them, for just what they mean; and the colt will soon obey them, and be proud of his knowledge. Be at all times considerate, kind, fair, and firm, remembering there is a limit to every sensitive organization. It does no harm to tire a colt, but never exhaust one. Groom well, after work, rather than before. If you hate a colt, let some one else educate him.—*Brentano's Monthly.*

HEREFORDS IN QUEENSLAND.

The *Queenslander*, in relation to the merits of Herefords and Shorthorns in that region of Australia, has the following:

"The Hereford breed of cattle is rapidly coming into favour in the coast districts of this colony. In our last issue we noticed the arrival of fifty heifers from the celebrated Tocal herd, to form the nucleus of a pure herd at Durundur. These will be followed in the course of a few months by one of the best bulls now in use at Tocal to preside over this newly-formed stud here. For ten years past the Durundur herd has been gradually undergoing a change from Shorthorns to Herefords, and so far, in the opinion of the owners, the change has been a most judicious one. At Cressbrook, where they have been tried alongside one of the best Shorthorn herds in the colony, it is reported that they hold their own well. At Gracemere, where they are also kept side by side with first-class Shorthorns, Mr. William Archer gave it as his experience of them that they maintain their condition in seasons of severity when the Shorthorns were 'curled up.' For many years Mr. Elliot has had a Hereford herd at Undully, in the Logan district, and as butchers' cattle this herd is said to be equal to any in the district. In the far north a large herd has been established in the Kennedy district, the owners believing that they thrive and fatten better than the Durhams. It has been the opinion of many that they are not so suitable to the inland districts as the Durhams; but here again the opinion of the Messrs. Wyndham, who have long experience of the breed on Winton run, in the south-west of Darling Downs, is in direct opposition to this. The first-cross between a Hereford and Durham has been found to produce an exceedingly valuable beast for the butcher."

DEATH OF CLYDESDALE MARES.

Last week, says the *North British Agriculturist*, we noticed the death in foaling of the Duke of Roxburgh's valuable mare Kelso Maggie 2nd, daughter of the first prize Highland Society's animals Kelso Maggie and Prince of Wales. Since then we have heard of three other noted mares having died recently in similar circumstances. Mr. Waddell's famous Mary Gray, daughter of Mr. Johnston's Topsman, and a first prize winner at Royal English and Highland Shows, has unfortunately fallen a victim to the parturition period. According to our information, also, a like fate has lately happened to the Master of Blantyre's Queen Mary, also sired by Topsman, and a well-known prize winner in the Dunmore stud, as well as since she passed into the Master of Blantyre's hands. She was first prize brood mare at the Derby Royal last year. Further, we were sorry to hear that Sir Michael Shaw Stewart's well-known prize filly, Annot Lyle, died on Wednesday last after foaling the previous day a large and very promising colt foal, sired by Topgallant. The foal is happily doing very well. These mishaps occurring to valuable animals that have been in show condition since they were yearling or two-year-old fillies, afford to those who attempt to combine breeding and exhibiting food for reflection.

TURNIP CHOKING.

To relieve a cow choked by a turnip or potato, take a grape vine about as thick as a man's finger and five or six feet long; round both ends like an egg, smooth and peel it, then make a little groove one-eighth inch deep and two inches from one end; put on it two or three piles of rag, and cover with a piece of cotton cloth, turning it back and wrapping it with strong thread or wax end at the groove; then grease this wad with lard. The obstruction can be pushed into the cow's rumen with this instrument, the wad end to be put into her gullet, and a strong but steady pressure used until it reaches the stomach, which will be instantly known to the operator. This simple substitute for an expensive probang such as I have seen used in the old country I have found to answer the purpose just as well, and it can be made in five minutes. The object of the wad is that the cow's throat may not be injured; it should be tied on securely.—*Joshua Franklin, Gloucester Co., Va.*

Fat Shorthorn Heifer "ICICLE," the Smithfield Champion of 1878, whose total winnings in prizes amounted to $3,212.50.

TREATMENT FOR YOUNG ANIMALS.

The following paragraphs, containing some good suggestions, we find without credit in the columns of an exchange:

The most appropriate food for young colts, calves, lambs and pigs is the mother's milk, and this they should have (except in the case of the young of cows kept for dairy purposes) up to the proper time of weaning them. At this time the young things must be supplied with food appropriate to their wants. This point is not sufficiently understood by very many breeders and farmers. Those who have but recently engaged in farming or stock raising will find that successful treatment of young animals, to secure health, thrift and vigour in the art, can hardly be too diligently investigated. The money value of stock, or the profit in raising stock, depends on knowing how to do it economically. Economy does not consist in cheap food, but in such as the animal—whatever its kind—will readily assimilate, and will give the best returns in desirable growth. If the food is not right, no excess of quantity will make up for its deficiency in quality. Nor should the animal be over-fed, for excess in feeding is harmful. A young animal is very often spoiled by becoming too fat, for its food is diverted from the production of bone and muscle to the accumulation of fat.

While no rigid rules can be given which are adapted to all cases, a few practical hints which experience has demonstrated as valuable are in point. The food should be given in small quantities, and often, and the ration gradually increased as the wants of the animal require. The habits and requirements of each animal should be watched, and its feeding governed according to its needs. A weak thing is often crowded and driven away from its food by strong and belligerent companions, and it should be separated from them and properly cared for. Regularity in feeding is of much importance; for every experienced feeder knows that animals soon learn when the time of feeding comes, and if it passes they fret and worry, which interfere with their growth and thriftiness. Water is indispensable, and should be pure. Impure and stagnant water ought not to be tolerated. The first few months of an animal's life are the most important period in its existence to its owner. If it is neglected and stunted, or, on the other hand, over-fed, no subsequent treatment can make good the injury done except at a cost that represents no inconsiderable sacrifice of time, care and money over what would have been required under judicious treatment from birth to maturity.

STOCK-RAISING AS IT SHOULD BE.

The Pittsburgh *Stockman* has the following:

"The warfare in which fine stock breeders need to engage is not among themselves, but in common against the ignorance and fogyism behind which scrub stock-raising is so strongly intrenched in many parts of the country. There will be plenty of good fighting all along the line in this direction for a generation to come, and it will be time enough to pitch into each other when the common enemy is driven from the field. Neither the combatants nor the country at large derive any benefit out of personal quarrels."

There is in this short paragraph a fund of sound, wholesome advice. The breeders of fine stock are apt to assume that none but their favourite tribe is worth the attention of the general farmer, when the fact is that the country is large enough to afford room for any and every family of pure-bred stock, and there are opportunities and a broad field for all. The useless and uncalled-for asperities indulged in are out of place, and the public are surfeited with the abusive epithets and personal allusions indulged in by rival breeders. It makes no difference whether a man breeds a Shorthorn or a Hereford, a Polled Angus or a Jersey or a Holstein, so long as he is actively engaged in improving the native cattle by getting into his herd the purest strains of imported stock.—*Chicago Tribune.*

TENDER FEET IN HORSES.

A writer in an exchange says: "A most excellent treatment for tender feet in horses is to make a carpet for them to stand on of horse manure and dry earth. I had a horse whose feet were bad, and after many experiments I hit upon the exact remedy, and have long kept up its use with most excellent results. It is nothing more nor less than about two inches of dry, fibrous horse manure with dry earth sifted over it and a layer of straw on that, till it becomes trodden down smooth and hard. Every day, and generally twice a day, the portion of it wet by the horse is removed and replaced, but most of the floor has not been uncovered for years. The hole is filled up and patted down with a Hexamer prong hoe and a little dirt put on, and the litter at night is put over it—that's all."

LETTERS on business should always be addressed to the PUBLISHER; while communications intended for insertion in the paper, or relating to the Editorial department, to ensure prompt attention, must be addressed to EDITOR RURAL CANADIAN.

The Rural Canadian.

EDITED BY W. F. CLARKE.

TORONTO, AUGUST 1ST, 1882.

THE PROVINCIAL EXHIBITION.

It is proverbial that "a bad beginning makes a good ending." We do not put absolute faith in this axiom, but hope very sincerely that it may prove true in regard to the forthcoming Provincial Fair at Kingston. Certainly the matter was badly bungled at the outset, and there have been many unpropitious circumstances to surmount. There seems, however, good reason to hope that a grand success will ultimately crown the efforts which are being made to secure a creditable exhibition. Financial profits are not to be expected. A Provincial Fair so far eastward has never been a paying institution, and probably will not be for some years to come. But our fellow-provincials in the eastern part of Ontario need the educating and stimulating influence of such an occasion, and as they pay their share of the taxes out of which the Association gets its annual grant, they have a right to it in their due turn.

THE TORONTO INDUSTRIAL EXHIBITION ECLIPSED.

Until very recently, we thought the fertile-brained managers of the Toronto Industrial Exhibition had outdone all competitors in providing attractions for the public. But it would seem that the managers of the Iowa State Fair have distanced them. It is announced that on Sunday, Sept. 3rd, a sermon will be delivered on the Fair Grounds, Des Moines, by Rev. Wm. Fawcett, of Grace Methodist Episcopal Church, Chicago. On Tuesday, Hon. James Wilson will deliver an address. On Wednesday, Governor Kirkwood will "orate." On Thursday, Dr. Loring, U.S. Commissioner of Agriculture, will speechify. "Thus," says the *Prairie Farmer*, "there will be an oratorical contest of no mean proportions." In addition to foot races, the "agricultural hoss trot," and other common amusements, there will be "chariot races after the old Roman style." Toronto must burnish up its wits.

THE CROPS IN ONTARIO.

