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The Farmer's Advocate!

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Extra Exhibition Number

Of the "Farmer's Advocate."

Will be issued about the Fifteenth of September Next.

50,000—COPIES—50,000

WILL BE ISSUED.

A copy will be sent to each subscriber to the *Advocate*. The surplus numbers will be carefully mailed, or given, to visitors to the Exhibition.

FARMERS, MANUFACTURERS AND MERCHANTS
will find this an

UNSURPASSED—UNSURPASSED

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Circulars and Terms sent on application to this Office.

On the Wing.

On the completion of the June number we took a trip to the county of York. The Toronto Electoral Society was holding its

SPRING HORTICULTURAL EXHIBITION.

There were some good specimens of hot-house plants exhibited; they were principally from the Government House and private gentlemen's conservatories. The display was not extensive, but the plants shown were rare and choice of their kinds, and showed great care on the part of the gardeners to have them in such perfection. The display was made in the skating rink; the band played in the evening, and a fine promenade was held on the grounds adjoining.

A poultry exhibition was also held in the same building. The crowing of the birds was such as to almost drown a person's voice; in future we think it would be better to have the birds in a separate building, as many persons may not be over-charmed with the continual crowing of such a number of birds.

THE BOARD OF AGRICULTURE AND ARTS.

This Board was holding a meeting. We suggested to the members that a trial of implements might take place in lieu of the plowing matches. It had been decided to have the plowing matches this year; next year we may have a trial of implements. The Board has made some alterations in the prize list; the Prince of Wales' prize is to be Berkshire pigs; prizes are to be awarded for Alderneys or Jersey cattle; an increased number of prizes are to be offered for Essex, Suffolk and Berkshire pigs. The prizes offered for other small breeds of pigs are to be struck out. We have not a full list of the alterations, but they will shortly be published.

We wished to see the great Durham cow, the property of Mr. James Russell, Richmond Hill.

ISABELLA THE 5TH.

If there is a Shorthorn animal deserving of notice on this continent, this is the animal, as she carried off the highest honors that were given to any animal at the Centennial Exhibition. She conquered the great American breeders on their own grounds and by their own judges; she was the leading cow in the ring that carried off the herd prize. In addition to this high position, our Canadian Commissioners awarded her the only gold medal given at the Centennial Exhibition for Shorthorns of any kind. One American, we hear, imported a cow from England for which he paid \$5000, on purpose to show against this cow. Isabella the 5th is a large animal; her color is a light roan; one of her horns is rather bent. Her appearance, as we took our first side view of her, was not so prepossessing as you might imagine; neither the color nor the horn suited our fancy. On walking around and viewing her back, our opinion changed. She has the most astonishing top or back we ever saw on a cow; it is the broadest, the most even and level, and, what is of still greater importance, she carried more flesh on it than we ever saw on any cow in similar condition. The sight of the top or back of that cow alone is worth a long journey to any farmer that has a particle of admiration for fine stock in his composition. You must see this cow before you can credit the size of her enormous back. We do not know what to compare it to—a bed, a door, or the bottom of a wagon-box. The directors of the Provincial Exhibition should erect a platform at her stall, if she is shown, and we presume she will be, so that the spectators might look down on her back, as they cannot see it to advantage when standing on the ground. It was not till we saw her waking up a slight hill that we more particularly noticed it. If one of our artists

had been with us, we would have given you a cut of this cow walking up the hill. Mr. Russell has a fine farm, about two miles from Richmond Hill; in fact we thought it the best farm we had seen on the whole road. We had noticed many very poor farms along the line of rail to Richmond Hill; farms so poor and light that it would be hard for good farmers to be confined to them if in some other parts of the country. But large cities have their attractions and advantages. The crops on Mr. Russell's farm were looking very well. He has a family. The management of the stock is left in the hands of his sons; they are workers, and understand the requirements of the country. Mr. Russell has 350 acres of good clay loam. He came to the country poor, has made his farm, and has it now stocked in such a manner that some of our leading stock men must go to him for first-class stock, and might profitably copy from his example. We will not go into minuteness in the Durham class. Mr. Russell gained the only gold medal at the Centennial Exhibition, and five silver medals for Shorthorns. He has also a flock of Cotswolds that are equal to any English or Scotch flock to be found as regards size of sheep, quality of wool, and health of flock. Mr. Russell has a winding stream of water running through his farm. He had straightened the course on about half the farm, leveling uneven parts, improving the land, and making it appear, as it really is, an improved farm. The work requires to be seen to be appreciated.

Mr. Russell has just erected a good, substantial, brick house, and is now about to plant ornamental and shade trees; he has as yet been too fully occupied with his farm work to pay as much attention to tree planting as he would like to have done.

We passed from Mr. Russell's farm to the farm of Mr. R. Marsh, whom we found busy preparing material for building. Mr. Marsh holds his head up stiff and erect as soon as Southdown sheep are mentioned. Well he may, as he has the finest flock of that class of sheep we have yet seen in Canada. If you doubt our word, examine them for yourself at the next Provincial Exhibition.

Mr. Marsh, like many more, is bothered to get rid of the Canada thistles. He says about ten years ago he had a thick patch and was cutting them with a scythe; he was called from his work and did not finish the job for some days afterward. The following year no thistles appeared on the part he first cut, nor did they appear there for several years. On the part that was cut after the lapse of a few days the thistles grew luxuriantly—as luxuriant as ever. Mr. Marsh tried to find the right time to cut to have the same effect again, but has not succeeded; he kept no record of the day, but he is convinced that there is just such a time to cut them that will kill them, and would again like to find it. There are many more like Mr. Marsh who have given the thistles a severe check by cutting them at just such a particular

stage of their growth, but have not been successful in their second attempt. Some of our readers may give us more light on this subject.

WIRE WORM AND GRUBS.

On our return we called at the hotel at Richmond Hill. We had noticed some of the grain looked patchey, caused by wire worms and grubs. We spoke about these and enquired if the roller had been sufficiently used. An old Englishman was there, he said:—"Tha noo nauthin boot a roller in Canada, tha mought as well swoop ore 'the groun weth a feather; tha haint got no rollers here; tha wouldn't break a hegg; tha cant kill the wire worms; tha 'wants a big Hinglish hiron roller that takes '4 big Hinglish hosses to haul un; tha would not 'have any wire worms left, and tha would get 'some crop then; tha don't half varm the land 'in this country."

There was foundation for the Englishman's remarks; our rollers are too light.

TREE SWINDLERS.

On the roadside a man was trimming some twigs off some small maple trees, about five feet high; he said he wanted to get them into shape. Two years ago he purchased these trees from a tree peddler; they were represented to be large, thrifty, fine trees; he paid 50 cents each for them. He had signed a paper, and thought the cheapest way was to be swindled by paying than to be bothered by legal proceedings, but he felt sore on the swindle. Lots of trees planted out along the line were dead, dying, stunted and worthless; but the bird was gone, and the money, too, and no redress. We think it far more necessary that farmers should get agents to sign papers that trees should be delivered by such a time and in such a state, and the fruit prove according to the kinds ordered. The agents will take care and have the farmers' names in a paper drawn up to suit their purpose. They often get the cash when they ought to be made pay for damage and loss. The Nurserymen from whom the farmers procure their stock should be known. From experience we may say the best trees we ever had were American trees, true to name and right in every way. But many sleek, long-tongued, lying agents deserve to be in the Penitentiary; some employers are no better. We might give astonishing facts. Some of these oily-tongued, soulless creatures would rob the widow of her last mite.

LUCERNE.

We noticed another fine piece of Lucerne growing near the road. We spoke to some farmers about it. Several were so much pleased with it, being far in advance of the clover, that they intend sowing some next year.

The Great Shorthorn Sale of 1877.

This sale, advertised to take place in this city on the 6th of June, was well attended. The stock supplied by Messrs. Gibson, Taylor, Hope and Harrison were disposed of. Every animal catalogued was brought before the public, and only one was withdrawn from public competition. This was at the request of the owner, because at the time of sale she did not appear quite well. A few of the animals were taken out of the ring because no offer was made for them. The sale was well attended by Canadian stock men, and a great many American breeders were present. The sale was conducted by Col. Judy. There was no lauding about the animals or their pedigrees. The catalogues and the animals were the only guides. Every one was supposed to know the lineage of every animal; no inflammatory or exciting remarks were made. The sale was the most quiet, business-like stock auction we had ever attended. The

prices realized were far beyond anything ever before seen in this part of Canada. The accompanying list of prices will show the results. The highest average of prices was obtained at this sale than at any other on this continent this year. The animals were in good, healthy, breeding condition, and were fine specimens of the different strains of blood. Some of the sellers appeared rather dissatisfied that higher prices were not paid for some of the animals. It is our impression that the prices obtained should have satisfied the sellers, as there is a general depression in business, and money is not too plentiful this year. At any rate, many of the prices obtained were far beyond the ideas of our common farmers. Some few of this choice stock fell into the hands of good, practical farmers in Canada; but the highest prices were paid by the Americans. A large canvas tent was erected sufficient to cover the sale ring and the attendance. There were about two thousand people in attendance. Not a word of complaint was heard about the management. Of course, many looked with wonder and surprise, especially when \$500 bids were made, and a single animal was sold at the price of a farm. Of course, these very high prices are, or ought to be, paid only by wealthy gentlemen or the best of farmers who require just such strains of blood to improve their herds. Many good farmers in this locality have now good herds, are in good circumstances and have commenced breeding choice animals, and have added to their selections; we hope they will in due time find returns for their investments. The very high prices are principally paid by holders or speculators. The excitement has sometimes, at some sales, caused prices to be run far above the real value of the animal. A good demand for good animals will always exist, and many will strive to obtain the best.

The second day's sale was attended by more farmers from this locality than on the first day; but few of the Americans attended this sale, and many of the principal Canadian stock men from a distance were not there. The prices and stock came more within the reach of the farmers, and most of the vendors and purchasers were well satisfied. This sale consisted of stock from the herds of Captain O'Malley, of Wardsville, C.M. Simons and A. & A. Stewart, of Lobo. A few of the cattle offered on the second day were not up in flesh, and were withdrawn; the majority were in good trim, and many farmers who had not previously purchased commenced by taking one or more animals.

These sales will do good to the farmers in this locality, and must cause a desire to improve. Many begin with one or two animals, and gradually increase. All admire the fine forms and kindly appearance of some of this stock. It is highly commendable to see a farmer striving to excel in raising the best; still there are many adding to their best stock who have not gained a prize for an animal, a root, or even a bushel of grain. The exhibitors of good stock or good products are the men who are instructors, and who are doing good to themselves and to the country.

The following will show the prices obtained:

J. HOPE'S COWS AND HEIFERS.	
Kirkleavington Duchess 5th, H. J. Harris, Webster, Mass., U. S.	\$2300
Kirkleavington Duchess 23rd, H. J. Harris, U. S.	800
Waterloo 36th, H. C. Meredith, Cambridge, Ind., U. S.	825
Waterloo 37th, Gorge Brown, Toronto, Can.	700
Duchess of Thorndale 3rd, H. C. Meredith, U. S.	880
Duchess of Clarence 12th, Geo. Brown, Toronto, Can.	1500
Doyle	1225
Oxford's Doyle	400
Destiny	1050
12th Bell Duchess of Plumwood and c. c., S. B. Raymond, Markham, Can.	300
BULLS.	
Lord Bright Eyes, J. Pipe, Guelph, Can.	350
11 head—averaging \$939.10	total, \$10,330

R. GIBSON'S COWS AND HEIFERS.	
Duchess Cadenza, H. J. Harris, Webster, Mass., U. S.	\$ 700
Cypress of Elmhurst	800
Cypress of Elmhurst 2nd, do.	120
Rosy Princess 2nd, C. F. Wadsworth, Genesee, N. Y.	1250
Rosy Princess 5th, A. L. Stebbins, Detroit, Mich., U. S.	1225
Rosy Princess 6th, T. Robinson, London, Can.	900
Charming Gwynne, do.	575
Lovely Gwynne, do.	350
Vivandiere Gwynne, T. Friendship, London, Can.	100
Cambridge Red Rose, T. Robinson, do.	500
Ursuline 3rd and b. c., L. G. B. Cannon, Burlington, Vt., U. S.	1500
Ursuline 2nd, T. Robinson, Can.	600
Countess of Darlington, T. Robinson, Can.	850
Campaspe 2nd, Frank Shore, Westminster, Can.	450
Campaspe 2nd's c. c., do.	200
Countess of Belvoir and c. c., T. Robinson, Can.	500
2nd Countess of Belvoir, A. & A. Stewart, Lobo, Can.	425
Sonata, Geo. Brown, Toronto, Can.	250
Sonata 2nd, do.	200
Sonata 3rd, do.	200
Francis 18th, P. Tole, Caradec, Can.	200
Miranda 2nd, T. Robinson, Can.	290
Pimperell 2nd, H. J. Harris, Webster, Mass., U. S.	150

BULLS.	
Rosy Princess 2nd's b. c. by 22nd Duke of Airdrie, J. R. Pettit, Grimsby, Can.	150
22nd Duke of Airdrie, L. G. B. Cannon, U. S.	4900
Duke of Rutland, C. J. Fox, Delaware, Can.	450
Baron Percy, T. Robinson, Can.	215
Mario, T. F. Kingsmill, London, Can.	75
Regal Booth, T. Robinson, Can.	225

20 head—averaging \$603.79 total, \$17,510
* The bull calf was sold on Col. Cannon's account, to Frank Shore, Westminster, Can., for \$100.

T. L. HARRISON'S COWS AND HEIFERS.	
Lady Gertrude, Winslow Bros., Kankakee, Ill., and C. F. Wadsworth, Genesee, N. Y., U. S.	\$4000
Hilda, J. R. Stuyvesant, Poughkeepsie, N. Y., U. S.	525

BULLS.	
9th Baron Morley, J. R. Stuyvesant, U. S.	400
3 head—averaging \$1641.67	total, \$4925

J. B. TAYLOR'S COWS AND HEIFERS.	
Princess Claribel, Winslow Bros., Kankakee, Ill., U. S.	\$ 605
Princess Ethel, do.	410
Rose of Oxford 2nd, W. Murray, Chesterfield, U. S.	275
Rosa Sharon 2nd, T. F. Kingsmill, London, Can.	150
Lady Barrington, J. L. Cowan, Galt, Can.	150
Gloster's Garland 2nd, S. F. Fraser, Westminster, Can.	300

BULLS.	
Prince Victor, John Wheaton, London, Can.	100
Prince of Seaham, S. F. Fraser, Westminster, Can.	300
8 head—averaging \$355	total, \$2840

W. GIBSON'S COWS AND HEIFERS.	
Miss Gwynne, Edw. Charlton, Duncrief, Can.	\$ 925
Gipsy Gwynne 4th, do.	375
Constance of Lyndale 7th, do.	750
Constance of Lyndale 9th, L. G. B. Cannon, Burlington, Vt., U. S.	775
4 head—averaging \$706.25	total, \$2825

J. GIBSON'S COWS AND HEIFERS.	
Governess 10th, J. C. Robinson, Edwards, Can.	\$ 350
Gipsy Gwynne 2nd, T. W. Palmer, Detroit, Mich., U. S.	300
Constance of Lyndale 6th, L. G. B. Cannon, U. S.	1000
Virtue's Garland, J. C. Robinson, Can.	175
4 head—averaging \$456.25	total, \$1825

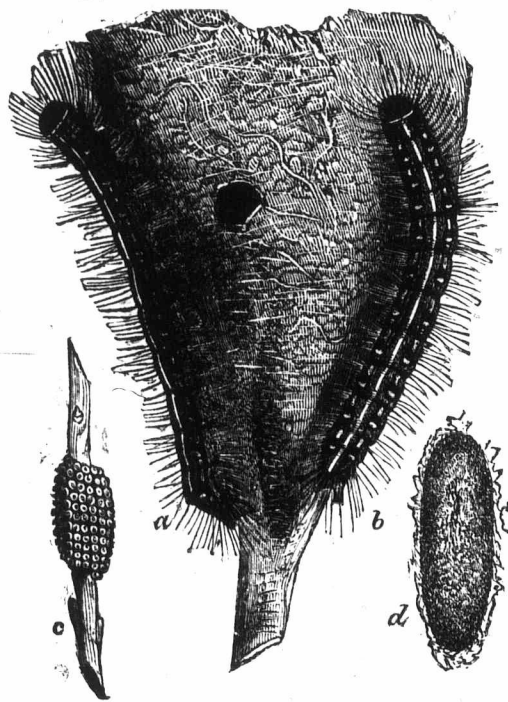
Amount of sales averaged per head \$ 675 58
Making a total, for the 60 animals, of 40,535 00

The following is a list of the animals sold on the second day. Many others were withdrawn, the prices not being satisfactory. All of these were bought by Canadians.

COWS AND HEIFERS.	
No. 1, Cambridge, Jas. Thompson, Masonville	\$ 190
No. 2, Sanspareil 10th, Arthur McBride, Lawrence Stn.	325
No. 3, Louan 7th of Elm Grove, D. McMillan, Wardsville	185
No. 4, Mars 5th, Thos. Douglas, Strathroy	245
No. 5, Lady Elgin, Jas. Thompson, Masonville	405
No. 6, Rosy Scraphine, Geo. Douglas, London	450
No. 7, Mars 6th, W. D. Pettit, Burlington, Ont.	275
No. 8, Isabella, A. W. Smith, Ailsa Craig	300
No. 9, Helen, bred by John Routledge, London, withdrawn	
No. 10, Lalla Rooke, withdrawn	30
No. 11, Minnie Warren, Chas. Alexander, Falkirk	
No. 12, Josephine, withdrawn	210
No. 13, Elvira, John Scott, Ivan, Ont.	350
No. 14, Airdrie's Scraphina, R. Thompson, St. Mary's	140
No. 15, Elvira 3rd, James Gilmour, Nilstown	150
No. 16, Diana's Airdrie, John Shears, Nilstown	
No. 17, Sultana, withdrawn	100
No. 18, Bonny Lass, W. Murdoch, Adelaide	
No. 19, Victoria 2nd, withdrawn	
No. 20, Countess of Springhill, withdrawn	145
No. 21, Elvira 2nd, James Gilmour, Nilstown	150
No. 22, Victoria Bismarek, Robt. Liverington, Crowell	
No. 23, Elka Bertha, withdrawn	430
No. 24, Vessey 4th, James Dixon, Seaforth	255
No. 25, Violet, roan, John Fothergill, Appleby, Ont.	
No. 26, Florencia 24th, withdrawn	180
No. 27, Bluk Bonny 3rd, T. Shaw, Nilstown	
No. 28, Lord Barrington's Beauty, withdrawn	165
No. 29, Isabella 25th, Geo. Douglas, London	145
No. 30, Adeline, James Hebron, Sparta	
No. 31, Lizzie Shaw, W. Y. Hill, Nilstown	40
No. 32, Oxford Lass 5th, withdrawn	
No. 33, Maud Airdrie, withdrawn	

The Tent Caterpillar.

Every one must be familiar with the white web-nests of this caterpillar, that has been stripping the apple, cherry and plum trees of their foliage, and playing similar pranks among our thorn bushes, wild cherry trees, and other trees and shrubs in our woods and along our road-sides. A cluster of the eggs are seen at *c*, *a* shows a back view, *b* the under side, and *d* the cocoon. They are generally deposited during the month of July upon the smaller twigs of our fruit trees, each one containing upwards of 200 eggs, sometimes more, all enclosed in an oval, ring-like cluster, firmly cemented together and coated with a varnish which is alike uninjured by sun or rain. About the time when the buds begin to burst these caterpillars hatch, and at once begin to spin for themselves a web or covering, in which they can take refuge from their enemies, or shelter from the inclement weather. The web is spun in concert, each one doing his own part in the construction of this home for the community. They issue from their tent for feeding usually once in the forenoon and once in the afternoon. As they approach maturity they wander about singly in all directions.



They pass the chrysalis stage of their existence in crevices in the rough bark of trees, in the edges of fence boards, in holes of the posts and other places where they will be sheltered from the weather. Here their cocoons are spun, and within the enclosure the larva changes to chrysalis. This is about three-fourths of an inch long, and of a pale brown color. At the expiration of two or three weeks the moths escape from the cocoons. They are of a dull reddish color, varying in depth of shade, with two straight whitish stripes, which extend obliquely across the fore wings, dividing the wing into three nearly equal portions. The wings when expanded measure from $1\frac{1}{4}$ to $1\frac{1}{2}$ inches, or more.

The moths usually appear in July, flying in sultry evenings against and into our windows. A few days after their appearance on the wing they pair and then the females begin to deposit their eggs on the twigs of our fruit trees.

The insect in the larva state is attacked by ground beetles; they are also subject to the attacks of several species of parasites. As far as man's agency is concerned they are most effectually fought in the egg state, by looking carefully over one's trees during the winter season, the egg masses are readily detected, when they should be removed and destroyed. A second examination of the trees should be made in spring, when the young

foliage begins to push forth; then any clusters which have escaped observation will be found to have hatched, when the young larvæ in their small web should be carefully collected and destroyed.

The accompanying cut shows a full-grown caterpillar on its tent or web; then the chrysalis from which it changes into the moth; also the eggs, carefully sealed up, on the twig for winter.

THE FOREST TREE CATERPILLARS

this season have been so numerous in some places as to strip the leaves entirely from the forest trees, making them appear as bare as they do in winter. In the township of London, two miles west of this city, the woods are stripped on one side of the river Thames; on the other side of the river, about forty rods distant, the trees are in full foliage. Many orchards in the county of Middlesex are entirely stripped of their leaves. One man saved the foliage of a cherry tree when all other foliage was eaten, by putting some grease round the trunk of the tree near the branching point; the caterpillars would ascend to the grease, but would not pass it.

These forest tree caterpillars are different from our common orchard or tent caterpillars, they are larger, and have white spots down the back (the common tent caterpillar has two white lines down the back). They build their cocoons on the sides of forest trees, and are found in large masses in any locality they infest, and come from the forests to the orchards in countless millions. On their journeys they have been so numerous as to interfere with the railway traffic; they have frequently delayed the trains, they get on the rails, are destroyed by the wheels, but make the driving-wheels and track so slimy that the driving-wheels will slip on the rails. About ten years ago these caterpillars stripped many orchards of their leaves. At that time we thought the orchards would be destroyed, but the following year they produced their leaves. There can be no doubt but they are a great injury to an orchard.

Mr. Thomas Stephens, Byron P.O., informs us that his hogs eat all the caterpillars they can get in his orchard; they reach up the trunks of the trees and take all they can find. Woolen batten, or cotton batten, fastened round the trees, prevent the caterpillars from ascending them. The damage done by these pests cannot be estimated. One farmer alone sets the damage done to his orchard at \$500 at least; he says he tried to protect his trees by killing the caterpillars, and destroyed one hundred and fifty bushels of them, but they conquered him even after this destruction. Printers' ink, put round the trees, is said to prevent them from ascending. Please send reports of your preventatives or cures if you have found any better.

The Codling Moth.

We are indebted to Mr. W. Saunders, the well-known entomologist of this city, for valuable information on the Codling Moth, which we abridge for the ADVOCATE as follows:—

The Codling Moth is one of the most troublesome insects with which we have to contend, and, although of foreign origin, has spread over the greater part of our country, entailing a yearly loss on our apple crop, which it would be difficult to over-estimate. The figure which we give represents the section of an apple which has been occupied by a codling worm; *b* shows the point of entrance of the young worm, the place of exit of the matured larva being shown at the left hand of the figure; *c*, the full worm; *d*, its head and first segment magnified; *e*, the cocoon; *f*, the pupa removed from the cocoon; *g*, the moth with wings closed; *h*, the moth with wings expanded.

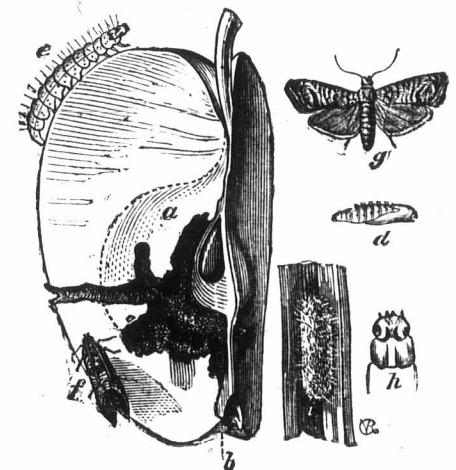
Soon after it leaves the fruit in the fall, the

larva seeks some secluded nook or cranny under the loose bark of the tree, or other convenient place, and spins there its papery-looking cocoon, and there it remains in the larva condition until early in spring. When a few weeks before the final change takes place it enters the chrysalis state. About the time of the apple blossoms she appears as a winged moth.

The moth deposits her eggs singly, and usually in the calyx or eye, just as the young apple is forming. In about a week they are hatched, and at once the tiny worm begins to eat its way through the apple to the core. Its castings are commonly pushed out of the hole by which it has entered, and, before the worm is full grown, infested fruit may generally be detected by the mass of reddish-brown exuvia protruding from the eye. The occupied apple generally falls prematurely to the ground, sometimes with the worm in it, but more commonly after the worm has escaped.

REMEDIES.—On this very important matter, Dr. Le Baron, whom Mr. Saunders quotes, divides this portion of the subject into four heads, viz.:—

- 1st. Destroying the insects in their winter quarters.
- 2nd. Picking the wormy apples from the trees.
- 3rd. Gathering the wormy apples from the ground, or letting swine or sheep have the run of the orchard.



- 4th. Entrapping the worms in bands and other contrivances.

1. When we consider that each female moth is capable of laying fifty eggs or more, and that every worm of the first brood ruins an apple, we see the importance of destroying these insects before they leave their winter quarters; but they are so well concealed under the bark or in the crevices of apple trees that any superficial scraping of the truss, or whitewashing, or other outward applications would not be likely to reach many of them, and any attempt to discover them with the intention of digging them out, would be impracticable; but here the woodpeckers come to our aid, pursuing their prey with unerring and fatal precision. A favorite locality for these worms is the space between the hoops and staves of barrels in which apples have been stored. Where this occurs scald the barrels thoroughly outside as well as inside as soon as they are emptied, or burn them.

2. The plan is to beat off the wormy apples, or else pick them off by means of a wire and a hook, attached to the end of a pole. These two methods can be very usefully combined by first jarring or beating off those apples which readily fall and then going over the trees with the pole and hook. The apples thus removed should be fed to swine, or otherwise treated so as to destroy the worms within.

3. The third plan has been generally recommended as of very great importance. Its efficacy will depend, of course, upon the proportion of worms which fall to the ground in the apples as

compared with those which leave the apple while hanging upon the tree. Those which crawl down the branches, spin up before reaching the ground, and those which let themselves down by a thread, would for the most part be detected only by birds or domestic fowl.

4. This method of entrapping the worms under bands is, without doubt, the most effective remedy yet devised, and if it were generally and persistently followed, would effect a large yearly saving in the crop of this valuable fruit. While all available means, tending to the lessening of the codling moth, the self-reliance should be placed on the bandages; use strips of cloth, old carpet, or sack- ing, when these can be had; but if these are not readily procurable, use paper or cotton. Bandages should be from four to eight inches wide, and either fastened with a string or with a tack at the end, and will be better if long enough to go twice around the tree. They should be fastened about half way up the trunk of the tree sometime about the latter part of June, and be examined every ten days from the 1st of July till the last of August, and at least once after the crop is secured. Care must be taken in unwinding the bandages to prevent the worms from escaping by dropping to the ground, which they readily do when their cocoons are thus torn asunder. Be careful to scrape the rough bark off old trees so that they may not find hiding places in ascending or descending the trunk until they reach the bandage.

Notes on the Garden and Farm.

In Boston, from \$6 to \$10 per cord is paid for stable manure to haul to the farms in the country. The City Forester, of Boston, has come to the defence of the maligned English sparrows. He says that their introduction there was attended with great benefit, almost beyond all calculation in the destruction of caterpillars and canker-worms, and he denies that the sparrows molest or interfere with any other bird. Thousands of dollars, he adds, would not pay the city for their loss.

Mr. Bradley, a writer on gardening and husbandry, informs us that a pair of sparrows once carried to their nest, on an average, forty caterpillars every hour during the day. Hence, nearly five hundred of these destructive insects were disposed of in twelve hours by two little birds. Ten pairs of sparrows would therefore destroy thirty thousand caterpillars per week—enough to ruin any garden or fruit orchard in the land.

A writer in the N. Y. Tribune says:—I think I have a better remedy for the currant worm than white hellebore. Take eight quarts of washing or soap suds to one quart of chamber-lye, and with a brush of any kind give the bushes a general and thorough sprinkling. It will help the currant bushes to grow and kill the worms.

The Detroit Tribune says:—Nothing is plainer than that under our present mode of farming, wheat growing will cease to be profitable within a few years. Already Michigan wheat has lost its once popular standing in the Eastern market.

The flax mills at Crediton, Ont., give employment to one hundred hands during the summer season.

It has been decided to hold a grand Central Fair in Owen Sound next fall open, to the Dominion.

It is thought most of the corn planted in this State, says the Chicago Tribune, has rotted in the hill on account of the cold, wet weather.

HOW TO PROTECT MELONS.—Common land plaster is a sure protection to melon and cucumber plants, if sprinkled on while the dew is on them, and if put on as fast as needed, I find finely sifted coal ashes mixed with plaster—half of each—just as good as pure plaster. Lime should not be used, as it kills the plants. Boxes 12 to 15 inches square, open top and bottom, and 8 to 10 inches high, are an excellent protection against insects as well as cold weather.

In manuring for corn apply the dung or fertilizer near the surface. This is our practice, and we find it successful; we can offer substantial reasons.

The corn plant loves warmth, and the roots grow best in the warmest earth. A temperature of 90 degrees is said to be most favorable for the growth of corn roots. Now by applying the fertility near the surface, the roots find nutriment to absorb at the point where the physical agencies are present for the most rapid development. If a hill of corn be dug in the fall, and the roots be examined, the upper portion will be found very fibrous, while other roots run down deeply, apparently to bring up the needed moisture.

COMPTON ON PEACH GROWING.—D. A. Compton, the "Compton Surprise" potato grower, gives his plan of growing peaches in the north. Choose a dry sidehill, facing southeast. Plow directly up and down, throwing lands in high beds, twenty feet wide, by five or six plowings. In spring, plant early varieties on top of ridges—trees fifteen feet apart. Dress the soil once a year heavily with lime and two quarts bone flour dug in about each tree. Sept. 1, each year, turn very deep furrows from the trees—the furrows to be two to four feet distant from the trees, according to their size. This stops growth, dries off the ground, and compels the wood to ripen. Late in fall turn back the furrows; whitewash the trunks, and where the climate is severe, place straw over the roots, to remain there over winter. Of course, trees must be pruned and borers kept out. By this plan, he says, he has not failed to raise an abundant family supply of peaches, although the mercury, some winters, got to forty below zero.

The Caterpillars.

A Journal correspondent at Concord, N. H., speaking of the ravages of this pest, says:—"The apple and the elm trees have in many instances been as entirely shorn of their verdure as if subjected to fire. The pests made their first appearance in the lower part of the city and are marching northward like a myriad army. They have just reached Centre street, a little to the north of the State House. They cover the ground in many places so thickly that in taking a step a person will crush a score of them. The worms drop from the trees and cover the clothing of pedestrians, and also get into houses and become a perfect nuisance.

Poultry Yard.

Keeping of Poultry in Orchards.

Keeping poultry in orchards is a matter that should be practised when possible. We believe that if farmers and fruit-raisers knew the benefits arising from such management, they would at once adopt it. Last fall we visited an orchard in which fowls were kept; the owner of which told us that before the fowls were confined in it the trees made little or no growth, and only a corresponding amount of fruit was obtained. But what a change was evident now. The grass was kept down, the weeds killed, and the trees presented an appearance of thrift which the most enthusiastic horticulturist could not but admire and envy. The growth of the trees was most vigorous, and their foliage remarkably luxuriant. The fruit was abundant, of large size and free from worms and other imperfections. This excellence was accounted for by the proprietor, who remarked that the "hens ate all the worms and curculio in their reach, even the canker worm." He found less trouble with their roosting in trees than he expected, and that a picket fence six feet high kept them within bounds. His orchard was divided into three sections, and the fowls were changed from one to another, as the condition of the fowls or the orchard section seemed to require.—Poultry World.

Skimmed Milk.

Skimmed milk, or sour milk, or milk in any condition, is a most excellent drink for poultry. It is meat and drink both. Some of the finest chickens we ever saw were raised upon the free use of milk with their food.

Hens lay as well, or better, when furnished with this, than upon any known article afforded them. There is in milk certain properties or constituents not unlike the white or albumen of eggs. And these assist in forming eggs in the fowl, if fed to them seasonably.

Charcoal and Lime.

Permit us again to urge all breeders of poultry who wish healthy fowls to be liberal in supplying them with charcoal. It is one of the best preventives of diseases amongst fowls that can be named.

Even if the fowls are not confined, but especially so if they are, charcoal pounded up into bits or pieces about the size of a grain of corn, or a little finer, should be put around in small piles where the fowls can have easy access to it, and they will soon make use of it.

The cost of charcoal is but a trifle, and where the distance from town or city is so great as to prevent it from being readily obtained therefrom, the ashes from a wood stove may be sieved out and the small bits of charred wood or charcoal used in the place of that made in the regular way. Especially during the spring and early summer months, it is advisable to use charcoal freely. Lime, too, is valuable in many ways. In the form of whitewash it begets cleanliness, freedom from disease, and laying hens should have lime where they can make use of it in assisting in the production of eggs.—Poultry World.

Green Food.

Green food is essential to the well-being of poultry at all seasons of the year. When fowls are limited to confined quarters, this must be supplied to them artificially, to keep them in good health.

In winter time we can give them cabbages or chopped turnips and onions from time to time; short, late dried hay (or rowen) is very good for a change; corn-stalk leaves, chopped fine, they will eat with a relish.

In early spring time, when the ground first softens from the frost, pasture sods thrown into their pens will be ravenously eaten by them; and as soon as the new grass starts (unless they can have free access to the fields or lawn) they should be supplied with this excellent succulent daily. For young chickens, nothing is so beneficial and so grateful as a run upon the newly grown grass; and next to this indulgence they should have an ample supply of cut or pulled grass every day.

It should never be forgotten that one of the most important things to be observed towards keeping our fowls in good heart is the regular supply we should furnish them of green food.

Care of Poultry.

Few farmers would think of allowing the manure to accumulate in a cow stable as they do in a hen roost. The offensive odor arising from decomposition of the droppings, causes much disease among fowls. Droppings should not be allowed to accumulate at all. There is just as much need of removing them daily as the droppings of cows. And besides the scrupulous cleanliness of the roosts, great care should be taken of ventilation. Free egress of air should be provided at the eaves or through the roof. This provision for pure air is absolutely necessary in houses warmed with stove heat in winter. We think, when poultry breeders shall study the natural requirements of their fowls, they will have less reason to complain of mysterious diseases.—Poultry Argus.

Water for Ducklings.

The raising of ducklings is a very simple thing if one only knew how. Whether hatched by duck or hen, they should not be allowed free access to a body of water till they are well advanced in the feathering process. They should also be under control so fully as to be kept out of dewy grass and rain storms, as well as prevented from unlimited sporting in a pond of water; for if they once become thoroughly wet, especially their heads, necks and backs, it is almost certain that they will be seized with cramps; the symptoms of which are staggering and reeling about, falling over backwards—in fact, acting very much like a drunken person. Death, however, soon relieves them from their misery, and in losing them we lose also the expense and trouble we have incurred on their account, and all through neglect or carelessness.—E.

The two first articles in this department of last issue should have been credited to the Country Gentleman.

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Stock and Dairy.

Sheep-Farming in California.

The great resources of California are the boast of their writers and speakers. The immense quantities of wheat shipped to England, and the vast flocks and herds that feed over the extensive country, lead us to entertain exaggerated opinions of what its wealth really is. In stock feeding and wheat raising they sometimes meet with great success, and their cattle are numbered by the tens of thousands, but there is, notwithstanding, no place in which the acquiring and retaining wealth are more of an uncertainty. The following from a California paper gives an instance of the hazards and losses of sheep-farming there on a large scale:—

It is estimated that from one-half to two-thirds of the sheep in the State have perished from starvation. The loss of cattle is not so large, as they were taken to the Mountain in time. Dr. Swain, of Watsonville, recently started for the mountains from Fresno, with over three thousand sheep, and the lifeless carcasses of over twenty-five hundred of them now mark the route taken. The doctor says that unclaimed dead and dying sheep cover the plains, and hundreds of sheep and lambs fall into line behind the wagon of the traveler, and follow, in the hope of getting a morsel of hay. One man from the San Joaquin Valley lost every sheep he had—eleven thousand—during a storm, and went home a penniless man. Another, an Italian, thought he could save the cost of ferrying his sheep across the Tuolumne River by swimming them, and eight hundred were drowned in the attempt. Another man east of Visalia, despairing of ever getting his sheep to where there was feed, turned twenty thousand out to starve. If he undertook to drive them to the mountain many of them must die of starvation before reaching there, because there is no feed on the way; and then, when the mountains are reached, all the good feed is already taken up by the men who hold possession, shot-gun in hand, and who are desperate enough to fight to the death. There will, probably, be a good many cases of bloodshed and death in the mountains this summer, and many stock men will mysteriously disappear to return no more.