The July Report of the Bureau of Industries recently established by the Provincial Government is on our table, and comprises a large amount of useful and interesting information about the condition of the grain, hay, and fruit crops of Ontario, and the year's clip of wool. The statistics are made up from the reports of five hundred correspondents, mostly farmers, rendered up to July 1st, and covering nearly every township in the Province. It is not claimed that these statistics are complete. That could hardly be expected. But we are assured that they do not err on the side of excess. As the only full returns hitherto made of the acreage of cereal crops in Ontario they possess great interest, and their attentive study cannot but awaken patriotic pride in regard to the land we live in. Our space does not admit the publication of more than a general summary of this report, and we quote this as given by the Secretary, Mr. Blue:—

"The summary of acreages shows that there is this year a very large area under cereals, the total being nearly 5,000,000 acres. Wheat takes the lead, with 1,763,876 acres; oats come next, occupying 1,425,048 acres; barley is third, 885,466 acres; peas fourth, 554,464 acres; corn fifth, 210,080 acres; and rye sixth, 182,068 acres.

"The area under fall wheat is 1,170,284 acres, and under spring wheat 584,592 acres, with an estimated produce respectively of 21,737,841 and 9,046,348 bushels. This is a great relative change since 1870, when the total area was 1,865,872 acres, and the product 7,891,989 bushels of spring wheat and 6,841,460 bushels of fall wheat. The change has taken place chiefly in the West Midland, Georgian Bay and Lake Huron counties. In the last-named group, in 1870, the total produce of spring wheat was 1,161,841 bushels, and of fall wheat 343,553 bushels, or in the proportion of 3·38 to 1; the estimated produce for this year is 538,816 bushels of spring wheat, and 8,598,248 bushels of fall wheat, or in the proportion of 1 to 6·75.

"The fall wheat is reported very good on 1st July throughout the western half of the Province. It has recovered admirably from the effects of spring frosts, and if the weather continue favourable until the harvesting the yield will be better than an average. In the eastern half the reports are less favourable. In the St. Lawrence and Ottawa counties there will not be more than half a crop. It must be remarked, however, that eastward of York county a much greater area of spring wheat is grown than of fall wheat, and the condition of spring wheat is reported excellent. Assuming that the estimated produce is fairly realized, and that the crop is safely harvested, Ontario will have a surplus for outside markets of fully 20,000,000 bushels.

"Oats promise to be an excellent crop in all sections of the Province, and barley and peas fairly good. The heavy rains of May and June, while favourable to the former grain, were somewhat injurious to the latter; but the warm days of the last two weeks of June caused all crops to thrive wonderfully. The season is one of slow maturity for cereals, and harvest time will be fully two weeks later than usual. Corn seems destined to be a failure; the temperature has been too low for it.

"The clover crop will be short in consequence of the plant having been heaved by spring frosts; in many districts it has been ruined. Timothy meadows had a late start as the result of a cold May, but they picked up finely throughout June, and the crop will not fall far short of an average.

"Fruit has suffered severely throughout the western counties, the cold weather and east winds which followed the blossoming season having blighted it. In the eastern counties the trees came later into bloom, and apples especially promise to be a large crop. There will be a scarcity of peaches and plums, but small fruit is abundant.

"The wool statistics are incomplete, and the figures will doubtless be considerably increased by later and revised returns. They are interesting, however, as showing, first, the high average of wool clip that has been attained through years of careful breeding; and, secondly, that (in obedience to what appears to be an inexorable demand of fashion) Ontario farmers have already made some progress in the change from coarse-woolled to fine-woolled breeds."

The upheaval of clover alluded to in the foregoing report results from the improper manner in which this important product is cultivated. Too many farmers depend on its re-seeding itself, which it will do in the fall of the year. But if the winter prove an open one, or there is freezing and thawing weather in early spring, these young plants, not being sufficiently rooted, are heaved out of the ground. It is a mistake to grow clover as if it were a perennial. It is not. At the close of the second season of its growth the old plants die, and there can only be renewal by means of the young fall seedlings. Clover should be treated as a biennial, and grown for only two successive seasons at a time. Thus treated, it is of great value both as a crop and a renovator of the soil. When farmers give clover its true place in the rotation, there will no longer be disappointment and loss from its upheaval, while its function as a fertilizer will be more fully performed.

The Government of Ontario is to be congratulated on the good beginning which has been made in the collection of crop statistics—a matter of the greatest importance not only to farmers, but to the commercial classes. We notice, however, that some products which do much to swell the annual volume of national wealth are not embraced in this report. We refer more especially to roots, hops, poultry, eggs, and honey, and beg to suggest that these be comprised in future returns.

Mr. Blue has done his work well, in the face of many difficulties, and will doubtless improve on it as he gathers experience. It is a new and untrodden field. When familiar pathways come to be trodden through it, Jordan will not be so hard a road to travel, and a more complete survey will be obtained of the goodly land which we have for an inheritance.

FIVE THOUSAND DOLLARS FOR RACES.

Concerning the prize list of the approaching Iowa State Fair, some peculiar features of which are noticed in another editorial paragraph, the *Prairie Farmer* makes the following highly suggestive observations, which will apply with equal force to some other exhibitions that we wot of:—

"The Iowa State Agricultural Society offers an aggregate of $18,000 to be distributed as premiums at the State Fair at Des Moines this year. Of this the sum of $5,800 goes for racing, $2,100 to horses and mules, $8,100 to cattle, $900 to swine, $500 to sheep, $400 to poultry, $600 to dairy products, $400 to fruit, etc. Thus it will be seen that, in the opinion of the managers of the Iowa State Fair, racing, for the purpose of maintaining an agricultural show, is worth nearly three times as much as horses and mules for general purpose work; nearly twice as much as the best specimens of cattle that the farmers of the State can bring forward; six times as much as the swine of the State; more than eleven times as much as a sheep exhibition; more than fourteen times over either poultry or fruit, and over nine times more valuable than butter and cheese. Horse racing is worth more in gate fees, nearly thrice over, than the combined exhibits of swine, sheep, poultry, dairy products and fruit, and considerably more than half as much as all the live stock, dairy and fruit attractions that can be crowded into the Fair Grounds. Well, we suppose the managers of the society know what features draw best, and place their money accordingly."

IMPORTATION OF GALLOWAY AND ANGUS CATTLE.

The *Breeder's Gazette* of July 6th contains the following item:—

"Mr. Thomas McCrae, of McCrae & Co., Guelph, left Glasgow, Scotland, on the 22nd of June, by the Allan line steamer *Lucerne*, with forty head of thoroughbred cattle, thirty-four Galloways and six Angus. The pedigrees of the latter have not yet been received, but the former are as fine a lot of Galloways as has ever left Britain. Among the bulls are Sam of Garlieston (1610), bred by the Earl of Galloway; Autumn (1698), bred by Messrs. Shannon, of Balig, from their celebrated Normandy line, and Macleod 2nd of Drumlanrig (1676), bred by his Grace the Duke of Buccleuch, K.G. The cows and heifers comprise Lucettas, from the herd of the Earl of Galloway; Killimingans, from the herd of J. Neilson, Dumfries; Torquhains, from Mr. J. W. Wilson, of New Galloway; Blossom, from J. Cunningham, of Tarbreoch; Elrigs, from Wm. Routhledge, Port William; Beautys, from the herd of Capt. F. E. Villiers, Closeburn Hall; and a splendid lot of heifers from Thos. Biggars & Sons, Chapelton, of

their C. family, represented by Comfort, Collin, Carnation, Cheerful, Careful, Cricket, etc., and Balgrays, from J. Jardine Patterson, Lockerbie."

We are glad to learn that these valuable animals have all reached quarantine at Quebec in good condition, and, after being there three months, will be brought west. It is a pity that their detention will not expire soon enough to admit of their being shown at the fall exhibitions. We trust and believe that these additions to Mr. McCrae's herd will prove a profitable investment for their enterprising owner, who has long been distinguished among the stockmen of Canada as a warm advocate and successful breeder of polled cattle. These breeds are coming to the front, and, as beef-makers, are destined to be formidable rivals of the Shorthorn and other tribes that have heretofore, somewhat unjustly, thrown them in the shade. Their hardiness, early maturity, excellence of meat, and freedom from useless and dangerous horny appendages, will secure for them high appreciation as they become better known to the farmers and cattle-dealers of Canada and the United States.

TAKE A HOLIDAY.

Fresh from the enjoyment of a summer holiday, and realizing to the full its wonderfully rejuvenating and recuperative influence, we add our editorial "Amen" to the following sensible paragraph from the *Prairie Farmer*:—

"There are many farmers who will in this season of rainy days, more than ever, think that a holiday, when the whole family can lay aside the daily routine of farm life, in doors and out, 'hitch up' the horses and take a pic-nic or fishing excursion, cannot be afforded. But it is a fact that a little recreation and pleasant social intercourse pays far better than constant labour by men, women and children. Farm life in this country is almost everywhere too isolated, too monotonous. Mentally and socially the people of the farm need the friction of others to wear off the rust that dulls the brightness of the pure steel that exists within. It matters little where one goes, the change is what is needed, and almost any change will be enjoyable. It matters little what recreation is indulged in, so that it is rational and does no harm to others. So we say, occasionally during the busy season break away from work and care, and have a good time. The man or woman who has come to think that such days cannot be enjoyed should realize that they have lost more of the vitality with which nature endowed them, and intended that they should preserve, than they are aware of. Such a feeling should create alarm, and lead to immediate endeavour to regain the spirit, the jollity and the general desires of youth."

IMPORTANT MEETING.