Cow Peas as a Forage Plant.

In the several products of our farms a greater variety is desirable. Diversity in crops, in manures and in cultivation, is requisite to provide against partial failures; and experiments in all are needed. A forage crop little known to us here, the cow pea, is highly prized in other parts of America, and it is, we think, worthy of more extended trial in our farming. We know it is very productive, and rich in nutritive properties. P. J. Berckmans, in the *Rural World*, thus speaks of its value for feeding stock:—

The yield of cow pea fodder per acre is difficult to estimate correctly; too much depends from the season, soil and manner of cultivation.

When well cultivated and on good land, two tons of hay may safely be relied upon; in very valuable years, when two crops of hay are cut from one sowing, double that amount has been produced. In ordinary years, and in the majority of cases, the average yield may be put at one ton per acre.

The value of pea-vine hay, so far as quoted in the market, ranges from 75 cents per hundred pounds in the fall, to \$1.50 in the spring, the average cash value being about twenty dollars per ton. As to the value for feeding, taking well-cured hay as a standard, every farmer who has used the provender must admit that it is better than the best quality of northern hay which is brought to our markets, and when comparing the cost of producing one ton of cow pea hay with the cost of the same quantity of purchased northern hay, the calculation will show a large balance in favor of the pea hay. Taking the seed at one dollar per bushel, cost of plowing, harrowing land, sowing, cutting, curing and storing, all under average seasons and circumstances, the net cost of production will not be above six dollars per ton, allowing one ton as the product of one acre—and this cost is lessened as the yield is increased.

As forage for stock, well-cured pea hay is more nutritious than any hay produced here from summer grasses, millet, corn or sorghum. Especially is the value increased when the pods were filled before the vines were cut. When feeding horses or mules with pea hay, some care must be had in not giving an over-allowance, and the rations of corn or oats must be diminished accordingly; pea hay containing a large proportion of peas, if fed too liberally, is apt to create flatulence and colic in horses and mules, and a full and regular allowance of salt should always be given with it. The forage may be given whole, but whenever practicable, it should be cut up, moistened with water and salt, and sprinkled with ground feed. Thus prepared, it is the most economical provender we can use, and little if any grain is then required.

As a milk-producing agent, the pea is perhaps superior to either corn, oats or other cereals; it is certainly not sufficiently valued and used for that purpose. Peas, scalded and slightly salted, and given warm, will yield better results than boiled done and given cold. The same amount of scalded peas, as compared with pea meal, will be found, upon careful test, to yield 25 per cent. increased amount of milk.

As a Manure Producer.—Aside from the value of the cow pea as a renovator of soils, when used by itself it is the most valuable plant we have in producing manure-making material. We need ammonia in our lands; this cannot be produced by using green plants as a crop for plowing in, but we have it in the manure produced by our cattle. We have been too much dependent upon commercial compounds containing ammonia, and forgetting that the cheapest and best of all fertilizers is produced by cattle fed upon grain and hay.

The Longhorns.

In our appreciation of the excellent qualities of the Shorthorns, we must not overlook other breeds of English cattle. The Longhorns are with some a favorite race, and there is no little to be said in their favor. H. Evershed, in a long article laudatory of their merits, thus refers to some of their good qualities:—

Like the Sussex cattle, which are noted for "roughing it" in strawyards in winter, and on poor pasturage in summer, this breed is excellent in constitution, being hardy, hairy, and a little thick in the skin, so as to endure exposure in districts not too well provided with buildings for winter shelter. They are extremely docile, as I have recently observed in the course of an acquaintance among the bulls, such as I could not have ventured upon in the case of other cattle. Even flies can hardly disturb their placidity, and they very rarely break fence—no wonder their cream is thick, considering their amiable qualities; a mouse may run over it. They continue growing, like the Sussex, till the age of five or six years, and it is a great advantage to dairy farming that they are long-lived. As a rule Shorthorn cows are sterile at an age when Longhorns are still prolific. The latter look as young at 10 years old as most cows at half the age. I have been much struck with the youthful appearance and general good looks of the old cows. Mr. Berry has one 20 years of age and still good looking.

I have lately visited the two herds at Leicestershire which took honors at Birmingham, and the herd of Mr. Traverser, of Upton Park, which equals either of them. There are 24 dairy cows (for cheese) on this farm, descending generally from the Earl of Upton, a bull bred by Mr. Chapman, which came here a calf, and was afterwards sold to Sir John Harper Crewe. The cows are nearly all brindled with fashionable spotted thighs, and to my unaccustomed eyes—surprising horns. I was much struck with a gay, young 9-year-old cow, in a pasture, with a long, big body, which she twisted about very actively on seeing a stranger, coming up to her master to be stroked as usual after the gambols were over. This young thing was wintered in a strawyard, slipped calf at the end of March, was pulled to pieces by physic and the accident, turned into good grass, and in three months has become good beef, even to the houghs and knees, with short legs and a breast near to the ground, and she weighs 130 stone.

In a field of clover and rye-grass eight two-year-old heifers, unmistakably of one family, each with the spotted thigh, brindled, with the white ridge along the back, and horns curving slightly downwards, fairly represented the herd. They have not been pampered, their only artificial food having been two pounds of cake daily for their first year. They are in excellent condition, and in calf for next spring.

Length of the Milking Season.

There are various opinions upon this subject among dairymen, as well as upon almost every other point of practice, but it is really so vital a question, connected with the profit of the dairy, that there should not be two opinions upon it. A little careful study of this question, practically ought to settle it within very narrow limits. The cow, in a state of nature had a short period of lactation—only from three to six months—the only requirement being food for her calf. When this object was attained, the secretion of milk ceased. But when her milk began to be used for human food, efforts were made to prolong the period of lactation, and increase its flow. The model dairy cow, as we know her, is almost an artificial production—a monument of skill in breeding and feeding. Instead of secreting a few quarts of milk per day for three months, as did her long-ago progenitors, she yields from 4,000 to 6,000 quarts in a period of 44 weeks. In a state of nature, such a production of milk was impossible, even though the cow had organs of sufficient capacity, for her food and surroundings were entirely inadequate. The extraordinary development of the milk secretions in the cow is entirely the work of the breeder and feeder. If then this work of developing the milch cow is a good one, and we are to congratulate ourselves upon its accomplishment, shall we not adopt, in the management of the cow, the same system which has been successful in developing her milk proportion?

It will be found that every improver has striven to extend the period of lactation, this being absolutely necessary to an increased aggregate yield of milk for the year. A cow that has given a good yield at the flush, has been encouraged by the best food and care to continue this yield as long as possible. This effort has, no doubt, been carried to an extreme in many cases, for cows should not be permitted to give milk through the year, as they sometimes do, but it is seldom that a cow having a short period of seven to eight months is profitable, however large her yield may be considered in the flush. We have had cows giving 40 lbs. per day at the highest, and still not reaching 5,000 lbs. in a year, for the want of staying qualities, as the horse-men say; whilst other cows, never giving over 30 lbs. per day, have reached 5,500 and 6,000 in ten months. From much experience with many cows, tested individually, we have come to consider a short period as fatal to a large annual yield in a cow. We do not know of a single large annual yield from a cow that did not give milk ten months. Great yields have come from all the milking breeds, and from those of common stock; but in every instance, so far as we have been able to learn, the cow has been a long milker as well as a deep milker.

If these facts are acknowledged, what real ground can there be for two opinions upon this question of the desirable length of the milking season, except of giving a reasonable time for recuperation before the next calf is dropped? Facts show that, practically, six weeks to two months is ample time, under good feeding and care, for the cow to recover her energies and be in condition for the next lactation. We regard this as a most important question, to be understood by every dairyman; for, when he understands its importance, he will test each cow's staying quality, and, after finding her deficient in that and in the aggregate quantity of milk, he will discard her. If a cow tapers off in milking at seven months, under good feeding and care, there is no use in wasting further food upon her. Let her be prepared to go to the butcher. You do not want to keep her heifer calves, unless the dam of the sire was remarkable for holding out, in which case the calf may take this quality from the sire, for this quality in a milker is hereditary. Yet you may increase it very much in many cases. We have found it advisable to milk the heifer with first calf, at least twelve months, not allowing her to come in the second time in less than eighteen months from the first calf. This helps to establish the milking habit. But all long and deep milking is based upon good feeding, which means a proper variety of food to supply all the cow's wants. If your pasture is short and scanty, you cannot expect the cow to hold out her milk without extra food.—*National Live-Stock Journal*.

Let every man who keeps a cow sprinkle an ounce of sulphur along the back of the animal from the horns to the tail twice at least during the summer; rub it well with a corn cob so as to work the skin, and the animal will not be troubled with grubs in the back or vermin of any kind.

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How I Thoroughly Break a Horse.

From Rural World.

To stop a horse from rearing and striking, you must subdue him, and to do this, you first get a strap (a breast strap from your harness will do); put this once and a half around his left forward foot just above his hoof; bring his foot up and strap it up firm, so when he goes to step he cannot strike his other leg. Now you have him so he will not strike you when you are leading him out. Scatter straw or hay on some level place, and have it eighteen or twenty inches deep. Take a rope one-fourth of an inch in diameter, seven or eight feet long, and tie one end around his neck, the same as you do around a cow's horn, so it will not slip. Have the knot come half way from the corner of his jawbone; stand on the near side of the horse, take hold of the rope in your right hand, with your arm over his neck, with the left hand put the rope in his mouth so as to have the rope from his neck alongside of his left jaw running through his mouth. By doing this way you learn the horse to take in his bits. Stand at his left side a little back of his fore legs; take the rope in the right hand as short a hold as you can get, the left hand holding firm to neck and mane; commence leaning lightly against the horse, then commence pulling on the rope with the right hand steady, and pull the horse's head to the right side of him; keep pulling harder and harder until you pull his head to his side and the horse nearly comes down on his left side, for his left foot is up and he has nothing there to support that side, and he lays down nearly as naturally as he does when he lays down of his own accord.

Remember and keep yourself pressed against the horse all the time, with your feet out from the horse as much as possible, so he will not step on your feet. As the horse comes down draw the rope across his neck half way from his shoulder to his head, or nearer to his head. By doing this you hold down his neck and head, and it raises his nose up, and it is impossible for him to get up while his head is held down by this rope. Now pat and stroke him gently with your hand; show him, if he will comply with your wishes, you will not hurt him. After holding him there, say five minutes, let him raise his head, and when he gets it up, draw on the rope and make him lay his head down again. Show him you are the master instead of the horse, then let him get up on his feet. He can get up on the three feet that are not tied. After he gets up pat and caress him.

Thus, with the right hand over his neck, with the left hand put the rope in his mouth the same as at first, then lay him down again. Now you find it harder to lay him down this time than you did at first, for he understands what to look for. Be sure and not forget to press yourself up against him before you commence to pull on the rope. By doing this you are not liable to walk back or forward and get out of your place—and make your left hand help hold you to your place. Do not leave the rope slack at any time when you are laying him down. Now you have laid him down the second time, hold him down with rope over his neck; let some other person come up and pat and rub him on his side, belly and legs. Be sure and rub him all over and get him accustomed to being handled all over. Take hold of his legs and work them forward and backward, sideways and every way. Pull on them, handle them in various ways, and show him that he can be handled in any way. Strike his feet with your hand on the bottoms; after he will allow you to do this as hard as you can with your hand, get a stick or board and strike on the bottom of his feet with that. This is for the purpose of making him gentle to be shod when you take him to the blacksmith.

Now let him get up, and caress and treat him with kindness all the time, and at the same time be firm with him, and show him you can handle him as you wish. After you have laid him down five or six times, you will see he is willing to lay down without pulling very hard on the rope, and he will let himself down easy.

To prevent him from getting scared at objects of any kind, when he is laying down on his side, and you have hold of the rope over his neck, let some one with a coat, horse-blanket or umbrella, hold it up in front of him and let him see it. After he looks at it a spell, shake it and fetch it up close to him. You must be cautious and not frighten him too much. If you see he is too much frightened at it, let it come up closer to him gently and let him smell of it and touch it with his nose, for the nose of a horse is the sense of feeling, the same as the sense of feeling is at the end of your fingers and thumbs.

After you get him gentled to this, then get a buffalo robe, and do the same with that. Throw it on him and over him, not hard enough to hurt him. After he becomes accustomed to these things let him get up and show them to him; shake them at him, put them on him, and over and under him. Now let down his foot and let him rest his leg. Before you drop his foot, put the rope in his mouth as you did to lay him down; then put in the loop around his neck, and then you have the Spanish halter, so-called, and the roughest bit you can put on a horse. After he rests awhile, strap up his foot again, and lay him down a few times. Then put on your Spanish halter, and jerk first to the right, then to the left, and as you say to horse, "Come here," and in a short time the horse will come to you before you can get from one side to the other, and pull on the halter when he becomes willing to yield to the bit good. By pulling at the side you then get in front of him, and pull on the rope, and command him to come to you. If he does not come by a good heavy pull, give him a few quick jerks. By doing this you halter-break him completely, and you can bit him in ten minutes better than you could to use that old, foolish rig of a biting machine for two weeks. You want to be sure and give him a good biting with this Spanish halter. You can get him to follow you anywhere with the end of the rope over his neck or back in less than fifteen minutes, and he will never forget to lead good as long as he lives.

After you have given him a good, lively biting, you then get him on the straw and take the end of the rope out of the loop around his neck, and lay him down again—and do this until he gives up completely. After you have him thoroughly subdued, let down his foot, and pick it up and tap on it with your hand, and then get a hammer or stick and strike on the bottom of it, as the blacksmith would do when shoeing him. Be sure and handle every one of his feet, and when you take him to the blacksmith shop to be shod, you will find him to stand as well as any old horse. Now tie his foot up again, and then put your arm over the horse's back and press down; hold yourself up from the ground; then lay yourself across the horse's back, and then slide off; get on again and sit a-straddle, and start him up and ride him round a little; then get off, let down his foot, get on again, and put on a bridle so you can guide him. Let him walk at first, then let him trot or pace. Then go back to your straw and tie up his foot again, and lay him down a few times; then put on his harness, and be gentle with him at first; take it off and put it on a number of times. Now you learn him to stand quiet while you put the harness on. When you have the horse laid down you want to rub your hand on the under side of his tail where the crupper comes. Then, when you put your harness on, it will not tickle and frighten him any, or make a kicker out of him.

When you get his harness on and buckled up to fit him in every way, be sure and have the collar to fit him good. Lay your tugs firm to the breeching on both sides. This is to learn him to press in to the collar and hold back on the breeching—just what he has got to do when you hitch him to a wagon or buggy. After you have the tugs tied to the breeching, run the lines through the brace straps of breeching; get behind the horse with the lines in your hands and start him; hold your hands down low, so the lines will not slip over his hips. You can guide him to the left and right; by having the lines in the breeching, you turn his head in line with his body, and he never learns to turn his head to his side and let his body stand still. Drive him around a short time in this way. Then it is best to drive him in a pair of shafts at first, for you have the horse so thoroughly subdued that he will not try to do anything but what you command him to do, and you break him to drive single; and when he is in the shafts and you pull on his lines to guide him, his hips come against the shafts. I most generally turn him round at first to the right, then to the left, and in all kinds of ways; stop and start often, to teach him; make him walk at first, then trot. I never drive very far. He has plenty of exercise without driving much.

This article, though long, will be valuable for future reference.

A pair of heifer's horns in Mr. Taverner's house, measure 6 feet 1 inch from tip to tip, and I measured a bullock's horns 3 feet 8 inches; and 3 feet 7 inches respectively, from the centre of the skull to the tip of each horn, the entire length of the structure carried on the head being 7 feet 3½ in.

Sale of Hereford Cattle.

The Hereford Times announces that the grand old herd of Hereford cattle formed under the auspices of that veteran breeder, Mr. W. Tudge, of Adforton, is on the eve of being dispersed. The extraordinary merits of this matchless collection of purely-bred white faces, which is aptly described as the "Herd of Peerless Beauties," and their unparalleled successes in the Royal and other great show yards of the United Kingdom, have been such that we may venture to hope our friends at home and in the colonies, where the breed of Hereford cattle is so largely in favor, will not suffer such a grand opportunity to enrich their own herds to pass. The sale will take place early in the autumn.

An English Horse Show.

The fourth International Horse Show, at Manchester, England, comprised nearly 500 entries, some 60 more than last year. These consisted of roadsters, agricultural and cart stallions, and brood mares, and hunters of various grades, stallions and brood mares. The exhibition included harness pairs, ladies' horses, and tandem teams. The concourse of spectators witnessing the show is reported to have been immense.

Protection from Flies.

A contemporary records the discovery of a French pharmaceutical chemist who has discovered a way to protect horses from the attacks of flies, according to a London medical paper. His invention consists of rubbing the horses, especially the parts most subject to attack, with a little concentrated oil of laurel. There is not the slightest danger in its use, and the cost is said to be very small. Another repellent suggested by the same person is a solution of 60 grammes (1 lb. and 5 ozs. avoirdupois) of assafetida in two glasses of water, and one of vinegar. If horses be well washed with this, not a fly will settle upon them, as the assafetida drives the flies away. This drug has no deleterious qualities as an external application, and may be used unhesitatingly.

PRESERVATION OF GREEN FODDER.—I give you an account of the preservation of some fodder crops by my father last year. A quantity of lucerne (about 10 tons) was cut and pitted (*ensilee*) the same day last October, a period at which it would have been impossible to dry it in the usual manner. The pit (*silo*) was dug in moist earth to a depth of 12 inches only. The lucerne was trodden down closely with the feet, but it was not chaffed. The cutting into chaff I consider useless because the fodder keeps perfectly well without it. The heap was covered with a coating of mud-mortar, one and a half inch thick, and 14 inches of earth thrown upon that with a shovel. The layer of mud formed a coating less permeable to the air than loose earth, and gave to this latter the advantage of a hermetical sealing. Two months later one of the pits was opened. The lucerne retained its green color, slightly yellowed only. It had an agreeable odor of fermentation. There was no mustiness, and the cows ate with avidity, and preferred it to the same kind of forage dried in the usual manner. The same thing with regard to clover, of which we pitted about 75 tons the same year, in pits, 12 feet wide, 12 feet high, and a depth below the surface of less than 30 inches only, rendered necessary on account of the wetness of the soil, which prevented a pit of greater depth. When the pits were opened the clover was of a decidedly brown color. This pitting of fodder prevents the loss of the leaves, which occurs when it is made into hay.—*Cor. Agricultural Gazette.*

MANGE IN A HORSE.—A correspondent of the *American Agriculturist* gives the following mode of treatment:—"Make an ointment of lard, twelve parts, carbolic acid one part, and sulphur two parts. Rub these together thoroughly, until it is well mixed and smooth. Work some of this ointment into the affected portions of the skin twice a day. Give an ounce of flowers of sulphur daily in the feed, until the perspiration of the horse smells strongly of it, then discontinue it, but continue the use of the ointment for some time longer, until the skin recovers a healthy appearance. Whitewash the stable and stalls with lime, and cover the floors with it. The mange insect will live upon the woodwork for some months, and return to the horse is not destroyed.