We have pleasure in aiding to give publicity to the following notice:—

"The third annual meeting of the Society for the Promotion of Agricultural Science will be at Montreal, August 21 and 22, previous to the meeting of the American Association for the Advancement of Science, Aug. 23rd. The following members have forwarded to the secretary the titles of papers to be read or presented. The meetings will be open to the public, and time will be granted for discussion: L. B. Arnold, A.M., Origin of Butter Fat; Patrick Barrie, Esq., Underdraining; W. J. Beal, Ph.D., (1) Testing Seeds at Different Temperatures, (2) Varieties of Red Clover; C. E. Bessey, Ph.D., The Phyllomania of the Red Elm, a new disease attacking fruit trees; T. J. Burrill, Ph.D., Notes on Parasitic Fungi; G. C. Caldwell, Ph.D., The Maintenance Ration; Peter Collier, M.D., (1) Upon the methods for the estimation of the so-called Reverted Phosphoric Acid in Commercial Fertilizers, (2) Results of my Investigations the past four years upon the Sorghum; J. Henry Comstock, B.Sc., The best methods of Destroying Scale Insects; A. J. Cook, M.Sc., Experiments with Bees and other Insects; Geo. N. Cook, LL.D., The Study of Soils; C. H. Dwinelle, Horticultural Quarantine; W. G. Farlow, M.D., On some Diseases of Cultivated Blackberries; F. A. Gully, B.Sc., the Food Value of Cotton Seed; B. D. Halsted, D.Sc., The Soil a Factory, not a Mine; W. H. Jordan, M.Sc., On the Non-albumenoid Nitrogen of Timothy at different stages of growth, R. C. Kedzie, M.D., The Source of Nitrogen of Plants; A. R. Ledoux, Ph.D., The Past, Present and Future of Peruvian Guano, Chemically, Agriculturally, and Politically considered; I. P. Roberts, M.Agr., Pulverizing and Stirring the Soil; D. E. Salmon, D.V.M., Our Animal Plagues and the means of controlling them; J. W. Sanborn, B.S., The relation between the relative and absolute quantities of Food and Water taken, to the amounts of Food Nutrients assimilated; J. J. Thomas, Esq., Germination of Seeds; W. W. Tracy, M.Sc., the Influence of Soils on the Germination of Seeds.—E. Lewis Sturtevant, Secretary, Geneva, N.Y.

DOMINION CATTLE COMPANY.

We find the following references among our exchanges to the above-named organization, whose operations would seem to border on, if not actually to realize, the gigantic.

The *Country Gentleman* quotes "a Chicago paper" as follows:—

"The Dominion Cattle Company of Canada has now invested nearly $700,000 in lands and cattle in the Panhandle of Texas. Their latest purchase was the Wolf Creek cattle ranch of 18,000 cattle and 400 horses and mules, with all the personal property belonging to the ranch, for the sum of $450,000. This property adjoins the Word ranch, containing 11,500 cattle, just previously purchased by the Dominion Company, thus uniting the two ranches, which, combined, are capable of carrying 50,000 cattle, making it the most valuable property in the Panhandle."

Says the *Mobeetie Panhandle*:—

"The largest cattle sale of the Panhandle country ever made by an individual stockman, was the sale that was consummated about ten days ago, J. M. Day selling his stock, numbering upwards of 20,000 head of cattle, together with his ranch privileges, to the Dominion Cattle Company, for $450,000."

The *Prairie Farmer* has the following comments on the paragraph just quoted:—

"The Dominion Cattle Company, of which W. P. Herring is manager, makes at least $50,000 on this purchase, as they could get half a million dollars for their purchase if they desired to sell. This without doubt is the largest sale made in that portion of Texas by a single cattle owner. Doc can no longer be hailed as the cattle king of Wolf Creek, since he has parted with his 'cattle on a thousand hills.'"

The Executive Committee of the Western Dairymen's Association has decided to hold a great Cheese and Butter Fair in Woodstock on the 11th and 12th of October next, under the auspices of the Western Dairymen's Association of Ontario. Over $1,000 will be offered in prizes.

Advance Report.—We have received an advance report of the experimental department of the Ontario Agricultural College, detailing certain modes of cattle-feeding, with the ascertained result. It came to hand too late for careful study and extended notice in the present number, but we shall hope to pay our best respects to it hereafter. This report contains details as to the relative value of corn, peas, oats, oil-cake and cotton-seed cake in the fattening of young cattle; also an account of the microscopic examination of twelve varieties of wool; together with sundry facts in regard to the production of beef and mutton, with their application. We are sure this pamphlet is a record of painstaking work, and that its perusal will be highly thought-provoking.

SKETCHES OF CANADIAN WILD BIRDS.

By W. L. Kells, Listowel, Ont.

THE TANAGERS.

The Tanagers form a numerous genus of birds, the majority of which are confined to the tropical regions of America. Among the feathered tribes they are conspicuous for the brilliant plumage with which they are adorned. Only one species, the well-known and much-admired Scarlet Tanager, is a summer visitant of Canada; but in form, and many of their habits, the grosbeaks and some of the finches bear a strong resemblance, and seem to follow in natural order.

THE SCARLET TANAGER.

The Scarlet Tanager is one of the most beautiful and admired of Canadian wild birds. With the exception of its wings and tail, which are of velvet black, the whole of the body of the male is adorned with an elegant plumage of rich scarlet. Its beautiful form, brilliant plumage, and graceful movements, when seen among the green branches of the trees, or flitting over the newly-sown fields, or over the blossoming flowers, gives it a very fascinating appearance, which excites the admiration of every beholder, and renders it one of the most welcome of our summer visitors. The tanager is not among the earliest of our spring visitors, but as soon as the woods have assumed the emerald garb of summer, and the insect tribes, aroused by the heat of the solar rays to renewed life and activity, leave their dormant state, and flirt again through the genial air, the tanager, impelled by migratory impulses, and the love of its native woods, once more returns from the tropic regions where it has passed the winter season, to enliven the Canadian wilderness with its presence and its song. For some time after his return he may be seen, in company with other birds, in the fields bordering on the woods, where he comes to pick up the uncovered grain, but being of shy disposition and retired habits, he, as soon as his favourite insect food becomes more abundant in more concealed places, retires into the depths of the woods and the tops of the trees, where, during the summer months, he is not often seen. Occasionally he may be seen in large orchards in quest of small ripe fruit, but as soon as the demands of hunger are satisfied he again retires into the deep woods. The song of the tanager somewhat resembles that of the robin, but though melodious, is warbled in a low tone. This song is heard at intervals during the summer months, and generally at an elevated position among the tree tops. His more common notes of "chip-bird" are often heard, while his person is concealed from observation among the thick foliage surrounding the place where the female may have placed her nest. The notes appear to come from a distance, though the bird making them may be in the immediate vicinity—a faculty bestowed on him by the beneficent Author of Nature, no doubt for his protection, to compensate in a degree for the danger to which his brilliant colour would expose him. The Scarlet Tanager is seven inches long; the female is somewhat less; her plumage is olive-green above, and ash colour beneath; the wings and tail are dusky black. She is yet more retired in her habits even than her more beautiful companion, and is seldom seen in his company except in the vicinity of her nest. She is strongly attached to her progeny, and when the nest is approached, evinces much distress and strong maternal affection. The nest is placed on a branch or in the fork of a small tree, generally not high off the ground; it is formed of small bramble and fine roots; the eggs, three to five in number, are of a light green colour, mottled with dark spots. The manners of the tanager are retired, easy and inoffensive. It arrives in the woods of central Ontario towards the latter end of May, and departs again in September.

SHEEP AND SWINE.

MERINOS.

The Merinos are a sheep not now often met with in Ontario, although formerly some few flocks were to be found in the Province. Among the persons who have bred Merinos is Mr. John Gile, of Bastard (Leeds), now a very successful dairy farmer. Mr. Gile says:—

"The flock consisted of between 400 and 500 Merinos. Before the American war they were profitable. I used to get from 45 to 50 cents a pound for the wool; that paid well. The flock was kept well up by importing thoroughbred male animals at great cost.

"I am thoroughly convinced from experience that the Province of Ontario is as favourable a field for raising fine-woolled sheep as the Northern States, and if encouragement was given to the industry, our high lands would prove useful and profitable.

"Since the price of fine wool came down, I abandoned sheep raising and devoted my attention to dairying."—*Ontario Agricultural Commission.*

CARE OF THE BROOD SOW.

I will give you my experience with, and the manner in which I care for, my brood sows. I feed well, but not heavy. When she begins making bed I quit giving her any grain at all, but all the slop she will drink—prefer buttermilk to slop—a tendency to make the sow lay quiet instead of foraging around. It is the best plan to let her run on a good pasture at this time, or else, if she is enclosed, cut and feed her grass. But some grass she should have. When farrowing is over I remove all damp bedding, and replace with dry straw. This makes it much more comfortable for her. If you have time, it is best to pass the straw through the cutting box first, if you have a three-knived box, remove two of them, which will make your straw of the right length. Cutting it thus it makes a nice bed, and is much better than leaves or anything else you can use. If you use straw in its natural length, it is difficult for the little fellows, as they are apt to get entangled and be laid upon by the mother. In all your pens have a railing around inside from ten to twelve inches above floor, and from three to four inches from wall; this will give the little ones a fair show for escape if the mother is careless, or large and unwieldy. With a warm, dry, comfortable bed she will lay quiet till she gets hungry. I then give her all she wants to eat, and continue doing so right along. Under this treatment I seldom ever lose a pig, and in my experience of twenty-one years I have never had a sow to kill and eat her young. I am well aware that this way of feeding is open to controversy, and entirely different from the starving process at farrowing. I have read numerous articles on the light diet and starvation plan, but do not admire or believe in such theory. She must have plenty to eat if you want her to give milk and keep up her own condition. It is much easier to keep her well-conditioned than it is to build her up after being run down and suckled to death. It then takes nearly twice as much feed. There is a great deal in giving her and the pigs a good bed at this time, and a good roof over them. If there is any appearance of lice or vermin of any kind, whitewash the pens well in and out, and sprinkle sulphur in small quantities over the bedding. This, when the nest has become warm, rises in fumes, and will quickly drive out every manner of vermin; and besides it is very healthy—entering through the pores of the skin it cleanses the blood. A little of it placed in the slop occasionally will do more to keep away cholera and like diseases than anything you can buy for five and ten dollars. The trouble is, the remedy and preventive is far too simple and cheap. I would like to hear from other breeders as to their experience, and hope they will come forward and contribute their knowledge, so that we may well learn and improve.—*A. W. Ross, Muncie, Ind., in Swine Breeder's Journal.*

MERINO RAM.

SHEEP IN ORCHARDS.

A correspondent in the *Country Gentleman* so clearly shows the benefit of sheep in orchards that we cannot do better than give what he says here: "The orchard occupies thirty-two acres, and is made the run of thirty hogs and 150 or 200 sheep and lambs during summer. Enough grain and bran is given them to place them in good condition. They eat every blade of grass and green thing close down, and every fallen apple as soon as dropped, for which purpose sheep are better than hogs, which sleep so soundly as not to hear an apple fall, but the sheep are always on hand, and devour every one as soon as it touches the ground. The fruit each year grows fairer, with fewer wormy specimens, and the manure from feeding so much grain has given a healthy growth to the trees. To prevent the animals from gnawing the bark, the trunks are washed once a month with a mixture of soapsuds, whale-oil soap, and sheep manure. If the animals are given a constant supply of fresh water they have less disposition to eat the bark. The profits of this treatment consist in placing the sheep in the best condition, in finely-growing lambs, and in heavy crops of fruit for market.

EFFECTS OF FEEDING OFFENSIVE FOOD TO HOGS.

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

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

CURE FOR SCAB ON SHEEP.

The following is said to be a certain remedy: Take strong leaf tobacco and boil in large kettles or vats. Make the amber strong enough to sparkle, and use when as hot as one can bear the hand in. For dipping, make a box five feet deep, fourteen inches wide, five feet long at top, and two feet long at bottom. Have the back end straight and front end hopper-shaped. Nail cleats on the slanting end for the sheep to walk out on. Set the vat four feet in the ground, and make a platform to let the sheep come out on to drip, and let the liquid run back into the vat. In this way there is none lost but what is taken to wet the wool on the sheep. The way to handle the sheep is this: Have a small pen near the vat; catch the sheep, take hold of its left fore leg with your left hand and right hind leg with right hand, let your knees rest against the side of the vat so you can steady the sheep over it, hold the right hand a little the highest, let go the left hand first, so that the sheep's head will go clear under the liquid and the sheep will turn over and walk out of the vat on to the platform to drip. There need be no fears about the liquid hurting the sheep's eyes or ears. If you should see the sheep biting themselves after ten or twelve days, repeat the dose and the cure is complete. In this way three men can dip from 800 to 1,000 sheep in one day. If you have to dip in cold weather, keep the sheep warmly housed two or three days. By that time the wool next to the sheep will be dry. Do not use anything but tobacco.

A little daughter of Thomas Price was horribly bitten by a vicious sow, on her father's farm, at Zenia, Miami county, Ind. It seems the little child approached the pen in which the sow, with her litter, was confined, carrying a small kitten. It is presumed the animal mistook the kitten for one of her brood, and attacked her. The poor child was terribly mangled before the parents could reach the scene.

The age of a sheep may be known by the teeth. The first year a lamb's front teeth are eight in number, and are all of equal size. The second year the two middle are replaced by two much larger than the others. The third year two very small teeth appear, on each side of the eight. At the end of the fourth year there are six large teeth. The fifth year all the front teeth are large. The sixth year all begin to show signs of wear.

BEES AND POULTRY.

CARE OF SURPLUS HONEY.

Prof. A. J. Cook, in the New York *Tribune*, writes as follows on this important subject:

"Last evening Mr. Samuel Hilbert came to me and dolefully asked: "What shall I do with my honey? It has all soured."

"You, an old bee-keeper, mean to say that you have put your honey in a cellar or other damp, cool place! Didn't you know better?"

"Yes, but when I took off my beautiful white June honey, I was driven with work, and so hurried it into the nearest place, which happened to be the cellar."

This incident furnishes a text for an opportune article on the care and management of surplus honey. The wise bee-keeper will remove his comb honey just as fast as the bees cap it over. Let it form the highway of travel for the bees but for a few days, and its beauty is gone. Take it off as soon as it is capped, and it will rival the snow in whiteness, and must tempt irresistibly the buyer.

Secondly, put the honey in a dry, warm room. If the temperature is even 100 degrees F. it will be all the better. In such a room the honey will not gather moisture, "or sweet," as it is called, and there will be no trouble from souring. In winter, the warmth keeps the comb from becoming brittle, and may be more safely handled.

Extracted honey should not only be kept in a dry, warm room, but in open vessels covered with cotton cloth, so that the moisture, in case it was extracted before it was thoroughly cured, would escape. If this precaution is surely heeded, there is little (my experience says no) danger in extracting before the honey is capped over, beginning just as the capping is commenced. This saves no little time and labour. If extracted honey is kept in a temperature of 80 to 100 degrees F. it will not granulate. Granulation, however, does not injure the honey, in fact, it is one of the best tests of its purity. To reliquefy candied honey we have only to heat it. If we are careful not to raise the temperature above 180 degrees F., it will lose none of its excellence. To do this easily, place the crock or can containing the honey in a vessel of water, placing something on the bottom of the vessel so that the crock may not touch the bottom and become too much heated. Now, if the water in the vessel is not permitted to boil, there is little danger of the honey being injured.

GOOD BREEDS FOR GENERAL USE.

Fowls that combine the properties of both flesh and egg-production are difficult to find, and yet are frequently inquired for. It is nearly useless to try to unite the two qualities of flesh and eggs in one bird—it cannot be done in perfection. Fowls that attain the largest growth are slow in maturing, and before maturity is reached, it is unreasonable to expect any eggs. The large fowls require the whole season for development, and when the cold weather sets in, it is difficult to force them up to egg-production. Feed accomplishes wonders, but nature will take its course. For this end, however, the Houdan fowl may answer a good purpose where the breed is understood. They will make much flesh, and that which is prized by epicures, and are what might be termed good layers, unless when compared with the laying of the Brown Leghorns. The Houdans are non-sitters.

The Dorking is an excellent fowl, and unites size and quality of flesh with a pretty good yield of eggs for the season. They are sitters. When size is not required, there is no bird that equals the Brown Leghorn for any purpose. At all seasons of the year they give a bountiful supply of rich, medium-sized eggs, and the flesh, being sweet and fine-grained, is greatly prized for early broilers. Size is demanded by the majority of poultry-seekers, and it is only to be attained at the expense of quality and egg-production. The Asiatic fowl has for many years been the meat-producer for the multitude. Epicures choose the game and other choicely-bred birds, but most poultry consumers take the feather-legged bird.

For a roast there is no fowl equal to the Dorking. It grows to a compact shape, of good quality of flesh, with small offal, and is sweet and juicy. The Asiatic fowl is oily and strong, more like aquatic fowls. Next to the Dorking may be reckoned the Crevecœur fowl. In size it is a little below the Dorking, but the quality of the flesh is choice and fine. They are of fair size, hens weighing from four to five pounds, and cocks from six to eight pounds. They have black plumage throughout, and are very handsome, ornamental fowls when nicely bred. They are good layers of large, fine, white eggs, and do not sit. They are rather tender.

One great drawback to good success with poulty results from not understanding the breed kept. The Houdans are what is termed hardy fowls, but require careful treatment. They should not be herded with other fowls. Their immense crests obstruct the vision, except one way, and this renders them helpless against attacks of other fowls, which they might in fair and open combat easily repel. They cannot withstand wet or dampness, but are not as sensitive to cold, providing it be dry, as some other varieties. The Dorkings are very tender, and so are the Crevecœurs. The Dorking must have a warm place in winter. They are even more sensitive than the large-combed varieties, but will compete with them in egg-production if well fed during the winter. There is no fowl more hardy, after fully grown, than the Leghorns. They will withstand great cold without injury, but no breed will endure gross neglect. Leghorn chicks are delicate when young, but soon get out of the way. They are rapid growers and mature early.—*Cor. Country Gentleman.*

POULTRY ITEMS.

The soil has much to do in affecting the shading and colour of poultry, and is a point that is seldom taken into careful consideration, though its importance is conceded by a few.

Whenever fowls can run at large without detriment to the garden, they should be allowed to do so by all means. Nine-tenths of the trouble and diseases among poultry are the result of keeping fowls too close.

Calves' or sheep's livers, which can be always obtained in the market-houses for a few cents apiece, are valuable to feed fowls, for two reasons: They are devoid of bones, and they closely resemble insect diet. We advise the cooking of any sort of *meat* always.

Old breeders declare that chickens from the eggs laid earliest in the season are the most likely to live and thrive after hatching. It is claimed that continuous laying enfeebles the hens' systems to such an extent that the later eggs in the spring litters are not so well endowed with vigour.

Carefully gather the scraps from the table and give them to your fowls. There is no kind of feed which will produce a more liberal return of eggs. There are hundreds of families who throw these scraps into the waste bucket, to be taken away by the swill man, and buy corn for the fowls when the former is by far the best feed for egg-production. Corn or grain should also be fed, but only to a comparatively small amount.

CURRENT NEWS.

On the farm of Mr. William Weir, north of Wroxeter, is an apple tree which is now in full bloom on one side, while the opposite side is well loaded with half-grown fruit.

Mr. Robert Guthrie, of Blenheim, has bought the farm of 250 acres, immediately north of Paris, forming part of the estate of the late Horace Capron, Esq. The price paid was $84 per acre, making a total sum of $21,000.

The *Milton News* says: "A cat belonging to Mr. Thomas Missourier, of Progreston, has manifested a maternal affection for some baby squirrels. Mr. M.'s son one day caught a couple of infant red squirrels, and, expecting to see some sport, placed them with the cat, which had a number of very young kittens. The young aliens took kindly to their foster-mother, and she, reciprocating the strange affection, guards them as jealously as if they were her own offspring."