THE HORSE PLAGUE IN EGYPT.—The disease among horses in Egypt continues its ravages among horses, asses, and mules, and there seems to be a want of vigilance somewhere, as we hear of carcasses of animals that have died of the disease being found floating in the river and canal. According to the last report the malady has appeared at Alexandria, but at present only in a sporadic form. We learn, however, from the correspondent of the *Times*, that there is some probability of its losing its virulence with the approach of cooler weather. A tropical storm of singular violence broke over the country with floods of rain a week ago, and seems to have cleared the air. Though a few cases occurred at Alexandria, they have not been followed by others, and we hope the city will escape. Cairo has suffered terribly. The death of 1,800 army horses, and 2,700 belonging to private persons, was reported up to October 1. Horses of price, well kept and well fed, were most attacked and succumbed more easily. It is described as a kind of typhus, and death, after great apparent pain, ensues in a few hours.

BEARING REINS FOR HORSES.—The disuse of bearing reins for horses is again attracting attention in England. Prominent men are lecturing on the subject, largely attended, says the *Agricultural Gazette*, by gentlemen, cab proprietors, and a large number of coachmen, grooms, and drivers. The horse manager of the North-eastern Railway Company stated that they, as well as the Midland Company, had abolished bearing reins on all their draught horses, and great interest and attention accompanied the earnest appeal and clear exposition of the lecturer.

James McKay has six buffaloes on his grazing farm at Long Lake, Manitoba; two of these are calves brought from the West last fall, the others are older, some of them full grown. They feed with cattle during the winter, accompany them to the river for water every day, and are among the first to enter the warm stables for shelter at night. The buffaloes, from natural instinct, are conscious of an approaching storm some time before felt, and retire to comfortable quarters in the stable sometimes an hour or two before the storm arises.

Jersey Cattle.

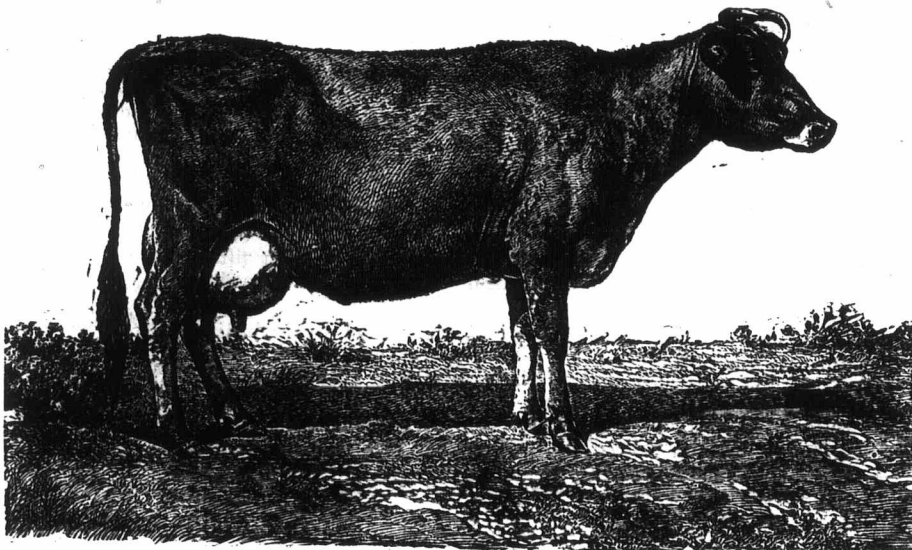
This class of cattle is but little known in Canada; they are natives of Jersey Isle, lying between England and France. They are celebrated for the large quantity of milk they produce. Their appearance contrasts strangely when compared with the round, even form of the Shorthorn. We now give you the representation of two of the cows that gained the prize as the best herd at the Centennial Exhibition. We believe they have both been taken from photographs. Mr. C. L. Sharpless, of Philadelphia, the proprietor of the animals, has kindly lent us his cuts. The cow Milkmaid gave 140 quarts of milk in seven days. In one day she gave 21 quarts and a half. This year the Board of Agriculture offer prizes for this class of stock. We presume they will draw the attention of every farmer and his family. Perhaps you may see these animals in reality that are now represented on this page.

A large number of beef cattle are being shipped weekly to England and Scotland. It costs per head from \$40 to \$50 from New York, besides the feed and care on the voyage. There are also about 200 per week slaughtered beves exported from New York. In this way the freight is not one-fourth as much, but the refrigerator expense is greater.

Rapid Cooling of Milk.

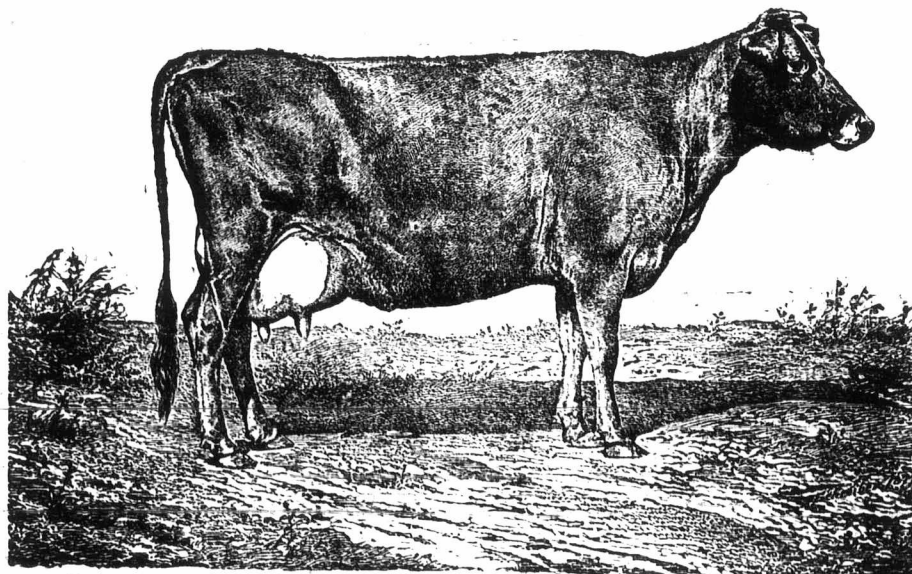
Prof. Arnold, in his book on "American Dairying," makes the following very pointed remarks on the rapid cooling of milk:—

Except allowing the milk to be brought to the factory in closely covered cans, without previous airing, this rapid cooling is the first essential error which attracts our attention. It takes from six to twelve hours, at ordinary summer temperature, for the animal odor to escape. The objection to sudden cooling is, that it condenses the odor, and retains it in the milk and cream. In nearly every



JERSEY COW—MILKMAID.

factory that we have inspected, where milk was rapidly cooled, we have detected the cowy flavor in the butter. This not only injures the taste of the butter, but very much increases its tendency to become rancid. Such butter loses its fresh flavor so easily that it very soon became stale, unless kept all the time below 50°. Even then it has much of the animal flavor, and soon depreciates. In one factory which we visited, the water had become scanty and warmed up to 60°. In consequence, it required over six hours to reduce the milk to 62°. The butter made after the water



JERSEY COW—BLACK BESS.

failed was the best in the factory, as the manufacturer could readily see when the fact was pointed out.

The importance of distinguishing between animal odor and animal heat is a lesson which the butter-makers of the country generally very much need to learn. That the cowy odor in the milk can be condensed and retained, becoming a flavor instead of an odor, has been too much overlooked.

Caution to Dairymen.

A case of some interest to dairymen was tried at Glencoe, on Wednesday, June 20, before Squires B. Watterworth, A. Thompson and M. Leitch. J. E. Campbell, President of the Directory of the Mayfair Cheese Factory, laid complaint against William Cowan for watering the milk which he supplied to the factory. On the trial it was shown that the milk supplied by him at several times registered from 85° to 90° on the lactometer, while the average should have been about 100°. The directors, with the consent of Cowan, had Cowan's cows milked, and on testing the product found it to register about 100°. Mr. Cowan then signed a document agreeing to deduct ten per cent. from what he was to receive for his milk. He attributed the excess of water to carelessness in milking, by the rinsings of the milk pails having been put with the milk. Mr. Cowan was fined \$5, and \$7.50 costs. Mr. Horton, of London, attended on the part of the defendant, who, it is said, will appeal to the court at London.

Canadian Monthly Cattle Fairs.

Aton—Thursday following Guelph.
Bosworth—Saturday before Guelph.
Berlin—First Thursday in each month.
Brampton—First Thursday in each month.
Clifford—Thursday before the Guelph Fair.
Charleston—Third Thursday in January, April, July, and October.
Drayton—Saturday before

Guelph.
Douglas—Monday before Elora Fair.
Durham—Tuesday before Mount Forest.
Dundalk—Wednesday preceding the third Tuesday in each month.
Elora—The day before Guelph.
Elmira—Second Monday in each month.
Erin—First Monday in January, April, July and October.
Fergus—Thursday following Mount Forest.
Guelph—First Wednesday in each month.
Galt—Wednesday after the second Tuesday.
Harriston—Friday before the Guelph fair.
Hamilton—Crystal Palace Grounds, the day after Guelph.

Hanover—Monday before Durham.
Hockley—The last Thursday in January, April, July and October.
Hillsburg—The Tuesday before the second Thursday in the month.
Listowel—First Friday in each month.
Moorefield—Monday before Guelph.
Mount Forest—Third Wednesday in each month.
Mono Mills—Third Wednesday in January, April, July and October.
Masonville—First Tuesday in February, May, August and November.
Mars—Second Wednesday in January, March, May, July, September and November.
Marsville—Second Wednesday in each month.
New Hamburg—First Tuesday in each month.
Orangeville—Second Thursday in each month.

Primrose—Wednesday preceding the Orangeville fair.
Rockwood—Tuesday before Guelph.
Rosmont—15th of February, April, June, August, October, and December.
Teviotdale—Friday before the Guelph fair.
Waterloo—Second Tuesday in each month.

Mr. J. S. Armstrong, of Guelph, has purchased the bull and 2nd Prince of Springwood, from Col. Taylor, for \$1,000. It is for exhibition.

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Canadian Agricultural Notes.

Prince Edward Island.

If a person who was familiar with the characteristics of Western scenery could be suddenly transported here, blindfolded, he would, on recovering his vision at once suppose himself to be among the grain fields of the West.

As far as the eye can reach are immense stretches of level, well-cared-for farms, without a stone or rock upon them, and the amount of land devoted to grain-growing constitutes four-fifths of the whole area of cultivated land; oats are the principal grain grown, although wheat occupies no inconsiderable space. The oat crop is the principal crop of the island, and the variety grown is the black or Norway oat.

Oat fields succeed oat fields as far as the eye can reach in all directions, and the yield of fifty bushels to the acre is not uncommon. In fact, it is near the average, as sixty and seventy bushels are common occurrences. Now, of course, you will say the land must be remarkably fertile that will give so large a crop in so high a latitude; to which I will reply, that the whole island is composed entirely of decomposed red sandstone. No matter how many dozens of miles you may travel, you see nothing in the shape of soil except the red sandy loam, and if you go to the shore you will see where the waves have disrupted the different strata; at the base, solid red sandstone, then crumbly and coarse sandstone layers, until looking up to the surface, or the upper edge of the cliff, you see the sandstone powdered and weather-broken to the consistency of sandy loam.

The most astonishing thing about this sandy earth is its fertility, newly broken fields producing immense crops in successive seasons without fertilization.

Whether there is any chemical change the sandstone undergoes as it decomposes I know not, but the fact is not to be controverted; it is excessively fertile.

Of course, after the land has been cropped year after year, it loses its productiveness, and formerly, after a certain yield was not reached, it was the custom to cease cultivating the old land and break up new. But about twenty years since it was discovered that the means of regenerating the land existed on its own shores.

All along the coast and extending into it, sometimes many miles, are numerous bays and estuaries and inlets; these have on their whole bottom surface a stratum of what is called *muscell mud*, which, if applied to the land, no matter how much it has been cropped, produces the most astonishing results. The deposit is from five to fifteen feet in depth, and in all the specimens I have examined it seems to consist of the shells of oysters and mussels which have lain for a great length of time, probably thousands of years, and have become partially decomposed by the action of the water.

I have failed to find any fossils among its constituents, and no trace of any odor; in what its wonderful manurial power lies is to me a conundrum, but it constitutes a mine of wealth to the islanders.

It is dredged out of the bays in the winter through holes cut through the ice; sixteen one-horse cart loads to the acre is a dressing that will produce a very large crop.

The Prince Edward Islanders are an industrious, thriving people. They are largely Scotch, and to the uninitiated the dialect is peculiar.

The climate during the summer months is delightful, but the winters are very long and severe. -*Mass. Ploughman.*

The Northwest as a Farming Country.

The capabilities of the Great Northwest are not unknown to the farmers of Canada, if we are to form our judgment from the numbers who are leaving their homes in Ontario and the other Provinces for the fertile prairie country.

As a specimen of what may be done, Mr. Grant introduces us to the farm of a Mr. Morgan, who a few years ago bought some land for £50, on which last year he grew a crop of potatoes, for which he was offered £450. Ten good farms near Portage la Prairie yielded on an average seventeen bushels of wheat to one—and this on land which had been yielding the same quantity for ten years back, and would probably continue to do so for forty years to come. Manure seems to be

perfectly useless in luscious soil. Along the Assiniboine, near Fort Garry, the land is taken up, but is, unfortunately, in the hands of men who do not know the treasure they possess. Yet here and there is found a man who knows his business, and one farmer, who had migrated from Ontario, and was making his fortune at ten times the rate he was doing in this Province, was so intent on extracting the wealth from the acres, which had so easily come into his possession, that no temptation could divert him from the work he had set his hand to. At the commencement of the "Great Lone Land" stands the big house of a Nova Scotian settler. This man and a friend of his, impelled by the spirit of enterprise rather than of need, migrated thither, and now one has one hundred and twenty acres under wheat, barley, and potatoes, and the other fifty. Nor is there any limit to the amount they may break up, save what springs from lack of capital or their own moderation. They speak enthusiastically of the country, the healthiness of the climate being almost unexampled, and the resources of the soil so great as to scorn further aid from art than being broken up. The difficulties which stand as lions in the path of the farmer do not meet him here. He has not to buy land, the Government giving 160 acres gratis to every *bona fide* settler. And, as we have said, he does not need to use manure. The land, says Mr. Grant, if it has any fault, is in being naturally too rich. Hay is so abundant that when threshing the grain at one end of the yard, they burn the straw at the other end to get rid of it. He does not need to clear the land of trees, stumps, or rocks, for there are none. Scarcely any fencing is required, and pasture is common and illimitable, while all over Manitoba there is a good market for stock and produce of every kind.

Moving westward still the soil changes, becoming a sandy loam of various degrees of richness, there being an entire absence of unproductive land. The land is like that of the Rice Lake plains and of the county of Simcoe, whence, as the reader is aware, excellent wheat crops are raised.

At the end of the day's journey, emerging on Fort Ellice from a road winding between broad hillsides, strewn with granite boulders, they found themselves in a silent valley, closed in by sloping hills, rich and green, on which sheep should be feeding, and whose terraces should form sites for comfortable homesteads. Moving still northwesterly, they again came upon the land of dark, rich loam, and on the Saskatchewan no evidence was wanting of extreme fertility. At Fort Carleton, Mr. Clark discoursed on the resources of the soil, and informed them that barley and potatoes were always sure, and wheat generally a success, though threatened with frost or early drought, and never a total failure. He was expecting two thousand bushels of wheat from the sowing of a few hundred.

As to climate, as we have indicated, it is in every way favorable. The answer of every man questioned by Mr. Grant, was that the winter was much pleasanter than in Ontario, Quebec, or the Maritime Provinces. Severe weather does not commence until the beginning of December, and from that time forward the depth of the snow is two feet, there being no thaw until March. The severity of the intervening months, if greater in one respect than in Ontario, is lessened by the bright sun, the cloudless skies, the stillness and dryness of the air; while the snow, owing to the steady cold, is dry as meal, the farmers' wives saying it is such an advantage that the children could run about all winter "without getting their feet wet."

New Brunswick.

Here, as well as in the sister Province, Nova Scotia, they are preparing for invasion by the formidable foe, the American Potato Bug. The St. John News says:—"The Deputy Minister of Agriculture on the 19th ult. addressed a letter to a Montreal paper for publication, in reference to the much dreaded potato bug. In this document, Dr. Tache asserts that the insect has made its appearance, and that the Province of Quebec and especially the district of Montreal are principally threatened. He says also this is the most favorable time to operate against the destroyers, before they deposit their eggs, and that, therefore, they should at once be sought out and exterminated, as the destruction of one egg-laden insect now would be equal to the destruction of thousands of young ones by-and-by.

The warning is, doubtless, well-timed for the Province of Quebec, as the potato pest has made

its appearance there in force, and its repetition in New Brunswick would probably not be out of order, as that pest is evidently on its march toward this Province. There are two or three facts relating to this Colorado bug which would be well for New Brunswick farmers to bear in mind. In the first place, the creature since its departure from its native seats in the Rocky Mountain range, kept steadily advancing eastward and seaward. A year or two ago it reached the shores of the Atlantic in some of the Middle States of the adjoining Republic; and it may with certainty be inferred that in a short time it must arrive at the sea coast of Nova Scotia and New Brunswick.

In the second place, it has been abundantly established that if the insect is allowed to work its will unhindered on the potato fields of any given district, the potato crop in that district must at last become a total failure.

And in the third place, experience has demonstrated that by the energetic use of proper means the bug's ravages may be confined to very narrow limits, the two most effective means being hand-picking before the eggs are deposited, and dusting the larvæ with Paris green mixed in certain proportions with any cheap, fine powder, say plaster of Paris, or sprinkling them with an infusion of Paris green and water. Our farmer friends should keep on the alert to note the first advance of this enemy to the most valuable root raised by them. The invasion will surely come. Let it be prepared for, and it will prove infinitely less damaging than it otherwise must."

Sugar Beets.