Mr. Wm. Dunlop has sold his farm on the 13th concession of Hullett, to Mr. John Aldrich, a gentleman from Aberdeen, Scotland. The farm contains 150 acres, with 125 cleared, and was sold for $7,000. It is a good farm, and Mr. Aldrich has made a good bargain. He travelled over a considerable portion of the North-West, both on the Canadian and American sides, but was better pleased with Ontario, and the county of Huron in particular, than any other section he came across.

A few days ago, says the *Kingston News*, we recorded the death of a man from hydrophobia, occasioned by the bite of a skunk. In many parts of the West the bite of this animal is greatly dreaded, as being frequently fatal. It is believed to induce the disease which appears as rabies in the dog and hydrophobia in human beings, and we understand that the idea is by no means scouted among men of science. Such a creature ought to be exterminated, instead of being preserved for the benefit of furriers.

Messrs. D. Caldwell & Sons, of Galt Nurseries, have had a splendid yield of strawberries this season. Up to the 14th inst., from five acres —one fourth year crop, one third year crop, two second year crops, and one first year crop—they have gathered, with fully one quarter of the crop to gather, 10,395 quarts, or 325 bushels of 32 quarts each. This will give an average yield of 65 bushels to the acre up to this time, and with the product yet to gather, the total of 80 bushels to the acre will probably be reached.

The cattle quarantine at Levis, which has lately been much enlarged, now contains some 700 head of magnificent animals, including Jerseys, Herefords, Ayrshires, Devons, Polled Angus, Galloways, West Highland, Sussex and Shetlands. The Cochrane Ranch Company have in collection 23 bulls and 57 cows of the Polled Angus breed. Thos. McCrae, of Guelph, 40 Galloways; R. Hay, Toronto, 5 Polled Angus; J. R. Craig, of Brampton, 10 Durhams; and George Geary, of London, 8 Herefords and 23 Polled Angus. All are in splendid condition.

The *Peterborough Examiner* says. "Mr. Wm. Best, of Emily, is the owner of a phenomenal specimen of poultry. A brood of chickens, hatched the other day, contained one which is the proud possessor of four well-developed legs. The legs are in a row from side to side. The chicken, which uses chiefly the outside pair, is lively and well. It should be killed at once. If it is allowed to grow up and become the father of a race of four-legged fowls, the amount of garden-scratching capacity thus developed will raise the price of 'garden sass' above even its present exorbitant figures."

HOME CIRCLE.

TWO ROMANCES; NOT TRAGIC.

I.

"Ah, that odious posy again! No, Palmer, take it back, and tell her to bring no more flowers. I detest heliotrope; don't you, General Duncan?"

"Why, no, Miss Lorrimer," replied the General, rising, and taking the little nosegay from the footman's hand, "I think it is delicious; and these other flowers are exquisite. Only look at these violets, and these pansies, with their golden hearts! Just the thing for your hair to-night, if you will pardon the suggestion, Miss Lorrimer."

But Miss Lorrimer tossed her queenly head with an expression of supreme disgust.

"I shall wear diamonds and amethysts to-night, General," she said, "not heliotrope. Pah! how insufferable the odour is! Take them back, Palmer, and tell her I will pay for the embroidery some other time."

But the General fastened the blossoms in his button-hole.

"Begging your pardon, Miss Lorrimer," he bowed, "*I* will keep them. They are my favourite blossoms; the very kind we used to have at the old home, when I was a boy. And I have a fancy," he continued, "that these are not city flowers. I can imagine them budding and blooming in some dim old country garden."

Miss Lorrimer laughed silverly.

"Why, General," she cried, "I did not dream you were so sentimental, and you an old soldier, too!"

General Duncan smiled, but he sighed, too; and a sudden mist dimmed his eagle, grey eye, as an old, old memory, tender and sacred, stirred in his heart, awakened by the subtil fragrance of the blossoms on his breast.

He touched the spray of heliotrope with a kind of caressive fondness, while its sweet and peculiar odour, with that strange power which odours alone possess, recalled the one dream of his young manhood—a dream so inexpressibly sweet and holy, that, although it seemed to have for ever faded from him, he cherished and treasured it still in preference to any living reality. But Miss Lorrimer's voice recalled him.

"But you are right," she was saying. "They do grow in the country, in an old cottage-garden, away out in the suburbs. Our seamstress cultivates them, and brings them in to sell. Mamma never fails to buy them, as an act of Christian charity. But I detest the stupid things, and the girl, too, for that matter, only her embroidery is perfectly elegant. Just look at this!"

The General glanced down at the delicately-wrought fabric she was unfolding, with a feeling of tender pity for the frail fingers that had executed the marvellous work.

"And she cultivates flowers, too?" he said. "She must be an artist in her way."

"Oh, yes; no doubt!" laughed Miss Lorrimer. "Mamma thinks her a paragon. She supports an invalid mother, I believe, and is quite as angelic as possible. But I think we'll drop her for the present, General, if you don't object. How late it is!" she added, consulting her jewelled watch; "the evening has flown so rapidly! 'Tis quite time for me to dress! *Au revoir!* and I trust you'll tire of your heliotrope while I'm gone; I don't want my opera spoiled."

But an hour later, when the General and Miss Lorrimer entered the glittering opera-house, where Nilsson was to sing, the impolite General still wore his little posy in his button-hole; and while Miss Lorrimer blazed beside him in her diamonds and amethysts, and the music clashed in his ears, he seemed to see with an introverted vision.

Only one scene was before him: a garden bright with tropic bloom, and bathed in summer moonlight, and filled with the musical murmur of falling waters, and in the midst of all, a young girl, dressed in white, in some gossamer material, standing by a garden-vase that was full of flowers, and smelling of the purple heliotrope that was part of its treasures, before she plucked it for him, as a farewell token. Ah! that evening, should he ever forget it?

The June morning dawned royally in the little cottage-garden shut in by a tangled hedge, and cut up into multitudinous beds of blossoms and berries.

There were clumps of great roses, creamy white and vivid red, and beds of emerald ferns and waxen lilies, and modest daisies and violets, and pansies, and luxuriant geraniums, and a wealth of fragrant, flourishing heliotrope, and here and there a bed of luscious red strawberries, and a gilded cage, from which a goldfinch sang.

A charming, well-kept little spot; and it was all the work of a feminine hand. The young girl came down the gravelled walk now, in the dewy glow of the June morning, wheeling an invalid's chair before her—a fair, golden-haired girl, with a face that shone like a pearl beneath her broad market-hat.

"Now, mother dear," she said, as she wheeled the chair beneath the odorous shade of a honeysuckle bower, "you will be quite cozy, and the birds and butterflies will keep you company till I come back."

The invalid smiled, and unfolded a roll of delicate needlework.

"I wish you would put your work by," continued the girl, "and take a good rest this nice morning. There's not a bit of need that you should work so hard. See my flowers how they thrive; and only look at my berries! There are no finer in the market. Little mother, we shall find ourselves growing rich one of these days."

"Then, it will be the work of these busy little hands," replied the invalid fondly kissing the little brown hands that fluttered so caressingly about her.

Alice laughed like a chid.

"It is so much nicer than teaching music, or working at the needle," she said. "I feel quite proud of my vocation. But here comes Farmer Denham; I must get my baskets ready, for it puts him in a bad humour to be kept waiting. Goodbye, mother! Please don't work much, and don't get lonesome! I shall be gone just the least bit longer than usual, because I shall stop and get you a nice cool wrapper with the money my unknown friend sent me yesterday. I do wonder who he could have been?"

"Some friend of Miss Lorrimer's," suggested her mother.

"He was a General something, the footman said. I did not catch the name. Well, I trust he'll have his reward; and as I have his gift, I won't call for Miss Lorrimer's money to-day. She's so slow! Goodbye again, mother—I'm off now!"

And away she hurried to get her dainty baskets ready for the farmer's cart.

General Duncan was out of spirits; and, to tell the truth, out of humour, too, despite the royal glory of the June morning. The opera had left him with a headache. He arose with the dawn, and mounting his favourite mare galloped for miles across the country; but the blooming apple-orchards and fragrant gardens only served to increase his unrest, and he returned in a worse humour.

After breakfast he started down town for a stroll, puffing savagely at his cigar, and wearing his hat low down over his handsome, intellectual brow. The General was quarrelling with his destiny, and feeling that he had been a very badly-used man; and in some respects this was true. Not many years back he was nothing but a clerk to a merchant of fabulous fortune. His employer had an only daughter, fair as a pearl; and with this daughter Harry Duncan fell in love. She loved him in return, and their troth was plighted; but the angry father came between them. "His only child, the heiress of all his thousands, should not marry a nameless clerk," he said. The daughter was too gentle and dutiful to disobey, yet too true and womanly to prove faithless.

In the starry watches of a summer night, in the fragrant bowers of her father's garden, she met her lover for the last time.

"I cannot disobey my father," she said, "but I shall be as true to you, dear Harry, as if I were your wife, and wear your ring as sacredly as if it were our wedding-ring."

They parted. But before Harry left, she stooped over a vase of flowers, and selecting a bit of heliotrope, gave it to him as a parting-token.

And to this day, though years had passed, Harry Duncan wore that bit of heliotrope next his heart.

Harry had a natural aptitude for military affairs, and, as a consequence, soon rose to distinction in his profession. But he never forgot his early love-dream. Amid the excitements of camp and field, that sweet memory lived in his heart, keeping it tender and true, and pure from all vice. At the end of the struggle he found himself a General; and returning home, learned that, in consequence of the death of a distant relative, he had inherited a handsome fortune.