The subject of beet sugar manufacture has been investigated quite thoroughly by Prof. Goessmann, at the Massachusetts Agricultural College, but, thus far, no considerable progress has been made towards establishing the business on an extended scale. The Legislature of Maine, at its recent session, passed acts to encourage the growth of sugar beets and the manufacture of sugar in that State, and it is hoped that the business may be successfully started within the coming year. The company at Santa Cruz have been very successful, as we learn from the *Scientific Farmer*, from which we quote:—

They have a factory with a capacity for working 9,000 tons of beet root, or 50 tons per day, though their land under cultivation only yields them 6,500 tons, the farmers not having taken much interest in the enterprise apparently. On this amount of beets they will run five months, and turn out 1,040,000 pounds of sugar, the percentage of sugar being about 8 per cent., equalling the average obtained in Germany. The works have been in operation seven years, and were erected at a cost of \$100,000. The product is fully up to cane sugar in quality, bringing on the average 11½ cents a pound in the San Francisco market, where it is all sent. At this rate, the 1,040,000 pounds of sugar gives a sum total for receipts of \$119,600. That the enterprise pays is evidenced by the following table of expenses and profit for one day of the 130 during which the factory will be in operation this year:—

Fifty tons of beets at \$5.....	\$250 00
Sixteen cords of wood at \$3.....	48 00
Sixty-five men's wages, aggregating.....	90 00
Lime.....	5 00
Thirty sugar barrels at 70 cents.....	21 00
Chemicals.....	4 00
Freight, four tons, at \$2 per ton.....	8 00
Lights.....	4 00
Repairing machinery, belts, &c.....	10 00
Commission on selling eight tons.....	24 00
Insurance for one day.....	3 00

Whole cost of one day's running.....\$472 00
Eight thousand lbs. of sugar at 11½ cts.. 920 00

Leaving a net profit of.....\$448 00

This foots up an aggregate profit for the year of \$58,240. With a supply of beets for seven months the proportionate profit would be \$81,536, or allowing for a decrease in the percentage of sugar the last month, \$81,419. In addition to this, 2,700 tons of beet pulp are produced, worth \$2 per ton, 300 tons of syrup worth \$10 per ton for distillation or manure, and 500 tons of lime refuse worth \$20 per ton; footing up a grand total of profits for one year of \$99,819. But in this table of estimates we recognize no figures for interest on the money invested in the factory or farm, nor even the cost of the latter, which the report indicates is possessed by the company.

Agriculture.

Foxtail and Pigs.

There is a variety of grass known by farmers generally as foxtail. It can be found on most all kinds of soil and in most all seasons. It comes very early in the season and mixes itself with all other kinds of grass. It crowds out the clovers and other cultivated grasses, and frequently becomes so thick in alfalfa fields as to sod-bind the surface of the soil, and finally necessitate a re-plowing and sowing. While young it is very good feed for most kinds of stock, but if allowed to go to seed the head is of such character that it becomes a great nuisance. The seed pods or husks are bearded and very brittle, and break up and stick in the mouth, eyes and ears of animals, and frequently give them great annoyance. There is no kind of stock to which the foxtail is more annoying than to swine, and especially to young pigs. It gets into their ears and eyes, and renders them deaf and blind, and frequently pigs from three to four months old seem most subject to this trouble. In the Western States—the great hog field of this country—we have no doubt they would call such affliction hog cholera, as they call all the ailments of the swine kind by that name. It will seem to produce all other troubles if allowed to run unchecked. Those who are raising pigs would do well to see that all the foxtail is cut close to the ground before it goes to seed.

We copy the above from the *Western Farm Journal*. Frequently we have known young pigs to become ill without any apparent cause. We cannot say we have ever seen any suffer from the foxtail. We know every farmer has more of it than he requires. It may injure your pigs as well as your crops. The above fact may be of use to some both in saving their pigs and causing bitter war to be waged against the foxtail.

Systematic Farming.

There cannot be a greater truism than, if a man's farm is for years to have everything taken out of it and nothing returned, that farm and its proprietor must sooner or later come to grief. Manure alone will not supply the necessary food that is required for every description of plant or root grown, for it is indisputable that minerals of some kind or other must be added if remunerative crops are to be looked for, as no crop taken from the soil leaves it without taking a certain portion of such material out of it; and when we reflect on the ready access that almost every farmer has at his door to almost every mineral that is actually needed to increase the yield of his crops—one third at least, and in many instances to my own knowledge, nearly one-half—is it not surprising that so few farmers in this country avail themselves of such desirable opportunities of enriching their farms, when attainable at such a small cost? In the country in which I resided in the old country, it was thought nothing of sending fifteen or twenty miles for lime, nor ten or twelve miles for manure. A good, practical farmer would as soon think of throwing his seed wheat into the river as of sowing it if he were certain that the soil was deficient of lime, let him have even as much manure for the crop as he could possibly use. We had not in that country the advantage of plaster, or of wood ashes, nor yet of salt at the cheap rate it is to be procured here, but soot, in my country, was thought to be indispensable by a good farmer for his wheat crop, when the plant was well above ground, if the soil was lacking condition; and I well know many instances where from five to eight bushels more wheat per acre have been obtained from such treatment. The apathy there is in this country with many farmers to step out of the old beaten track in the miserable management of their farms is to an intelligent and practical mind most astounding. The many agricultural lectures constantly being given in these days, and the numberless treatises on agriculture published by efficient and experienced practical men ought to have some weight with those who are always groping in the dark. We must, however, candidly admit that in some respects we are improving in agricultural matters, as our yearly exhibitions testify, and let us live in the hope of a better future. But yet the very circumstance of so many, both young and middle aged, throwing up their old, ruined farms here and moving to a far distant part of the Province to again search all out of the soil, without giving any equivalent, as they have done here, is not, in my mind, of a very satisfactory or flatter-

ing nature. Many, moving away, have racked their farms to such an extent, as is well known, that they will now scarcely find them bread. I would ask, can such a system be profitable or satisfactory? I trow not.

There is at the present time no system of farming that pays better than sheep farming, and according to all accounts the demand from the old country for mutton being likely to increase, as well as for beef, a continuation of remunerative prices may surely be looked for, at least for some time to come. But I hold that sheep-raising is attended with far less expense than cattle-raising, and far preferable and more profitable to the growing of grain. Sheep return much more to the land by their constant emissions and the yolk extracted from their fleeces when lying down at rest, which is considered of great benefit to the land, as well as their perpetual tramping over the pasture. This I have known from many years' past experience, when an extensive grazier; but for the benefit of both sheep and land their pasture should be occasionally changed—in truth, it is essentially necessary for the well-doing of the sheep. Then, is not the wool a great consideration, and often with many very acceptable at shearing time, when the farmer, generally speaking, has little else ready for market? But how often do we see a sad paucity of these desirable animals on his farm—for how many are there that I know of who have but fifteen or twenty ewes, at most, put to the ram, owning or occupying one hundred to two hundred acres of land? Surely this is all wrong.

A writer advises a mixed system of husbandry as paying best. All right, as by that he means dairying, beeving, and rearing all kinds of farm animals, with an alteration of crops. I well know in the old country that wherever the soil is suitable that system was most in vogue, and more remunerative than any other, and what, let me ask, is there to prevent that system from being carried out here? None that I know of. Again, there is a sad mistake made by farmers in this country having little or no permanent grass pasture. Every man, according to the acreage of his farm, ought, in my humble opinion, to have not less than from twenty to one hundred acres of this pasture; but where is such to be found? Look, for instance, at the expenditure it would save a man where that man has to hire most of the labor on his farm, and if that pasture is properly managed and cared for as it ought to be, in the way of proper grazing, and every three or four years well top-dressed till a good, thick turf is obtained, the occupier would soon find great comfort and profit in it. I know, however, that there are those who say that this can't be done here. I hesitate not to assert that such is entirely fallacious, as it has been done and can be done again, and if any farmer wishes to lay down a field in permanent grass, let him prepare his soil as he would for a root crop, and sow thirty or thirty-five pounds of permanent grass seed to the acre, with no grain, which he will obtain at any first-class seed store. He may, however, think this seeding heavier than necessary, but I, as well as others, have used that quantity, and would use the same again. By this thick sowing you thereby get your turf so much sooner, and your land is less liable to be killed by heat or frost. Sow the first week in May, or as soon as your soil, made very fine, is ready, by which you secure the advantage of the early spring showers, and thereby get your seed well up before the hot months set in, and on no occasion omit the use of a heavy roller immediately after sowing, to keep the moisture in the soil. Mr. M. alluded to the deficiency of yield in cereals of late years, partly through the land being sick of clover, together with the failure of that plant; but as clover has never properly taken root for the last few years, through being destroyed in its infancy by the extreme heat and early frosts, does not, in my opinion, show that the land is sick of clover. To my knowledge, on many farms the clover hay has taken well in its early stage, but by the end of the hot summer not a vestige of a plant is to be seen, being literally burnt up. The field is then generally plowed up for another grain crop, but the land in such case should be put to a green crop of some kind, say peas, vetches, rape seed, and such like, and be eaten off by sheep with other stock. If this treatment is followed out as above, the results in the next grain crop would be almost startling. I have seen it, and therefore know it to be so. The crops that follow will also receive great benefit therefrom, and I would here remark that if farmers would every four or five years plow in a green crop of some kind, especially on light soils, and use a liberal dressing of lime, say sixty or

seventy bushels to the acre, with plaster, salt and ashes in due season, there would be little fear of light and unprofitable crops, even if heat or drought did come, for I maintain that a farm in a high state of cultivation will stand a far better chance of yielding a fair crop in a hot, dry season, than the farm out of condition.—*Cor. Guelph Herald.*

Idle Capital.

Looking about over the country one would think that farmers, as a class, set a very low value upon their capital invested in land. Here is a field almost joining the one where we are now cutting a crop of winter rye for fodder, upon which nothing has grown since the last year's corn-crop was harvested. The two fields are nearly alike in real value, and were both plowed in the fall of 1875, after cutting a small crop of hay. Both fields were plowed because the grass had become too much run out to yield profitable returns, and both are intended to be again laid down to grass. Our field was harrowed thoroughly, as early in the spring of the following year as the condition of the soil would allow, probably about the last of April, as the season was rather backward. A fair dressing of yard manure was applied and thoroughly worked in with a harrow, which left the land as light and mellow as an old field. Oats were then sowed on at the rate of four and a half bushels per acre, and the surface rolled smooth for the mowing machine. The oats blossomed, were cut and cured for hay early in July, and yielded a very heavy crop, but were so thick and fine that but two days were required for curing. The ground was then harrowed, which cut and tore the oat stubble so thoroughly to pieces that there were no sods in the way to prevent the horse cultivator from mellowing and fining the soil five inches deep, or equal to a good plowing. Another moderate dressing of stable manure was also applied and cultivated in, when the land was sowed to Hungarian grass at the rate of a bushel per acre. The middle of September found this in bloom and ready for the scythe, producing a good crop, equal to a ton and a half to two tons per acre. The land was then again worked over with cultivator and harrow, and after receiving another moderate dressing of manure, was sowed to winter rye at the rate of two bushels per acre. This was less seed than might have been profitably used, but it is more than is usually sown. We commenced cutting our rye sown expressly for fodder on the 16th of May, just as the heads were pushing above the last leaf, and as is very often the case, too late by at least half a week. One hesitates to put a scythe into a field of forage of any kind until it is very nearly grown, but rye grows so very rapidly after it begins to show the heads that one will find the season for feeding it green gone before he expects it, unless he can have the courage to begin while it is very young.

Early and late sowing will lengthen the season somewhat. Ours was put in at four different times, from the 18th of August to the latter part of October. The latest sowing was on the field where the two crops of oats and Hungarian grew, and at this writing, May 29th, it is still in good condition for feeding green. As soon as it comes into blossom, or probably a little before, if the weather is favorable, it will be cut and cured for winter feeding. It will be off the ground in ample season for sowing another crop of Hungarian, or even for planting Indian corn of an early maturing kind. Now, this field has had no lost time, except while the ground was locked in frost. The rye was growing about three months, and months when nothing else would grow as well, and months which would have been entirely lost to the farm had the ground been left idle, as most cultivated fields are between harvest and planting time. The other field was heavily manured and planted to corn late in May; was cultivated and hoed during the summer, and in October harvested a fine crop of good corn and a couple of tons of poor fodder, it being left in the field uncut till the corn was ripe enough to crib. The field was not plowed after harvest, nor has it been as yet, this spring, and the grass and weeds are beginning to make it look disagreeably green.

Speaking with the owner a few days since, he said he would like to get as many crops as we did on our field, but he feared such farming would "draw the land" too hard. He will plow in June, and sow to Hungarian, and after cutting it, will seed down to grass again in the fall. Our field will be ready to sow to Hungarian as soon as his, and no more work will be required in one case than in the other. We will have a heavy rye

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stubble to plow in, and he a crop of weeds. Our rye has cost us one plowing, two thorough harrowings, seed for sowing, and the fertilizer used, but nothing for interest on capital invested. His brings him the profits on six or seven months of actual growth, and ours on three months extra within the same period. His system is the one which has prevailed time out of mind, a single crop in a year, and that grown in a hundred days out of the three hundred and sixty-five.

Farm capital is unavoidably locked up for about a hundred and fifty days in the year, but there is still another hundred which we ought to contrive to use if possible. What would one think of a capitalist who should build houses or stores to rent, and then let them remain vacant half the time each year? Farmers complain that it takes all they can raise in summer to carry them through the long winter. Then let us so plan our business and so arrange our crops as to make the growing and producing season as long as possible, and the consuming and non-producing portion of the year as short as possible. How can we do this more effectually than by growing rye, a cold weather plant, in those months late in autumn and early in spring, when nothing else will grow as well? Don't fear "drawing" the land by growing heavy crops of fodder to be fed out on the farm; and do not worry if the weather is unsuitable for curing it when in the best condition for hay. If it cannot be cured for hay, it may still make good bedding for horses or cattle, and if it is not needed for any other purpose, it may be plowed in, and thus add fertility to the land at a small cost. We do not, however, recommend the latter course if the others can be carried out, for we believe that it is worth more for fodder or for bedding than to plow in. Fodder is too dear in this region to be used for manure before the cattle can have a chance at it.

Maximum Crops.

In a recent article I used the expression "the largest possible crop." Who knows how much that is? I confess that I do not. Crossing a number of fields recently, and those, too, of the best farmers in the town, I found that where the crop as a whole looked promising, there were spots on which, through excessive wet, or through sterility, the yield would be less than a tenth of the average. In one barley field there was a low place which would not yield enough to pay for harvesting and threshing. It was so overgrown with weeds and grass that its only value was for hay. On the other hand, I found near a gate where the soil had been frequently and heavily manured, a growth of straw and well-filled heads which must yield sixty; possibly seventy or seventy-five bushels per acre, despite the small corner which yields nothing; but the very best is not so good as barley might be. I have seen a few square feet—possibly one or two square rods—where the yield was at the rate of fully 100 bushels per acre.

It is not idle speculation to discuss the largest possible yields: they furnish a good mark for enterprising farmers to aim at. The large stories told of the yield of wheat and corn excite a spirit of emulation which increase the crops of those grains in all parts of the country. It may be said that there is no real advantage in this, as what one crop gains another loses. But this reasoning is fallacious. The effort to grow one perfect crop teaches farmers the lesson which they most need—the necessity for promptness and thoroughness in whatever they undertake. It is so in everything else; if a man learns to do any one thing well, he will do every other thing all the better for that fact. The basis of many a fortune is laid in competing for a \$10 prize for excellence. The prize itself is comparatively nothing. The habits of care and thoroughness which accompany it are all important.

There is nothing more demoralizing than growing poor crops, half or quarter the rightful yield, year after year, and as a regular practice. It is only tolerable when each return of the rotation brings a regular and certain increase in the crop. No farm is ever stationary in its fertility; for, if badly managed, there is a constant tendency to sterility, while with good management the opposite result is surely reached. It may be that badly run farms will need artificial manure or buying grain and other feed to fatten stock, and thus improve its fertility, but when once the upward path is begun, each successive step will be more easily taken. Good farming in this country is almost in its infancy, and in many and large sections the retrograde tendency toward sterility has not yet been checked. A few market gardeners near our

large cities have brought soil somewhere near to its productive capacity, but even they would disclaim any such idea. As for the great majority of farmers proper, comparatively few have ever given a thought to what their land may be made to produce. Among English farmers there has been for many years a progressive increase in the average yield of wheat. Forty, fifty and sixty bushels per acre is not uncommon, while exceptional yields are so much greater as to show how large the possible average may yet be increased.—W. J. F., in the Country Gentleman.

Farms are Made Enduring by Keeping Stock.

Farming in the West will be pursued in the future by a very different system from that now practiced, in that there will be less sold off the farm in the crude state. This result is inevitable for two reasons, viz., 1st, that the land will not stand the steady annual cropping, no return being made to compensate for the drain; 2nd, that men are very generally convinced that no profit can be made by selling grain in the crude state. If the grain be fed in a profitable manner, there are two material gains made; not the least, and by far the most enduring, is found in the maintenance of the strength of our land.

The stock we feed and sell is soon gone from our sight, and each shipment counts out its own profit or loss. No indelible mark is left, except the mark which the manure makes, and this mark will be more enduring than most men accord it with being. Forest lands that are rich are said by some to be more enduring than prairie lands, because they have for a longer time received vegetable deposit upon the surface, and upon the removal of the timber the roots of trees and decayed stumps and logs furnish fertilizing material for a long time. If there be any truth in this notion favorable to timbered land, then it behooves western men to compensate by keeping stock upon their farms, from the first, and to husband the manure carefully.

But few men know—because they have not tried it—how much farm stock can be well maintained upon a farm having plenty of meadow and pasture land, and a very few acres relatively of tillage land. None but those who have tried it know how little labor will run a large farm, mainly in grass, and well stocked, and none but those who have tried it, and have carefully observed the growth of young stock, know how growth accumulates, the stock being, so to speak, self-tenders in the meantime.

Those farmers who have changed over from being large growers of grain for shipment to large growers of stock, on a farm formerly under the plow, but now seeded down, do not need reminding of the diminished strain upon the muscle of both man and beast. The family, too, furnishes competent witnesses, and is usually very ready to rejoice at the absence of harvest seasons and threshing days.

The Wheat Crop of Texas.

The prospect of competition with us in the great markets for breadstuffs is no less interesting to us than the demand and probable prices in those markets may be. A good demand for our surplus produce is as necessary to our prosperity as the yield of our wheat fields or the fattening properties of our pastures. We, therefore, give the following in reference to the crop of the State. A writer, well versed in the prospects of the State, says that the estimate of what she can do is pretty sure never to be done:—

"There is now in Texas quite a lively agitation of the question whether that State cannot be developed into one of the great wheat-growing and food-exporting sections of the country. The success which has apparently followed the experiments of raising wheat during the past few years, and the great favor which the grain raised in that State is said to have gained among flour manufacturers, have raised hopes among the people of Galveston of making their city one of the principal grain and flour marts of the world. During the war a small quantity of wheat was grown in the northern counties of the State, but since the war cotton had been the principal crop raised, until a few years ago, when attention was turned once more to the cultivation of wheat. The section now devoted to that cereal is said to extend into the centre of that State. Thirteen counties produced last year

7,500,000 bushels of wheat, valued at \$8,000,000. It is estimated that wheat could be grown in 170 counties, and that the annual value of the wheat crop could be raised to \$570,000,000.

"It is claimed that the wheat grown in Texas is peculiarly suited for exportation to hot climates, and that St. Louis manufacturers select it as the best from which to make flour for exportation to Brazil. Texans claim that their wheat contains less water and more gluten than that grown in the States further north. The vast bottom lands of Texas are thought to be suited to the culture of the East India wheat. Galveston is looking particularly towards the export of wheat and flour to Brazil, but acknowledges that in order to create a great export trade her harbor must be so improved that vessels can load at the wharves. As it is now nearly all vessels have to be loaded from lighters. An endeavor was recently made to keep open at one of the wharves a channel deep enough to float a loaded ship, but it was found that almost constant dredging could not accomplish the object. Millions of dollars would probably have to be expended before Galveston Harbor could be made available for a great export trade, but whether the capacity of the State for raising grain will lead to this is uncertain."

Farmers' Review.

The American Agriculturist for June says:—
The reports of the growing wheat-crop are generally favorable. A large majority declare the condition of the crop to indicate a full average, and more than half speak of a promise of above an average yield. A comparatively small number of places are threatened with a partial loss of crop, California presenting the least hopeful condition, on account of a serious drouth. So far as our own observation and information extends, we consider the promise of the crop to be very favorable, and if dry weather should not interfere, a fair harvest may be expected. At the same time the country is bare of wheat, and the foreign demand is larger than usual.

The experience of the past two years goes to show that there will be no danger of "over-production" in the future. We need not fear to raise as large crops as we can. The foreign market is large and steady, and we will need all we can produce in the way of grains, meats, provisions and dairy produce, to supply it. The low prices of the past few years have brought this about, and therefore have not by any means been an unmitigated evil. While we have been depressed and troubled by a reduced income from our farms, which has solely embarrassed those who have been in debt, this has been the means of stimulating farmers generally to do better by their farms than they had formerly done. In no previous year has stock been much improved as during the few years just past, and we have, in consequence, found a market in England for meat, which has saved our home market from demoralization. At no time before the present has there been so much of artificial fertilizing, and never before so anxious enquiry about the possibility of enlarging the crops, and using the most effective economy in farming operations.

In the meantime thousands of persons are entering into agriculture from other industries; the wave of western emigration has broken upon a shore where the land, although valuable for pasture, is not arable, and it now flows back upon the neglected lands of the East, which are being restored again to their former fruitfulness by means of more skilful cultivation. There is now a closing up of scattered ranks, and the farming interest is becoming consolidated.

As population may increase, during the next twenty-five years, to double its present limit, and we have a hundred million mouths to feed in our own country alone, all the resources and skill of the farmer will be taxed to meet the demand for his products. The value of farms can hardly fail to increase from year to year, on these accounts, and it will be the farmer's interest to see that he neglects no means of making his more valuable property pay a higher interest than now. This can only be done by making it more productive.

All new and fresh manure engenders heat during fermentation, and has a tendency to lighten the soil, while old, rotten manures render it more compact and firm. In the application to the soil, all fresh and rank manures should be spread on the surface and plowed under, while well decomposed manures may be applied direct to the growing plant or to the seed.

Correspondence.

Buttermilk for Currant Worms.

SIR,—In the *ADVOCATE* you commend Hellebore for the destruction of the currant worm. I decidedly object to the use of poison on any farm for the destruction of pests that can otherwise be destroyed. My currant bushes have been attacked by the currant worms for the last two years. I have sprinkled buttermilk on the leaves of the bushes, and have by this means destroyed the worms and saved my bushes, and have had no fear of poisoning my family or my friends. I think this should be more generally known.

J. SMITH, Lambeth.

[We have used buttermilk and have found it efficacious in destroying the currant worms. Many that live near or in cities cannot easily procure buttermilk. Many do not apply the Hellebore to the best advantage. It should be tied in a cloth-bag that would allow the dust to shake out of it; the leaves should be turned up by taking a stick and lifting the branches, one side of a bush at a time, then dust the underside of the leaves on the morning there is a little dampness on the leaves. A very small quantity is sufficient for the destruction of the worm. We have never yet heard of anyone being poisoned by the use of it. In the hands of negligent or careless persons there might be danger. The greater the power, whether in machinery or drugs, the greater the danger if improperly applied. We thank Mr. S. for his practical hint, although not new. It should be more generally known.—ED.]

Tile Draining.

DEAR SIR,—Since I wrote last month we have put in about 200 rods of tile drain. There appears to be a sort of crisis in this part of the country in the matter of draining. Twenty-five years ago, when one bought a farm, he tried to get one as free from swamp land as possible. Low alluvial swales and swamps were looked upon as so much waste, and it was those who had the dry ridges that would boast of the excellence of their farms. This is entirely changed now; many of those dry ridges have ceased to produce as they once did, and the low land is beginning to receive a great deal of attention, and lots for the water are looked for and found in most cases; some have made unsightly, unhealthy bogs into beautiful, fertile and profitable fields. Others see, take the hint, and go and do likewise. The effect is that many a farm that was considered the worst is coming out the best. This state of things has made a great demand for tile. There are three yards within a radius of 12 miles of my place, and they do not supply the demand; hundreds of loads could have been sold this spring, while not a tile could be had at either place. A few years ago two-inch was the size principally used; now it is three and four-inch, and large quantities of five and six-inch are used.

Now, while so much money and labor are being expended in this important work, how necessary it is that those engaged in it should understand how to properly perform the work. Ignorance of what constitutes a good drain results in disappointment and loss. I notice a fault that is very general, especially when people commence draining, that is, digging too shallow; a great deal of work has been done not over two feet deep, and I have taken up about 80 rods this spring that would only average about 20 inches. Such draining is not worthy of the name. I find 3½ feet a very economical drain; when it goes much below that it adds very much to the cost of digging. Another great mistake is in not making a good bottom for the tile to lie on. Some places are hard and some soft; when there is much inequality the digging should be done when there is no water; in fact I much prefer that in every case. Those soft places and sand beds should be taken out below the bottom of the ditch, and something heavy from some other part of the ditch put in the place and tramped hard, so that when a two-inch tile is laid it will not displace it to stand on it with your foot. Another great fault that most drains have is that the bottom is not even graded; some parts will have a fall of one inch per 100 feet, other parts six inches. If you could get the eye to the bottom it would appear very crooked. Now, it is much more important to make the bottom of your drain straight than it is to draw your furrows straight across your field. In doing the latter you set up stakes and keep your eye on them, and so will go

across a field very straight; in fact, you cannot go straight without something to keep the eye on. Now, I want the reader to understand that the same means may be used in making the bottom of a drain straight. Erect your stakes or sights five feet above where you intend to have the bottom of your ditch. This is easily done by driving a pair of stakes, one on each side of the ditch, and nailing a strip of board between them, having the upper edge just five feet from where you want the bottom. Do this at several places along the drain, and then, with a stick similar to the half of a carpenter's ten-foot pole, you can find the exact bottom at any point by placing one end in the ditch and sighting across the top; if it corresponds with your sights the bottom is right; if below, you are too deep; if above, you are not deep enough. I have practiced this plan now for three years, and feel satisfied that it can't be beat. My neighbors are all adopting the same plan, which proves its utility. I would here mention that it is not always possible to have the bottom of a ditch for any considerable length on the same grade. If the lower end or outlet is the heaviest grade it is all right, but if the upper end is the steepest, as, for example, where you have to keep very flat for a piece at first for want of a good outlet, say two inches per 100 feet, then you strike a rise of ground where that grade would carry you too deep, and you must rise to 6 or perhaps 10 inches per hundred feet. In that case make the change at a certain point, and there place a cistern, or sand basin, below the bottom of the drain; it may be made of brick, the size will depend on the amount of danger from sand washing down. The tile above this need not be so large by considerable as that below. This should be covered and the place marked, so that it may be examined occasionally, and the sand cleaned out.

Having now made your drain a good depth, a uniform solid bottom, an even grade, lay your tile by hand as close as possible, turning them to make them fit; don't be afraid of making them too tight; cover them with material that won't wash, such as surface soil generally is, or clay, tramp well for a few inches or a foot, the remainder may be filled in any way that is easiest done.

I could say a great deal more on this subject, but space will not allow, so I will conclude by advising every farmer who is going to drain to first post himself up by reading some good work on the subject. Depend on no one doing the work properly without your oversight. That great farmer, John Johnston, of Geneva, laid 25 miles of drain with his own hands; this is the way to make sure work. Lay every tile as if the whole drain depended on it, just as the strength of a chain depends on every link.

CANADIAN THISTLES.

I stated in my last that we were going to summer fallow 30 acres, which was so overrun with Canadian thistles that it would be perfectly useless to sow any kind of grain and expect a crop. I expected to have had it nearly all plowed by the tenth of June, but instead of that the seventh arrived and not a furrow was plowed. A day or two previous to this we gave some of our neighbors a broad hint that we would like some help, the result was that on the above date 16 spans of horses were at work at an early hour of the day, for a bee, and before night 20 acres were plowed; three or four others are coming who could not come that day. This was certainly very gratifying, not alone for the sake of the work done, but at the manifestation of neighborly feeling.

I think we will succeed in subduing the thistles. They have a weak spot and I think I know where it is. It is a law of all plants that they must have a top as well as a root in order to live, now the roots go so deep that we cannot root them out, we must therefore top them out; this I have done over and over again in bad patches, and I feel confident that by applying the gang plow every time they get nicely above ground we can kill them, even though they cover a 30-acre field. However, one thing looks bad, I see thousands are just coming up from the seed, and I am afraid the seed will not all germinate this season.

MATTED WOOL.

I spoke to a neighbor for his wool a few days before shearing, as we wanted to make some homemade blankets; he told me after clipping that it was so matted as to be nearly useless. I spoke of it to another neighbor and he told me he used to be troubled very much the same way, till he saw in an agricultural paper the advice to mark all those sheep at shearing and fan them off; he tried

it, and for several years he has not had a matted fleece. Sometimes a very little hint of this kind is worth more than the price of the paper for a year.

Innerkip, June 11th, 1877.

F. M.

Orchard Grass.

SIR,—As you noticed in your last issue some of the advantages of orchard grass, and among the rest its early growth, I would state that I am now cutting a good, heavy swath of it and feeding to six horses. I commenced to mow it for them the last of May. Now, as this is about the same latitude as London, Ont., any farmer not acquainted with it can judge for himself, comparing it with the present growth of any other forage plant that he has. I find this grass yields so well and grows again so quick that by having one or two small patches of it sown near the barn it will furnish the work horses with fresh feed, and as a soiling crop through the summer I very much prefer this way of keeping up my work horses. It is less work to mow for them than to go to the pasture after them, and it is better for the horses; besides, they are not troubled as bad with flies, and they will give a good stook of manure.

H. IVES.

Batavia, N. Y., June 2nd, 1877.

Col. Taylor, of Westminster, sowed eight acres of orchard grass last year. This year he had two tons per acre, and got it in the barn by the 20th of June. No other hay was cut in that locality at that time.

Nova Scotia.

Farmers have finished their seeding. The grass crop is looking well. A little rain is now needed, as it has been dry here for the past few weeks. The farmers here are planting every piece of available ground with potatoes. The prices they obtained last year has given quite a wonderful impetus to potato culture. Should they be able to obtain such prices as they received last year, they will reap a rich harvest; but, in my opinion, that is very doubtful. I am now in Anapolis Valley. The orchards are now in full blossom, and every thing is looking beautiful. Many young orchards are coming forward, which will cause the growers in a short time to look for a foreign market, as the only farm production they have shipped has been potatoes. The only market for horses, cattle, sheep and grain is among ourselves. Neither quality nor quantity are yet up to shipping point; the sheep, cattle and pigs are all far inferior to what you have in the West. Some of the common stock if sent here, would vastly improve the stock now to be seen here. As to horses there is not a good matched span of carriage horses in the country. The farmers here have been breeding small, useless scrubs, thinking they can go faster than a decent sired animal. I have not seen a single horse here that would be suitable for the English market. The amount of money and time lost in trying to get speed out of these animals would amount to more than all their horse stock is worth. The time is not far distant when they will see their error and turn to the general improvement of their stock of all kinds. There is a good field for improvement here.

June 14,

READER, Windsor.

British Columbia.

SIR,—We are having very hot, dry weather. There are a great many men looking for work this spring. The people are coming in here too fast; the greater part of those who come now are single men, who do not intend to take up land. There will not be many government works this year, and the farmers do not employ much labor; they are too poor. I like the *ADVOCATE* very much. Flour is \$13 per barrel, and is expected to go up higher. I am very sorry to tell you that all attempts to get any agricultural statistics in British Columbia have failed: the farmers will give no information. There are more men walking about New Westminster idle than I have ever seen before. Please warn those who do not want to take up land and settle, not to come. Our industries are not sufficiently developed to employ a large number of hands, and, although the country is progressing rapidly, the people are coming in too fast. What is the use of high wages when a man cannot get work. We want farmers, and no others, at present.

There is a man in New Westminster who had a lot to clear, and there were several big fir stumps, about five feet through, on it. He thought he would try dynamite on them, and he says it was no

use at all. I'll get his name if you like. He put it right under the stump, and covered it well up, and put water on the ground.

JAMES SYSON.

Maple Ridge, Frazer River, May 12th, 1877.
[Had he bored a hole in the stump, and put the dynamite in the stump, I think he would have a better account to give of dynamite.—Ed.]

In reply to a correspondent:—

The only beet-sugar factory we know of in this country at the present time, which is operated successfully, is the one at Santa Cruz, California.

We are sorry to see that this company, when they buy beet roots, pay for them on the basis of weight of the root rather than on the amount of sugar produced from the root. The former cannot but tend to the production of large, coarse beets, with a decreased percentage of sugar.

SIR,—I have eleven pigs which are affected with lice, such as have never been seen on pigs before. Some farmers in my neighborhood complain of the same disease among their pigs. They are a good deal the shape of sheep lice, but the color is grey. If there is any cure for them, you will oblige by letting me know through the next month's ADVOCATE.
S. E., Guelph.

The following mixture will destroy those vermin on your pigs, which is both simple and easily got:

One quart of strong vinegar, one ounce of turpentine, two ounces of sulphur, and one pint and a half of coal oil. Mix and apply with sponge every day on parts where you find the greatest numbers.—RUDD & TENNET, Veterinary Surgeons, London.

Selling Cattle by Weight.

SIR,—The increasing demand for Canadian beef and mutton in the English market offers a bright lookout for our farmers if they will but exert themselves to secure the advantage offered them. Several years ago an old Yorkshire farmer in the Province of Quebec told me that stall feeding cattle would never pay unless they had a good run at grass during the summer, and I am inclined to think he was right. If an ox in good store condition is put to fetter about the 1st of November, I doubt if five cents per lb. live weight would pay the expense of six months' stall feeding, which would be required to fit him for the English market; but if he had a good run at grass during the summer, he would be half fat before the 1st of November, and the three months' stall feeding would suffice. There is an old maxim that breed goes pretty much in at the mouth, and certainly the best bred animals in the country would yield no profit unless they were well fed, especially during the first winter, which is just the point where most of our farmers fall short. They seem to regard more the number than the quality of the cattle they raise every year, and would frequently rather pay fifty cents for the use of a scrub bull for their cows, than two dollars for the use of a pure bred Durham. When the cattle are fed they ought invariably to be sold by weight. Dealers and butchers from their habits of handling cattle, and seeing their weights when dressed, have a great advantage over farmers by judging of the weight of cattle by the eye. A farmer who is in the habit of feeding several cattle and pigs every year, should have a platform scale of his own, so that he might readily weigh his cattle and pigs, when they were first put up, and at intervals while they were being fed. But wanting this convenience, he could always have his cattle weighed at the market scales, and then he would be on equal terms with the dealer.

SARAWAK.

SIR,—We have had so little rain this spring, that, as usual at such times, the bush fires have been rather destructive. Two barns as well as some fencing have been burned, and in one place a crop of wheat in the new fallow has been destroyed. On two farms the army worm appeared and attacked the young wheat, but the farmers to whom the wheat belonged promptly put the roller over their fields and crushed them all, and now their wheat is coming on again. The grubs have destroyed the grass in some places, where there is a light gravelly soil. Frost has also occurred in several places on low level land, but not on high ground. Plums, pears and cherries promise good crops; but apple trees that bore well last year show no signs of fruit this year; but those that had little or no fruit last year promise well now. We have

had some refreshing showers lately and the crops generally present an improved appearance. As the milkmaid found by experience that it was unsafe to reckon her chickens before they were hatched, so farmers might learn by the experience of last year (as two successive bad seasons are not unknown in Canada) not to reckon on their crops until they are safe in the barns. The present war is not expected to last long, and if it is localized there appears no prospect of a high price for wheat next winter, and consequently they should be careful not to be drawn into the too prevalent practice of buying goods on credit. In fact there appears to be a rage for running in debt just now, not only among farmers, but by municipal corporations also. Collectors' rolls are allowed to fall in arrear, whilst money is recklessly spent on township roads, and money borrowed to meet liabilities; nevertheless, pay day must come at last, and debts thus recklessly incurred, with interest added, will have to be paid. Wholesale dry goods merchants, after forcing off their stock at slaughter sales, are buying again as heavily as ever. The retail merchants are heavily supplied, and in order to dispose of their goods must offer them at long credit, and should the crops this year be a failure, they will find it difficult to collect their debts. The credit system is certainly a great convenience to farmers, who, as a rule, cannot do without a little of it; and so long as they are able to settle their accounts at the close of the year it is all well enough. It is the excess of credit which is injurious to those who avail themselves of it. Last winter two men from Toronto came into this neighborhood, offering packages of dry goods at from \$18 to \$25 each, at from one to two years' credit. One of the men sold \$1,600 worth, and the other \$2,000 worth of goods within three days. I had an opportunity of examining the contents of one of these packages, and, as I expected, found some of them to be a variety of the shoddy family. And yet if these men had not come into this part of the country, the farmers who were thus sold would have managed to do without the articles they purchased.