Without an hour's delay he set forth for the city where he had once been a clerk, indulging the fond hope that he should find his early love. But all his efforts proved utterly futile. The family had disappeared. The father had failed, and had died. But of his widow and her child no tidings could be had.

General Duncan returned home, and went into society, and was lionised at once. The brightest beauties put forth all their blandishments to win him, and foremost in their ranks was Miss Lorrimer.

She was lovely, accomplished, wealthy—why not take her at the word? She would make a queenly wife. General Duncan mused after this fashion, strolling down town that June morning, and half turned on his heel determined to retrace his steps, and make Miss Lorrimer a morning call. But the instant after he strode on again, smoking more savagely than before.

"No, by Jove! I can't do it. That little nosegay has made a fool of me," he muttered, glancing down at the withered blossoms on his breast.

Suddenly a sweet, girlish voice attracted his attention.

"Heliotrope and heart's-ease," it said.

The plaintive cry floated out on the summer air, and fell unheeded on many ears, but not on his. He had had quite enough of heliotrope, but heart's-ease was another thing. He turned with a vague curiosity to look at the owner of that pathetic voice.

There she stood, with her dainty baskets of blossoms and berries arrayed before her, and a goldfinch trilling in a gilded cage above her head. A fair, graceful girl, with a face as true and tender as Heaven's own mercy—a face he had seen before. Yes! but where? The General stood breathless and bewildered.

"Would you like some flowers, sir? These are very pretty," said the girl.

She held up a cluster of violets, and the June sunlight struck the jewel on her finger, and flashed out a shower of dazzling sparkles. General-Duncan uttered a hoarse cry, and caught the hand in both of his.

"Alice!" he cried at last, "have I found you, my darling?"

The sweet blue eyes opened wide, at first in surprise and terror; then, hearing his words, and feeling the thrilling grasp of his hand, the girl gave one searching look. Through all the bronze and change of his campaigns, she knew him. A beautiful flush rose to her waxen cheek.

"At last!" she murmured, while the tears of joy overflowed her eyes. "Ah! I knew you would come. I never doubted you, dear Harry."

"And you have worn my ring all these years?" he questioned anxiously.

"I have worn it as I promised," she answered.

That night, in the little cottage-garden, the General heard her story—a simple story enough. Her father, when he died, had left her invalid mother and herself without aid or support. Prompted by her love of flowers, she had leased her little garden, and reared her blossoms and berries, and sold them in the market.

"And they brought you back to me in the end," cried the enraptured General. "Ah! I was sure that heliotrope possessed some witching charm. Oh, my love! my long-lost darling!"

A week later there was a quiet marriage in one of the fashionable churches, and on the following day the newspapers announced the departure of General Duncan and his bride for a trip to the Continent.

"And to think, mamma," remarked Miss Lorrimer, sweetly, after having read the announcement, "that I should have brought it all about. Such a fortunate thing for the poor girl! And I trust the voyage will improve her mother. I feel much gratified, I am sure."

And in less than a month Miss Lorrimer wedded a man of threescore, but a millionaire.

II.

The handsome dining-room in the Mayberry mansion was all a-glitter with floods of gas-light, and the genial glow of the fire—for Mr. Josiah Mayberry was

a very "queer man," according to his wife's opinion, and this fancy of his to have nasty, ashy fires all over the splendid mansion before the weather became cold enough, was one of his "eccentric freaks," Mrs. Mayberry called it, with a curl of her lip, a toss of the head and a smile, almost of contempt, directed at the hale, hearty, honest-faced old gentleman who had married her for her pretty face, ten years ago, when he was an immensely rich widower with his handsome half-grown son for a not undesirable incumbrance.

They were sitting around the handsome table discussing their seven o'clock dinner, with the solemn butler and his subordinate in silent, obsequious attention—these three Mayberrys, father, son, and the haughty, well-dressed lady who was wearing a decided frown of displeasure on her face—a frown she had barely power to restrain from degenerating into a verbal expression of anger while the servants were in waiting, and which, as the door finally closed on them, leaving the little party alone over the wine and nuts, burst forth impetuously:

"I declare, Mr. Mayberry, it is too bad! I have gone over the list of invitations you have made, and to think there is not one—no, not one—of our set among them, and such a horrid lot of people as you have named!"

Mr. Mayberry sipped his wine contentedly.

"I told you, didn't I, Marguerite, that it was my intention to give an old-fashioned dinner? And by that I meant, and mean, to whom it will, indeed, be cause for thankfulness. As to making a grand fuss, and seeing around our table only the people to whom a luxurious dinner is an everyday occurrence—I shall not do it. And as to the guests on my list being 'horrid' and 'common,' you are mistaken, my dear. None of them have a worse failing than poverty. There is not a 'common,' vulgar person among the ten names on that paper.

Mr. Mayberry's good old face lighted up warmly as he spoke, and Ernest Mayberry's handsome face reflected the satisfaction and pride he felt in his father's views.

Mrs. Mayberry flushed, but said nothing.

She knew from experience that, kind and indulgent as her husband was, there were times when he suffered no appeal from his decision. And this was one of those times.

"We will have dinner ordered for twelve o'clock, as it used to be when I was a boy. We will have roast turkey, with cranberry sauce, and mashed potatoes and turnips, boiled onions and celery, and all on the table at once. For dessert, pie, cheese and cider, and nothing more. Marguerite, shall I give the order to Lorton, or will you attend to it?"

Mrs. Mayberry twisted her diamond rings almost roughly.

"Oh, don't ask me to give such an insane order to him! I have no wish to appear as a laughing-stock before my servants, Mr. Mayberry. It will be as severe a strain on my endurance as I am capable of to be forced to sit at a table with such people as the Hurds, and the Masons, and that Thyrza Green and her lame brother, and that little old Wilmington and his granddaughter, and"—

Mr. Mayberry interrupted her gently—

"Old Mr. Wilmington was a friend of mine long before he went to India. Since he came home with his son's orphan daughter and lived in such obscurity—comfortable although plain, for Winnie earns enough as daily governess to support them cheaply—I regard him as more worthy than ever. Ernest, my boy, I shall depend upon you to help entertain our guests, and especially at table, for I shall have no servants about to scare them out of their appetites."

And Mr. Mayberry dismissed the subject by rising from the table.

* * * * * *

"Would I like to go? Oh, grandpa, I should! Will you go, do you think?"

The little wizened old man looked fondly at her over his steel-rimmed glasses.

"So you'd like to accept Mr. Mayberry's invitation to dinner—eh, Winnie? You wouldn't be ashamed of your old-fashioned grandfather, eh, among the fine folk of the family? Remarkably fine folk, I hear, for all I can remember when Joe was a boy together with myself. Fine folk, Winnie, and you think we'd better go?"

"I would like to go, grandpa. I don't have many recreations—I don't want many, for I think contented honest labour is the grandest thing in the world, and the best discipline—but, somehow, I can't tell why, but I want to go. I can wear my black cashmere, and you'll be so proud of me."

"Proud of you, indeed, my child, no matter what you wear. Yes, we'll go."

And thus it happened that among the ten guests that sat down at Josiah Mayberry's hospitable overflowing board that cold, blue-skied day, Winnie Wilmington and the little old man were two—and two to whom Ernest Mayberry paid more devoted attention than even his father had asked and expected.

Of course it was a grand success—all excepting the cold *hauteur* on Mrs. Mayberry's aristocratic face, and that was a failure, because no one took the least notice of it, so much more powerful were the influences of Mr. Mayberry's and Ernest's courteous, gentlemanly attentions.

"I only hope you are satisfied," Mrs. Josiah said, with what was meant to be withering sarcasm, after the last guest had gone, and she stood a moment before the fire; "I only hope you are satisfied—particularly with the attention Ernest paid to that young woman—very unnecessary attention, indeed."

Mr. Mayberry rubbed his hands together briskly.

"Satisfied? Yes, thankful to God I had it in my power to make them forget their poverty, if for only one little hour. Did you see little Jimmy Hurd's eyes glisten when Ernest gave him the second triangle of pie? Bless the youngsters' hearts, they won't want anything to eat for a week."

"I was speaking of the young woman who"—

Mrs. Mayberry was icily severe, but her husband cut it short.

"So you were—pretty little thing as ever I saw. A ladylike, graceful little girl, with beautiful eyes, enough to excuse the boy for admiring her."

"The boy! You seem to have forgotten your son is twenty-three—old enough to fall in love with, and marry, even a poor, unknown girl you were quixotic enough to invite to your table."

"Twenty-three? So he is. And if he wants to marry a beggar, and she is a good, virtuous girl—why not?"

A little gasp of horror and dismay was the only answer of which Mrs. Mayberry was capable.

* * * * * *

"Grandpa!"

Winnie's voice was so low that Mr. Wilmington only just heard it, and when he looked up he saw the girl's crimson cheeks and her lovely, drooping face.

"Yes, Winnie. You want to tell me something?"

"Grandpa, I want to tell you something."

She went up behind him, and leaning her hot cheek caressingly against his, her sweet, low voice whispering her answer—

"Grandpa, I want to tell you something. I—Mr. May—we—Ernest has asked—he wants me to—oh, grandpa, can't you tell me what it is?"

He felt her cheek grow hotter against his.

He reached up his hand and caressed the other one.

"Yes, I can tell, dear. Ernest has shown his uncommon good sense by wanting you for his wife. So this is what comes of that dinner—eh, Winnie?"

"And may I tell him you are willing, perfectly willing, grandpa? Because I do love him, you know."

"And you are sure it isn't his money you are after, eh?"

She did not take umbrage at the sharp question.

"I am at least sure that it is not my money he is after, grandpa," she returned, laughing and patting his cheek.

"Yes, you are at least sure of that; there, I hear the young man coming himself. Shall I go, Winnie?"