Certainly there appears to be no scarcity of capital in Canada just now, if we may judge from the number of money lenders, whose name is legion, for they are many, and who appear to be doing a flourishing business. There are no less than ten loan companies, with capital varying from three millions to four hundred thousand dollars, with half-yearly dividends from three to six per cent., besides the numerous private capitalists who kindly advertise their readiness to supply the farmers with money at from 5½ to 10 per cent. interest; also, some who do not advertise, and who are not particular to a shade what amount of interest they exact, although as a rule they seldom exceed 25 per cent. A little army of borrowers must be necessary to support all these money lenders, and enable them to pay such good dividends. From a statement in the *Monetary Times*, it appears that there are more failures every year in Canada in proportion to the number of traders than there are in the United States—owing to the unreasonable credit which has to be given in order to dispose of the excessive quantity of goods which has been imported into the country within these last few years, and which appears to have encouraged a general laxity of principles amongst all classes; this can only be checked by another panic such as those of 1857 and 1866, after which we may expect business to revive again and be conducted on sounder principles. The lion's share of the burden must ultimately fall on the farmers, and the sooner they begin to retrench unnecessary expenses the better. In these facts you may find a solution of the problem why money is so scarce among the farmers, whilst unemployed capital is so abundant. And it is just here where I expect the Grange system to do most good, if the Grangers only carry their professed principles into action.

SARAWAK.

SIR,—The year 1876 was not only the Centennial birthday of our Government, but was in many other respects rather a remarkable year. Perhaps, Michigan never saw such an abundant fruit crop as that of last year. As the natural result of such an over-production, the orchards are resting from their labors this year, so that there will be as much of lack as there was of over-abundance last year, especially of apples. The Fruit Preserving Companies, by the Aldin process, who have had capital and nerve enough to hold their last season's product, are likely to make a good thing of it. Since the fact became known that there would be

no crop to work up the coming fall the price of "Aldin Apples" has gone up, and one Company have sent their Secretary, S. B. Mann, to Chicago, where he disposed of 80,000 bbls. to one house, at a much better figure than had been expected.

The orchardists of the State are getting pretty well alarmed at the appearance of a new and dangerous pest—the Canker Worm—in a number of localities. The worst afflicted one, perhaps, being this city.

Some sixteen years ago it was brought here from Massachusetts with some scions—at least so supposed—and planted in the orchard, so lately made famous by it, known as the Bailey orchard. It is located about two miles north of the city, and consists of 5,000 trees of the choicest varieties. The worm has only made sufficient show to attract attention some three years ago, and the orchard, being in the hands of parties who were in litigation over the title of the estate, has been wholly neglected to its fate.

Last year the worm attacked about 900 trees, and this year it has nearly or quite destroyed the entire orchard. It looks to the passer-by as though a terrible fire had swept over that magnificent property.

It may not be amiss to give your readers a few words concerning the habits and character of this pest—although many of your Dominion orchardists know full well from experience what it is—from what I gather from rather an extended research in regard to its history.

Prof. Cook, of the Michigan Agricultural College, with a few other writers, describes two kinds. One—*A. vernata*—comes from the ground in the moth state in the spring, and the other—*A. pomonaria*—in the fall. In this, the moth state, they are of a light grey or ash color generally. The male is only furnished with wings, and one of the most vulnerable points in this new enemy is the fact that the female, to lay her eggs where the young larva can find the necessary food at hand, must crawl up the trunk of the tree.

Knowing this, then, and the time of year that she makes the ascent, it would seem to be no great trouble—which is a fact—to trap her.

The spring variety comes out of the ground during the first warm days of March usually, although this year they came forth in the Bailey orchard plentifully in February—a very unusual thing. The most feasible plan yet found is to trap the female by first binding around the tree near the ground a band of coarse, stout paper, and besmearing this well with coal or pine tar, in which she is sure to stick and die. This must, of course, be put on rarely and often removed, to keep it from drying so that her ladyship can safely pass over.

Prof. Cook and others give still another method, if this first precaution has been neglected, which is to put on the tarred bands as before mentioned, and when the worm has got well at work on the bands, to give the tree a slight jar, and the worm will drop down by a web spun from its mouth, and hang suspended between the branches of the tree and the ground; then with a pole sweep them down by breaking their webs and letting them to the ground.

Instinct teaches them the way back, and they at once start for the foot of the tree and up till they find their feet fast in the tar.

The work of this pest is to defoliate the tree, and from the time the young leaves put forth till the worm goes back to the ground—which is in early June—not a green leaf is allowed to grow. This treatment of course the tree cannot bear many times in succession, and must die.

The worm goes down a few inches into the ground and makes for itself an earthen cocoon, and there lies in the pupa state till the next March, when it comes forth in greatly increased numbers to destroy with its blighting curse our most valuable fruit.

The Farmers' Club of this—Senawee—county has taken a lively interest in this matter, and find, on looking about, that the canker worm has spread from its haunts in the Bailey orchard to some five or six other orchards, and even some of the trees of the city are affected. I am glad to state that the interest, or rather alarm, I better say, that is being manifested promises not well for the spread of this insect blight upon the most cherished crop of our fruit growing State much further.

Adrian, Michigan, U. S. S. B. M.
[We are always pleased to receive such valuable communications from our American cousins.—Ed.]

Garden, Orchard and Forest.

On Farm Gardens.

PAPER NO. I.—BY P. E. B., OTTAWA.

The useful purposes for gardens to which every scrap of ground is turned to account in cities, where it is so valuable, may well teach farmers a lesson in bringing to good account a small plot of land near the homestead.

Who has not visited with pleasure the villa plots on the outskirts of the cities and towns of Canada and the United States, and admired the calm, cool shade under the native and ornamental trees and shrubs—the lovely smooth turf kept neatly trimmed with the lawn mower, until it looks like a piece of fine, green velvet carpet; a few annual and perennial flowers decorate the soil in tastefully cut beds, and give an air of beauty and comfort to the dwelling and its surroundings. Nor in many cases are the wants of the inner man lost sight of, whilst attending to the beautiful. The kitchen garden, though small, is generally stocked with a moderate supply of rhubarb and asparagus, and for fruits the red, white and black currants, red, white and black raspberries, the American seedling gooseberry and a few choice strawberries and blackberries may be found interspersed with grape-vines, apples, cherries, plums and pears. One acre of well-fenced ground will supply all these requisites for health, comfort and enjoyment, and the farmer might just as easily find sufficient time from the more irksome duties of the farm to attend to this little plot, as the merchant or clerk does from the labors of his office. Besides, on many farms there are elderly people who, though too infirm for hard work, might find pleasure and interest in horticultural pursuits for their declining years. These might be assisted by the junior members of the family, still too young to pursue the more arduous labors of the field. At any rate, some little sacrifice should be made to adorn one's dwelling externally and make it attractive for the young people, who are like new fledged birds standing on the edge of the nest, the world before them, balancing in their own minds whether to take flight or whether to remain. Many of our junior country folks envy the apparent wealth of the city residences, which have really been converted into little Edens more by taste than money.

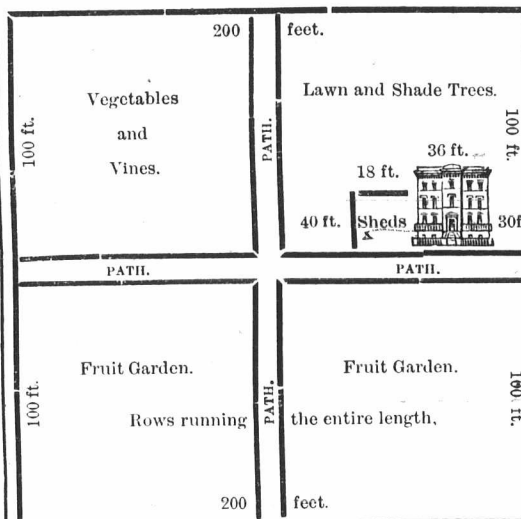
It is quite true that a farmer's house is quite as much his castle as that of any city resident, and he can pasture his cows in his garden plot, or feed his pigs on the front door-step, and no one can say anything to him; but in justice to the rising generation, no one should neglect the adornment of his residence by adding those attractions which nature has so bountifully placed at hand for man to secure and utilize. The difference between neatly kept and unkept grounds is so striking that the one resembles chaos, whilst the other reminds the passer-by of a scene in fairy-land, or the act of some great magician, who, by a magic touch of his wand, produces order where all before was desolation.

The lamentable rush from the country to the cities is in a great measure attributable to the want of neatness in the home surroundings, and many a poor fellow deeply deplores in after life the fatal step which induced him to leave the pure air and healthy exercise of a country life for the dull routine of the city, where the professions are overstocked and where the mercantile and manufacturing avocations are crowded to excess. It is with a view to removing some of the elements of discontent that the following remarks are made on the subject of adorning the homestead and cultivating a taste for flowers and fruits and all kinds of garden products. And as the seasons move onward

it is proposed to give directions and hints as to what should be done to render country dwellings more attractive.

It is now too late in the season to commence general garden making, but there are many operations which can be conducted at any time during the summer when a spare moment can be found, and this paper may reach some of its friends who have not yet quite passed through that period familiarly known as the "blowing season," which is the few weeks between haying and harvest-time. It is therefore directed that a suitable piece of ground be selected near the house, and of which, in fact, the house should form a part, and that it be rich and securely fenced with boards or pickets, so that neither cattle nor pigs can gain any entrance; the ingress and egress should either be by a stile or a gate secured by a latch with a spring attached, so that at no time may it be left open by parties passing through it. The ground, which should be two hundred feet square, should be heavily manured and plowed, and be divided into four square lots of one hundred feet each way by running two roads or wide paths straight through the middle of the ground, crossing each other in the centre. A piece of ground one hundred by two hundred feet will be found ample for all the requirements of a small fruit garden for a large family, when properly attended to; and one hundred ft. sq. may be devoted to the house, lawn,

DIAGRAM OF LOTS.



shrubs, trees and flowers, and another piece of a similar size should be planted with grape vines or trellises, between which all the vegetables required for the family may be cultivated (see diagram). It will be found best to plant in strips the full length of each plot; the small fruit section should have the rows running the whole two hundred feet, but the cross road in the centre should of course not be planted, keeping each variety of fruit in its own row; for instance, one row of black currants, one of white, two of red, &c. The early part of July is the best season for setting out strawberry plants, and this operation should be commenced as soon as possible, especially if the plants can be obtained on one's own ground or from some neighbor near at hand. So soon as the young runners take root, is the most favorable time to commence setting them, that is, a small plot for home use. In an old garden they are usually planted on ground that such crops as new potatoes have been removed from, or after an old piece of strawberry land has been gathered the place may be manured and the old plants turned under and replanted again. The preparation of an entirely new bed is, however, a matter of no great difficulty; the ground should be made as level as possible, if it is not already so, and as much manure of a well-rotted kind applied as can be turned under with the plow, and then harrowed down finely, and after-

wards finished off with the garden rake; a strip of ground 13 feet wide by 200 feet long will be quite sufficient. The plants should be set eighteen inches apart, and covered with boards and well watered for a few days; three boards 12 feet long will answer the purpose of shading, and with these appliances thirty-six feet may be planted every three or four days, and three plantings will finish a row. The beds may be staked out if required, but no deep paths should be made, as they tend to dry up the soil. The strawberry plot should be thirteen feet wide. Commence planting by stretching a line one hundred feet long two feet from the edge, the next row should be three feet from the first; there should be four rows, and two feet on the far side of the plot; the whole piece should be planted by the 15th of September, and as much earlier as possible, in fact, the middle of August should see all the work done; if the weather is raining or overcast the shading may be dispensed with. The planter will be careful to see that only the present year's runners are set, as he will throw away both time and trouble by putting in old plants. The object of planting thus early is that the vine may become well established before winter; they are then not liable to be heaved out with the frost during winter and next spring, and they will give a good crop the following year after planting. If any are thrown out by frost it is a sure sign the ground requires underdraining. Before winter sets in it will be of advantage to cover the plants with a good litter of straw, cornstalks, or spruce or cedar boughs; should the snow not lay deep any of these materials will make a good protection, and no one will regret a little extra labor bestowed when towards the end of the following June he begins to reap his reward in a crop of luscious ripe fruit, which he may gather by the gallon. For varieties, it may be mentioned that the Wilson's Albany is a heavy-bearing, fine variety; the berry is firm, and good for shipping by rail or taking to market, but it has the drawback of having a sprightly tart flavor. Col. Rhodes, of Quebec, grows extensively the Elton Pine and says it succeeds better than any other variety with him; but a revolution is likely to occur in strawberry culture from some varieties that have been tested of Mr. Charles Arnold's, of Paris, new hybrids. The New Dominion, grown by A. M. Smith, of Grimsby, is also an exceedingly good late kind, prolonging the strawberry season some ten days.

Planting Raspberry Plantations.

"A. D.," an old subscriber of the FARMERS' ADVOCATE, desirous to have greater variety in his small fruits, wishes for practical information on planting raspberry plantations. Currants and gooseberries he now considers very uncertain crops, their insect enemies having increased so much of late years. By cultivating more varieties of small fruits, he thinks that there is more likelihood for some being safe. The following we abridge from the London Field:—

The raspberry will succeed tolerably well in most garden soils, but prefers a rather moist situation, and does not object to a little shade. The wild raspberry is oftener found in the woods than anywhere else, and in somewhat damp situations, where it grows and fruits wonderfully.

It takes some little time to establish a plantation, but much depends on culture. In hard, dry soils, both higher culture and mulchings are necessary to the production of good, strong canes, at the end of even the second year after planting. In dry districts, and upon dry subsoils, deep culture is also needful, principally because deep soils retain the moisture longest; otherwise this is not so important, for the raspberry is not a deep rooter. In fact, the roots are found in greatest abundance close to the surface of the soil, which accounts to some extent for the bad effects which drouth has upon the fruit, and the good effects produced by mulching. If the ground is trenched previous to

planting, any rough, light manure may be buried at the same time; but manure, to be immediately serviceable, should only be dug or forked in a spit deep. In rather heavy soils decayed hot-bed refuse, half-rotted stable dung, leaf mold or peat, should be applied, but the first two are the best fertilizers, and suit the raspberry well. In light soils, cow manure, or that mixed with any of the above, is preferable. In planting it must be considered whether the ground has to be cropped between the rows, in which case they would require to be seven or eight feet asunder, at least. The practice is, however, a bad one, and not to be recommended, either for economical or other reasons, so far as we could ever see. Neither vegetable crops nor raspberries can be cultivated satisfactorily under such circumstances. Plan it as you like, the bushes must have a certain amount of space, if they are to succeed, and it is every way best to let them have the ground to themselves, if a less extent of it is planted. If this plan is adopted, the distance between the stools will depend upon the mode of training the canes.

There are three principal methods of training the raspberry, all very good. The simplest plan is to tie each group of canes together in the middle with a piece of strong band, and leave them to support themselves, which they will do well, and at the same time the tops will not be crowded together as they are when tied to a single stake, nor will the canes be crushed at the bottom; consequently, they break the greater part of their buds, and bear well from top to bottom, if they have room.

The sooner planting is proceeded with after this the better, and it should at the latest be completed before the end of November. The rows and places being marked out according to the system of training to be adopted, the canes should be planted in groups of two or three together; only strong canes should be employed, and, as they must be cut down to the ground before growth commences in spring, they do not need to be tied or trained in any way. Some cut the canes down when they are planted; but we find considerably fewer blanks occur in the spring, when such work is deferred till the middle of February.

Raspberry plantations are not so soon formed as plantations of strawberries, and some other things. After planting, the roots should be mulched three or four inches deep, and two feet out from the stems, which will protect them from frost in winter and drouth in summer. From this date till the end of the following season stirring the ground between the rows and watering the plants well in dry weather will be all the attention they need. Should they make good tall and stout canes the first season, they may be left and trained; but if weak, or only second-rate, it is better to cut them down again about the same time, and the second season they will produce good bearing canes. Once established, a plantation of raspberries will last for many years.

The Canker Worm in the Plymouth Orchards—Their Terrible Devastation.

It is absolutely necessary for every owner of a tree to be indefatigable in his endeavors to exterminate the legions of insects of innumerable species that are devastating the country. This has become so momentous a subject that we devote more space to it than is usual with us. The subjoined extract from the *Michigan Farmer* presents a vivid picture of the work of the canker worm in a solitary instance, and shows what such pests are doing throughout the country. Mention is made of another large orchard, near the city of Adrian, which is even in a worse condition than the Plymouth orchard. Something can be done even in this season to combat the canker worm. The *Farmer* says:—

Near what is known as Tuft's Corners we came in sight of an old orchard upon a rising ground containing about 120 trees, which looked at a little distance as though its foliage had been scorched. As we drove up to it we saw that the leaves had been thoroughly destroyed by the canker worm, which had been allowed to increase from year to year till they had thoroughly mastered the orchard. The wind had carried the webs and insects to a number of trees across the road, and to other trees, many branches of which had been stripped. The orchard itself had been so long under the influence of the pests that most of the

young trees are dead and all the old ones partially dead and worthless. This orchard is only fit for firewood; every tree in it should be cut down and the ground thoroughly burned over so as to destroy the whole crop of insects that are getting ready for next season. This orchard is spreading the pest of the canker worm into other more valuable orchards at some distance. We note that the winds had carried the web, and consequently the insect, into the nearest corner of Mr. Taft's orchard. Several trees had been attacked badly the present year, and the foliage partially destroyed. Standing under one and shaking a branch or two, the caterpillars descended on threads in any quantity. It is evident that here they had established themselves in the ground, and that immediate care must be taken to prevent their further spread if the orchard was to be preserved. At present this will be an easy work, but in a year or two it will be impossible.

There is a pretty sure cure if it is followed up. Not much can be done the present season, but a good deal can be done to stop the progress of the canker worm for the coming year. The caterpillar that devours the leaves comes from the eggs laid by the female moth. Now this female moth has no wings, and as she is hatched in the ground the only way she can get in position to lay her eggs is by crawling up the tree. This she does as soon as she crawls out of her shelter in the spring. The remedy consists in having the bole of the tree surrounded with some obstacle to the ascent of the insect—a band of woolly substance, a rope or paper smeared with tar, or any contrivance that will entrap the insect in her ascent of the tree in the spring, and will destroy her, prevent the egg from being laid, and the appearance of the caterpillar is impossible. There is of course some good to be done by going through the orchard shaking the branches of the trees where the caterpillars are at work, and gathering them with the besom of destruction that would sweep them into the fire; but when they got thus large they have done about all the injury they can, and only the crop of insects for the year is lessened; but enough remain to go into the ground and leave a full crop. The true method is to destroy the female insect before she lays her eggs.

Dead-Shot for Vine Bugs.

Having often seen enquiries in your columns for something to keep bugs off squashes and melons, and having tried everything I ever heard of, and found at last what seems to be, here at least, a sure cure, I wish you to help me to make it known.

Nearly two years since, while talking with a friend of the ravages of the bugs, she said, "Have you ever used plaster of paris?" We used it last season and it worked well." Of course we took the hint, and that season (1875) we saved cucumbers and squashes with it—we had no melons. Last summer we used it on melons, summer and winter squashes, and cucumbers with very satisfactory results. Now for the process: Get your plaster of paris at a marble-shop, where you will find it the best and cheapest. Watch your vines closely, and when the leaves have grown large enough to please the striped bug, go out early in the morning while the dew is on, taking a basin for your plaster, get on the windward side of the vines, and sprinkle the powder carefully over them till they are well whitened. If there are striped bugs on them you will see them double up and roll off in a very disgusted manner. It is just as good for the large black bug. The vines must be watched and gone over after every shower, as the wind and rain may take most of the plaster off. Don't fancy that gypsum, or plaster, as it is called here and in many other places, will do. It will not do—plaster of paris is the thing.—*Cor. N. Y. Tribune.*

Watering Plants.