It was the "young man himself," Ernest Mayberry, with a shadow of deep trouble and distress on his face as he came straight up to Winnie and took her hand, and then turned to the old gentleman. He said:

"Until an hour ago I thought this would be the proudest, happiest hour of my life, sir, for I should have asked you to give me Winnie for my wife. Instead I must be content to only tell you how dearly I love her, and how patiently and hard I will work for her to give her the home which she deserves—because, Mr. Wilmington, this morning the house of Mayberry & Thurston failed, and both families are beggars."

His handsome face was pale, but his eyes were bright with a determination and braveness nothing could daunt.

Winnie smiled back upon him, her own cheeks paled.

"Never mind, Ernest, on my account. I can wait, too."

Old Mr. Wilmington's eyes were almost shut beneath the heavy, frowning forehead, and a quizzical look was on his shrewd old face as he listened.

"Gone up, eh? Well, that's too bad. You stay here and tell Winnie I am just as willing she shall be your wife when you want her, as if nothing had happened, because I believe you can earn bread and butter for both of you, and my Winnie is a contented little girl. I'll hobble up to the office and see your father; he and I were boys together; a word of sympathy won't come amiss from me."

And off he strode, leaving the lovers alone, getting over the distance in a remarkably short time, and presenting his wrinkled, weather-beaten old face in Mayberry & Thurston's private office, where Mr. Mayberry sat alone, with rigid face and keen, troubled eyes, that, nevertheless, lighted at the sight of his old friend.

"I'm glad to see you, Wilmington. Sit down. The sight of a man who has not come to reproach me is a comfort."

But Mr. Wilmington did not sit down.

He crossed the room to the table at which Mr. Mayberry sat among a hopeless array of papers.

"There is no use wasting words, Mayberry, at a time like this. Did you know your son has asked my Winnie to marry him?"

Mr. Mayberry's face lighted a second, then the gloom returned.

"If my son had a fortune at his command, as I thought he had yesterday at this time, I would say—'God speed you in your wooing of Winnie Wilmington.' As it is—for the girl's sake, I disapprove."

"So you haven't a pound over and above—eh, Mayberry?"

"There will be nothing—less than nothing. I don't know that I really care so much for myself, but Ernest—it is a terrible thing to happen to him at the very beginning of his career."

Mr. Wilmington smiled gleefully.

"Good. Neither do I care for myself, but for Winnie, my little Winnie. I tell you what, Mayberry; perhaps you will wonder if I am crazy, but I'll agree to settle a quarter of a million on Winnie the day she marries your boy. And I'll lend you as much more if it'll be any use, and I'll start the boy for himself, if you say so. Eh?"

Mr. Mayberry looked at him in speechless bewilderment.

Wilmington went on—

"I made a fortune out in India, and it's safe and sound in hard cash, in good hands—a couple of millions. I determined to bring my girl up to depend on herself, and to learn the value of money before she had the handling of her fortune. She has no idea she's an heiress—my heiress. Sounds like a story out of a book—eh, Mayberry? Well, will you shake hands on it, and call it a bargain?"

Mr. Mayberry took the little dried-up hand almost reverentially, his voice hoarse and thick with emotion.

"Wilmington, God will reward you for this. May He, a thousand-fold!"

Wilmington winked away a suspicious moisture on his eyelashes.

"You see it all comes of that dinner, old fellow. You acted like a charitable Christian gentleman, and between us we'll make the boy and Winnie as happy as they deserve—eh?"

* * * * * *

And even Mrs. Mayberry admits that it was a good thing that her husband gave that dinner, and when she expects to see Mrs. Ernest Mayberry an honoured guest at her board, she candidly feels that she owes every atom of her splendour and luxury to the violet-eyed, charming girl who wears her own honours with such sweet grace.

To act upon a determination made in anger is like embarking on a vessel during a storm.

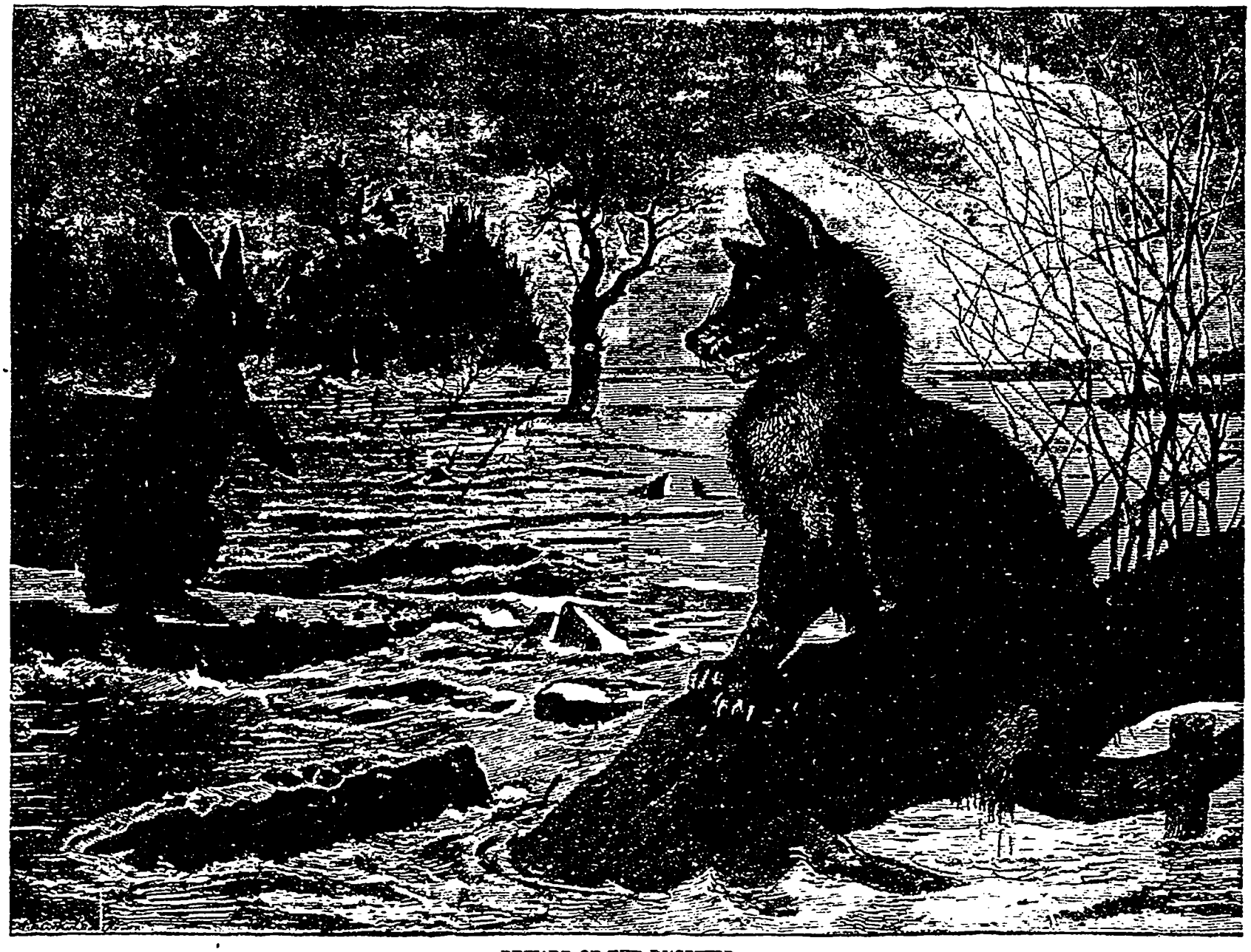
THE domes of the great churches in St. Petersburg, Moscow, and some other Russian towns, are said to be plated with gold nearly a quarter of an inch thick. The church of the Sairow, in Moscow, represents a value of $15,000,000, and the Isaac cathedral, in St. Petersburg, of $45,000,000.

YOUNG CANADA.

THE CHICKEN KNEW.

Where is the baby? I have searched
  The orchard through, he is not there,
And Phebe Bird sang, "Phebe bids
  Not met the darling anywhere."
I've looked where down the hill the brook,
  In sunshine dancing, takes its way,
A spotted frog croaked "Ugh! kerchunk!
  He never called on me to-day."
And in the garden I have sought,
  Among the pretty, fragrant flowers.
"Thum," buzzed the Bee, "I've seen him not,
  Though I've been here for many hours."

Now in the barn-yard, "Cow," I ask,
  "Have you a red-cheeked baby seen?"
The Cow chews slowly, "Moo-oo-oo,
  I saw him run across the green,
And creep beneath the meadow fence."
  "He's here," a Chicken said, "Peep-peep,
A rosy apple in each hand
  Under the hay-stack fast asleep."



BEWARE OF THE DECEIVER.

THE LESSON OF THE BRIERS.

"Charley! Charley!" called Ella to her younger brother, "*don't* go among those briers; come over here in the garden!"

"Ho! stay in the garden! who wants to stay in the garden?" answered master Charley with great contempt. "I guess you think I'm a girl to want to play where it's all smooth and everything. Ho!"

"That's not it, Charley, but you know we both have on our good clothes, and we must be ready to run quick when we hear the carriage drive up to the gate with Aunt May and Cousin Harry and Alice."

"I know that as well as you do," said Charley, pushing his way through the hedge as he spoke. "Girls aren't good for anything but to sit and sew. I mean to have some fun. I mean to cl——"

Ella felt like giving some angry answer, but she checked herself, and went on with her sewing as she sat under the big tree, wondering what made Charley break off his sentence so suddenly.

"El-la, El-la!" cried a pitiful voice at last, "come help me! I'm getting all torn. O—oh!"

Sure enough, Charley *was* getting all torn, some big thorns had caught his new trousers, and the harder he struggled the worse matters became.

"Hold still, dear," said Ella, "I can't help you while you kick so. There! now you're free. Oh, Charley!"

Charley, clapping his hand to his trousers, knew well enough what Ella's "Oh!" meant. It meant a great big tear in his new clothes, two cousins coming to spend the day, and a poor little boy sobbing in the nursery until the nurse would stop scolding and make him fit to go down and see the company.

"Oh! they'll be here in a minute! boo-hoo!" he sobbed; "what *shall I do?*"

"Why, stand still, that's all," said Ella, hastily threading her needle with a long black thread, "stand just so, dear, till I mend it."

"Mend it!" cried master Charles, delighted. "O Ella! *Will* you?"

"Certainly I will," she answered very gently, at the same time beginning to draw the edges of the tear together; "you know girls are not good for anything but to sit and sew."

"O Ella! I didn't say that."

"*I think you did, Charley.*"

"Not *exactly* that, I guess. It was awful mean if I did. Oh, hurry! I hear the carriage."

"*Do* be quiet, you little wriggler!" laughed his sister, hastily finishing the work as well as she could, so that Charley in a moment looked quite fine again. "There! we'll get to the gate before they turn into the lane, after all."

Charley held Ella's hand more tightly than usual as they ran toward the gate together. Ella noticed it, and stopped to kiss him.

"I'm sorry I spoke so," he panted, kissing her again right heartily. "Does it show?"

"Not a bit; you wouldn't know anything had happened. Hurrah! here they are!"

"Hurrah! Howdy do, everybody!" shouted Charley.

A LITTLE French girl was much concerned when she heard of a new exploring expedition. When asked why she should object, she said: "If they discover any more countries, they will add to the geography I have to study. There are countries enough in it now, dear knows.

Scientific and Useful.

GRATED HAM.—The remains of cold ham grated finely on to buttered toast, or served in a glass dish by itself.

FEATHER CAKE PIES.—One teacup of sugar; one-half cup of butter; yolks of five eggs. Bake the same as custard pie. This will make three pies.

GOOD SODA BISCUIT.—To one pint of sour milk take one-half teaspoonful (level, not heaping) of soda; a teaspoonful of salt, and one-half teacupful lard. Mix rather soft.

JELLY CAKE (which is splendid).—One and one-half cups of sugar; one-half cup of butter; three eggs; two-thirds cup of milk; three teacups of flour; two teaspoonfuls of baking powder; lemon to taste.

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

VELVET CREAM.—Put into a pan one ounce of isinglass, half a pint of water, the juice of a lemon and half the rind, with two or three ounces of sugar. Let it boil gently until the isinglass is melted, then strain through a piece of muslin into a pint and a half of cream. Keep stirring until nearly cold, and then put into moulds, first wet with clear water.

SPRING CARROTS WITH CREAM.—Choose very small carrots, scrape them well, cut them in halves, and blanch them for two minutes in salted water; put them into a stew-pan with some butter, add a little salt and sugar, let them fry gently until the moisture is reduced; sprinkle a little flour over them, add a small quantity of good white stock; let it boil, and remove it to the side of the fire. When the carrots are done, thicken them with the yolks of two eggs beaten smooth with milk or cream, and add a pinch of grated nutmeg and a piece of butter; as the butter dissolves, dish them up

DOUGHNUTS.—Old-fashioned "raised doughnuts" are seldom seen now-a-days, but are easily made, after all: Make a sponge as for bread, using a quart of water and two-thirds of a cake of yeast, or a large half-cup of yeast; make this early in the afternoon; when the sponge is very light add a teacup of lard and half a cup of white sugar, two eggs, and enough grated nutmeg to flavour the dough. In the morning this sponge will be light; add a little flour as you use the dough, then cut the doughnuts, put them in a floured plate, and keep warm until you are ready to fry them; drop in very hot lard, and cook longer than you do fried cakes made with baking powder; sift powdered sugar over them, and send to the breakfast-table warm.

TO SWEEP AND DUST.—Sweeping and dusting is an art, in the opinion of "The Alliance," and has a right method, which is as follows:—Are there closets opening into the room to be swept? Arrange the shelves, drawers or clothing preparatory to sweeping day; then let these be the first to be swept. Cover the bed with soiled sheets, as also all heavy articles that cannot be removed; first, however, having carefully dusted and brushed them. Remove all the furniture that can easily be set in the hall or adjoining room, having first dusted it; then taking a step-ladder, begin to sweep or brush or wipe the cornice and picture-cords and pictures. Draw the shades to the top of the window, or if they are inside blinds, dust them carefully. Open the windows. All the dust left in the room now is in the carpet or air, and the current of the windows will soon settle it. Begin to sweep, not towards a door or corner, but from the outer edges of the room towards the centre, where the dust will be taken up with a small brush and dustpan. Go over the room once more; this time with a dampened broom; that removes the least bit of dust, and gives the carpet a new, bright appearance. Replace the articles of furniture as soon as the air is entirely free from dust, uncover the rest, and the room is new and clean. All this seems an easy thing to do, but there is not one in a hundred that will follow out the detail. Some will sweep the dust into the hall, or from one room to another, and then wonder why their house is so soon dusty again. Others forget cornices and pictures, and thus leave a seed for future annoyance; while a third class will do all but using the damp broom, which is as the finishing touches to a picture.

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

TORONTO WHOLESALE MARKETS.

OFFICE RURAL CANADIAN,
Toronto, July 29th, 1882.

CATTLE.—The receipts average about four car loads a day. The demand is fair and prices steady. Exporters, however, would like to see morechoice steers offering; they are in good demand at about 6c. per lb. Butcher's stock sells at 4½c. to 5c. per lb., live weight, and inferior from 3½c. to 4c. *Sheep* are unchanged at 4½c. to 5c. per lb., with a fair supply offering. *Lambs* are in good demand and steady at $2.to $4 25 per head, according to quality. Calves and hogs unchanged.

COAL AND WOOD.—Trade is quiet, and prices continue unchanged. At present there is no indication of lower prices. Egg, stove, grate and chestnut sell at $6.50 a ton; the best soft at $6.50, and inferior qualities at $5.50 to $6. Wood unchanged, at $5 per cord for hard and $4 for pine.

FLOUR AND MEAL.—The *Flour* trade has been exceedingly dull the past week. There appears to be little or no demand, and buyers evidently anticipate lower prices. A sale of superior extra old Standard was reported early in the week at $5.80, but since then there have been more sellers at that price, and even at $5.75. Extra is purely nominal at $5.70. *Oatmeal* continues firm, car lots being worth $5.20 to $5.30 according to brand, and small lots $5 35 to $5 60. *Cornmeal* sells in five to ten barrel lots at $4.40 to $4.50. *Bran* quiet and steady, at about $11.50 on track.

GRAIN.—*Wheat.*—The market since our last review has been dull and depressed, and sales are for immediate requirements only. On Monday No. 1 spring sold at $1.19, and No. 2 at $1.25 to $1.26, with offerings of the latter yesterday at $1.24 on track. On Tuesday No. 2 fall sold at $1.20, and there are more sellers at the same price. *Barley* is purely nominal, with none offering. The prospect is good for a large crop. *Oats* in moderate demand, but sales not as numerous as last week; car lots have sold at 49c. and 49½c. on track. *Peas* quiet and nominally steady at 82c. to 84c. *Rye* dull, with prices purely nominal. *Corn* is steady at about 94c., in sympathy with the west, but no sales have been reported last week.

GROCERIES.—There is no new feature to note in this branch of trade. Business is quiet, and prices not quotably changed from last week. Sugars inactive and about steady; granulated sells at 9½c. to 9⅝c. in round lots, and ⅛c. better in a jobbing way. Syrups are firm, with stocks light. There is little or nothing doing in fruits, prices of which are nominal at quotations. Fish quiet, with no fresh offering; cod sells at about $6. Teas quiet but steady; sales of Young Hysons have been made at 46c. and 47c.; choice new Japans at 55c. and fine at 43c.; blacks in fair demand and firm; a line of medium Congou sold at 36c. Coffee fairly active at 10½c. for medium Rio, and 17c. for Maracaibo. Other articles quiet and unchanged in prices.

PROVISIONS.—Round lots have not moved to any extent, but the jobbing demand has been fair. *Butter* has been well sustained, with barely sufficient receipts for the demand. Holders are rather firm, and export buyers see no money at the rates asked, and are waiting for a decline; choice selections are held at 18c. to 19c. in the country. Jobbing lots of choice bring 18c. to 20c. here, and medium 15c. to 16c.. Pound rolls sell at 22c. to 23c. *Cheese* in moderate demand at 11½c. to 12c. for the best makes. *Eggs* in good demand and firm, dealers paying 18c. to 19c. for case lots. *Hops* scarce and firm; sales of choice in small lots have been made at 28c. to 30c. *Dried Apples* nominal at 7c. to 7½c. *Bacon* sells in a jobbing way at 13½c. to 13¾c. for long clear, and at 12½c. to 12¾c. for Cumberland cut. No sales of car lots. *Hams* firm at 15½c. to 16c. for small lots of smoked and canvassed. *Mess Pork* is held at $24.50 to $25, but the movement is restricted. *Lard* firm, with a moderate demand at 15c. to 15½c. in a jobbing way.

WOOL.—The market remains quiet and steady, with offerings of fleece fair and the demand inactive. A few sales have been made at 18c. to 20c., according to quality. *Supers* sell at 27c. to 28c. for small quantities, and extra at 32c. to 34c.

HIDES AND SKINS.—The demand is moderate and prices steady. The stock of hides is small, and small lots of cured are reported sold at 8½c. Green unchanged, dealers paying 7½c. to 8½c. *Calfskins* offer slowly, and prices are almost nominal at 13c. for green and 15c for cured *Pelts* in fair offer and firm at 45c., and *Lambskins* bring the same price. *Tallow* scarce and firm; rendered is worth 8½c. to 8¾c., and rough 4c. to 4½c.