Plants set against walls and piazzas frequently suffer for want of water at this season, when even ground near them is quite wet. Draw away the soil around each plant so as to form a basin; fill it with a bucketful of water, allowing it time to sink gradually away, and when the surface has dried a little, draw in loosely the soil over it, and it will do without water for some weeks. This applies to all plants wanting water through the season. If water is merely poured on the surface, it is made more compact by the weight of water, and the harder the soil becomes, the easier it dries; and the result is, the more water you give the more is wanted.—*Gardeners' Monthly.*

Mignonette.

What can be more desirable for either summer or winter bloom than the fragrant mignonette, that everybody knows and loves. In England and Germany this little plant is grown in every possible place and imaginable receptacle. The wealthy have beautiful and costly mignonette pots and boxes that will adorn the window sill or bracket. Those less fortunate use ordinary flower pots, while children press into service broken table dishes of every conceivable shape or pattern. Its floral language is, "Your charms surpass your beauty," for its flowers are insignificant when compared with the brilliant coloring of many others. To have a succession of bloom, commence sowing as early as February; then again in April, September and October. Thin out the plants to about four in a pot, shade from the sun in the heat of the day, as otherwise the foliage may have a yellow, unsightly appearance. Sow your seeds where you wish the plants to bloom, as I have found the tap-roots are not fond of being disturbed. I have never succeeded in transplanting one. If too crowded, thin out. If desired to make any bloom late, pinch off the lower buds as soon as they appear. They will again form and bloom about a month later than others of the same sowing.

TREE MIGNONETTE.

This is by some supposed to be a distinct variety from the common kind grown in the garden, but it is not. The singular effect is due to close pruning and attention, for we can have nothing beautiful and rare without some painstaking. Sow seed as usual, and as plants come up, thin out the weakest, leaving only one in the centre of the pot. Push a piece of stiff wire down by the side of the plant, and when it is two inches high tie it loosely with a worsted thread to the wire and keep it well supported. Every side branch that appears must be pinched off, but the leaves must be allowed to remain on the main stem as they are needed for the health of the plant. In four or five months turn out the ball of earth to see if it requires more room. Do not give it unless the roots are curled around the edges of the ball. When the plant is about a foot or more in height, according to fancy, the side shoots may be permitted to grow, but they must have their heads pinched off occasionally to force them to form a bushy top of ten or twelve inches. It will take from nine to twelve months to accomplish this—and then one plant will be enough to perfume one room and will attract much attention. Every year it should be repeated, and will bear an abundance of fragrant flowers many seasons.—*Indiana Farmer.*

Ruta Bagas.

If your strawberry bed or patch is too weedy or plants too old, after they have done bearing this month, turn them under well with a good steel plow, harrow with a slanting-toothed harrow, mark out rows two to two and a half feet apart, sow about three or four hundred pounds of superphosphate to each acre, in the rows, cover with a light one-horse plow (a covering implement is better), roll or rake the tops of the drills and sow seed of the improved American ruta baga at the rate of one and a half pounds to the acre. As the plants attain the height of two or three inches, thin them out to about six or eight inches apart, always selecting the strongest plants to stand. In about two weeks they will require cultivation, which can be given with a good cultivator, a careful man and a steady horse. The cultivator should be provided with good side plows, that will skim near to the plants without injuring them, turning the earth slightly away from them, to be partly returned by the hind teeth or plows. They will need one or two good hoeings through the season, according to the state and nature of the ground. By thorough preparation and cultivation of the soil, we have raised crops of ruta bagas without hoeing. Our plan is to always give them a good start by applying some artificial fertilizer, no matter how good the ground is.

Lime Dust.

The following has been recommended as the best mode for preparing lime dust for slugs and other insects, for mildew, &c.—Take say a peck of fresh or sharp lime, broken up into small pieces; then add four pounds of flour of sulphur, or in like proportions if in smaller quantity. Add one-third as much boiling water, or just enough to slack the lime to dry powder, and cover the vessel as soon as the water is poured on. By adding water it may be made into an excellent whitewash for trees, the sulphur increasing its efficacy.

Fungi, and Fungus Diseases.

EXTRACT FROM A LECTURE DELIVERED TO THE OHIO HORTICULTURAL SOCIETY BY DR. TOWNSEND.

The term fungi embraces a large class of vegetables belonging to the order of cryptogamia, or flowerless plants. The most conspicuous of these are the mushrooms, toadstools and puff-balls of various kinds; but it also includes an immense number of what are termed microscopic fungi, too small to be seen by the naked eye, except in the results they accomplish, and often causing much injury to the health of the plants and of animals. So we have rust on the plants of grain, and smut in wheat, rye and Indian corn—each a distinct species of fungus, and growing from spores like seeds which are so small as to be invisible except by the microscope, and which pass into the circulation of the plant by the sap from the root or by the pores of the leaves. The blighting of the tops of potatoes is caused by a fungus, *peronospora*, which extends its thread-like roots down through the stem into the tubers, causing them to rot or become uneatable before spring. Another species of the same genus is the mildew on American grape vines, causing the leaves to turn brown. The white mildew on foreign grapes is another fungus, as is always that causing the smutty appearance of apples, as in some of the specimens here to-day. The leaf blight on young pear seedlings is caused by fungus, and so we are told is the fire blight on pear trees. The red rust on blackberry bushes is also a fungus, which many of you would be glad to get rid of.

The air which surrounds us, especially in summer-time is full of the invisible spores of fungi. They are inhaled with our breath, and settle upon the leaves and tender shoots of all our trees and plants; they enter our chambers, our closets and our cellars; and when circumstances favor their growth, they vegetate and produce mildew, putrefaction or decay, and often sickness and death. Many of the malarious diseases are attributed to the influence of fungus spores in the atmosphere; the spread of contagion is of a similar nature. The difficulties found in healing diseases and wounds in old hospitals is now shown to be owing to the existence of poisonous fungi spores in such places, rendering it necessary to remove the patient, or to disinfect the atmosphere with the spray of carbolic acid. Hence we see there is much meaning in the term *pure air* as applicable to health and diseases. We can also understand why it is that certain localities are more liable than others to vegetate diseases, as mildew on grapes, smutting of fruit, &c. It may be that in time we shall be able to discover preventive measures that will lessen the mischief which is done in so many ways by these minute parasitic fungi.

Evergreens as a Protection for Crops.

Like other armies, the winds in their raids across the country do great damage; and when we hear, especially in the very early spring, the marches of their homeless feet, beating upon the unsheltered fields, we know that the farmer's wheat is being trodden out, and that a heavier tax is being levied on his crops than any foraging party from an enemy's camp would be able to enforce in a single foray.

Against this invasion the evergreens may be marshaled, dressed on parade and formed in line, so as to interpose an invincible array. Not one of you farmers, not even one of your wives and daughters, has failed to observe in the spring of the year, when there is always more or less mourning over winter-killed wheat, that even the poor protection of an open rail fence is sufficient to make a good crop for the width of two or three rods next to it, while nearly all the rest of the field is gone. It is equally noticeable that a belt of timber to the westward of an enclosure will afford complete protection to a forty-acre field of growing wheat.

The loss to Michigan farmers by the winter killing of wheat and clover is enough in the average length of a working life to make a little fortune for each, if it could be saved. Michigan raised in 1874, 15,500,000 bushels of wheat and 1,134,000 tons of hay. Now, if the damage by winter-killing, taking one year with another, is equal to one-fifth part of the crop, and I believe it to be much more, then the loss of money annually is, estimating wheat at \$1 per bushel, and hay at \$7 per ton, \$1,687,600 to the agriculturists of the State.

If in the place of our fences, all the road-sides and the dividing lines between all fields or division

of ownership, were lined with rows of evergreens 20 to 50 feet high, it is probable that we should hear no more of winter-killed wheat, or very little. The expense would be small in the first instance compared with fencing; ten evergreens to the rod would be sufficient, and would cost fifteen cents, the labor of planting about as much more.—*Michigan Farmer*.

Uses of Rhubarb.

A correspondent of the *American Agriculturist* says:—

Having an abundance of rhubarb, as one will who has any plants at all, we in former years noticed that after a few pies in early spring the novelty wore off and the rhubarb was rarely used. An inquiry at "headquarters" revealed the fact that rhubarb was so juicy the pies would "stew over" into the oven, and thus prevent the bottom crust from baking properly. "No one cared for the pies after the first ones," "so much sugar," and other things we do not now recollect, but to all of which we made answer—"Brown Betty." The suggestion was followed, and thereafter a rhubarb Brown Betty became one of the institutions of the family. To "B.B." you need breadcrumbs rolled, about the size of split peas, more or less; rhubarb cut small, sugar, cinnamon or other spice. Put a layer of crumbs in a pudding dish, a layer of rhubarb, sugar, spice, more breadcrumbs, and continue alternate layers of rhubarb and crumbs, and spicing each, until the dish is full or the material used up, finishing at the top with crumbs. Bake until the rhubarb is done and the top well browned. Following this hint, sufficient crumbs were added to the rhubarb to absorb the juice in making pies, to their great improvement. The rhubarb now gets used—if any doubt it, let them look at the grocer's bill for sugar.

Manure for Fruit Trees.

The Western New York Horticultural Society lately discussed the question of manure for fruit trees. One member said that he had used superphosphate of lime with good results. Another member said that he had seen more benefit resulting from superphosphate the second year than the first, especially when the first was a dry season. Another member preferred wood ashes. He once used 1,500 bushels of leached ashes on the sandy soil of his orchard and vineyard, with very great advantage, applying it at the rate of 300 bushels per acre. The quality as well as size and yield of fruit was very much improved. Another member considered barnyard manure as the most profitable fertilizer for fruit trees, as it furnishes all the elements required for growth and fertility. Fruit-growers should therefore manufacture all the manure they can, by keeping horses, cattle, pigs, poultry, and gathering up all the litter, &c., for the manure pile. Some people are liable to make mistakes in using stimulating manures as fertilizers for fruit crops.

Absorbents in Manure.

When manures are left over a season to decompose, absorbents of the ammonia in them are always beneficial. Plaster is decidedly the best absorbent of the gases in a manure pile that is known to exist, and it may be sprinkled among the manure when the pile is made—not much, say a barrel of plaster to what manure ten head of cattle will make in a season. Lime has a tendency to set the gases (ammonia) free; and it should never be used in the compost heap, except when much coarse matter is to be decomposed. Nor are ashes of any benefit to the heap, over their value when used alone. Swamp muck is good if placed in alternate layers of manure and muck through the heap and left a season to decompose and unite. All compost heaps should be made with their tops flat, or a little concave, to catch the rains to keep the heaps moist. In England the system of composting is carried to perfection. They pack their manure in oblong heaps, and shovel them over two or three times during the summer to hasten decomposition, and apply such fine manures to their lands the next season. Here we cannot so well afford the labor of composting in that manner; consequently many farmers apply all their stable dung to their land fresh and undecomposed. Some crops, however, require well-rotted manures to grow in perfection, and every farmer may profitably have a small compost heap to supply him with fine manure where it is needed.—*New York paper*.

Garden Use of Fertilizers.

Peter Henderson urges the importance of pulverizing finely and mixing thoroughly with absorbents all concentrated manures, such as guano, in order to obtain the best effects. He recommends adding to every bushel of the fertilizer three bushels of leaf mould, pulverized muck, &c., or in their absence common garden soil—the material to be as dry as it can be made. (Road dust would be still better, as it is already dry and finely pulverized.) Mr. H. would turn and mix all the ingredients at least twice before using. He states that a successful market gardener finds that 1,200 lbs. of guano mixed with two tons of garden soil, and sown over the ground after plowing, and then harrowed in, are fully equal to 2,000 lbs. of guano used without mixing. He finds in practice that guano at \$80 per ton, blood fertilizer at \$65, bone dust at \$50, and superphosphate at \$40 are about equally profitable to use. On other soils the relative values might vary greatly.

A GOOD HINT.—If you want the strawberry bed that has borne you a good crop this season to bear well next year, work it out thoroughly and manure well as soon as it is through bearing. Don't put it off until the bed is filled with weeds and grass. First plow or spade the ground between the rows, cutting the rows down narrower; then work the rows out well with a fork potato digger, and scatter in them a good quantity of well-rotted compost, guano or poudrette. It is a good plan to draw fresh earth in among the plants.—*Fruit Recorder*.

BONE MEAL FOR GRAPES.—The editor of the *London Horticulturist* asserts that among all the fertilizers proposed for the grape, none embody more of the necessary ingredients than bone meal. It should be applied as early in the season as possible. About a ton to the acre makes a dressing that will prove valuable for two or three years. In the West, as a rule, the necessity for the phosphates is not yet felt to any considerable degree. Where it is so bone meal is to be recommended. The quantity, however, is excessive. One thousand pounds ought to make itself felt for years.

Missing Birds and Songs.

A resident of Peterborough, Ontario, writes to the *Montreal Witness*, as follows:—"Though not an ornithologist, I have always taken an interest in the feathered tribe peculiar to our latitude, and have always been ready to welcome their vernal return. This year, however, I miss some kinds of birds formerly seen, and others which have as usual visited us are now almost silent. Formerly these pleased us with their joyous or plaintive notes, but this season I find two kinds almost dumb. I have two pairs of tomtits hatching about my buildings, and another pair have a nest under a bridge near by, yet I have not so much as heard a solitary note so peculiar to these birds. Formerly mornings and evenings they reminded us of their presence by their notes. Now I know they are here only by observing them. The robins have returned as usual, but with a solitary instance, this year, I have not heard the evening song of the male bird, chanting from twilight to dark. For the first time in 56 years, I have neither seen nor heard a bird we called the ground bird. It somewhat resembles the linnet, has a pleasant song, builds its nest in the meadows or grain fields. Then I miss the bluebird, the whippoorwill, the fair-weather bird, and I can assure you I feel sorry to lose so many of our old friends. Casting in my mind the cause of this change, it occurred to me that one cause of the failure of the visit of some kinds was the disappearance of the forests. Then, as regards the ground birds, the fields are so cleared and cleaned up, the reapers and mowers now so universally used, have destroyed the eggs and young birds."

[We had not noticed the fact till reading the above. Who will inform us what has become of our birds and their songs.—Ed.]

The *Scientific Farmer* states that a factory—the first in this country—for making sugar from corn is now in operation at Davonport, Iowa. The product is known as grape or starch sugar, or glucose, and differs from common or cane sugar in containing more oxygen and hydrogen, and in being less sweet and less crystallizable. It is consumed in large quantities by confectioners, who have hitherto been supplied mainly from France and Germany, where it is manufactured from potatoes.

The Story.

How Percy Bingham Caught His Trout

(Concluded.)

"There is Lough Cruagh, yer homer, an' there's the boat; av ye don't ketch the full av her, it's a q'are thing." The lake, a pool of dark-brown water, lay in the lap of an ample theatre of verdurous, grim, gaunt-looking mountains. It was a desolate place. No living thing broke upon the solitude, and the silence was as complete as if the barren crags had whispered the single word "hush" and awaited the awful approach of thunder. A road ran by the edge of the lake, but it was grass-grown and showed no sign of traffic, not even the imprint of a horse's foot.

"Now she's aff," cried Lanty, seizing the oars. "Out wud yer flies, an' more power to yer elbow."

The sport was splendid. No sooner had his tail-fly touched the water than an enormous trout plunged at it with a splash like that of a small boy taking a header, and away went the line off the reel as though it were being uncoiled by machinery—up the lake, down the lake, across the lake; now winding in, now giving the rod until it bent like a whip; now catching a glimpse of the fish, now fearing for the line on the bottom rocks.

"If the gut howlds ye'll bate him, brave as he is," exclaimed Lanty Kerrigan in an ecstasy of apprehension.

The fish was taking it quietly—*il faut reculer pour mieux sauter*—preparing for another effort. Percy Bingham wiped the perspiration from his brow; his work was cut out for him.

"Now's the time for a dart o' sperrits," said Kerrigan, dexterously slipping his oars and unfastening the lid of the hamper. "Ye won't, yer homer?"—Bingham had expressed dissent. "Well, begorra, here's luck, an' that it may be good," pouring out a drop of glassful and tossing it off. "That's shupayrior, with a smack; 't's warmin' me stomach like a bonfire! Whist!" he added in an alarmed whisper, "who the dickens is this is comin' along the road?"

A mail phaeton attached to a pair of spanking greys came swiftly and silently along the grass-grown causeway. An elderly, aristocratic-looking man was driving, and beside him sat a young and beautiful girl. "Be the hokey! we're bet; it's our Miles Joyce himself," cried Lanty Kerrigan.

"Is that Miss Joyce, the young lady to whom you took the box last night?" asked Percy somewhat eagerly.

"Och, wirra! wira! to be sure it is, an' that same box is our only chance now."

"Pull nearer the shore, Lanty," said the young officer, who was very anxious for a stare. "Good style," he muttered. "Tight head, delicious plait, Regent-street hat—*ma foi!* who would think of meeting anything like this in a devil's punch-bowl? Pull into shore, man," he testily cried.

"Shure I'm pulling me level best."

"Not that shore, you idiot. Pull for the carriage!" Lanty was straining in the opposite direction.

"Are you mad, sir?" whispered Kerrigan. "I wouldn't face our Joyce this blessed mimit fora crock o' gold."

The carriage drew up, and the driver in an authoritative voice shouted:—"Bring that boat here."

"We're bet; I tould you so," gasped Lanty, reluctantly heading the boat in the direction of the carriage. A few strokes brought them to the beach.

Percy Bingham raked up his eye-glass and gazed ardently at Mary Joyce, who returned the stare with compound interest. Irish grey eyes, with black, sweeping lashes, Hawthorn blossoms on her brow, apple blossoms on her cheeks, rosebuds on her lips, purple blood in her veins, youth and grace and modesty hovering about her like a delicious perfume.

"May I ask by whose authority you are fishing here?" Mr. Joyce was pale, and suppressed anger scintillated in his eyes. There are a great many things to be done with impunity in Connemara, but poaching is the seven deadly sins rolled into one. "Thou shalt not fish" is the elevated commandment. Bingham felt the awkwardness of his position at a glance, and met it like a gentleman.

"I cannot say I am here by any person's authority. I am stopping at the 'Bodkin Arms'."

"Och, murtha! murtha! howld your whisht," interrupted Lanty, in a hoarse whisper.

"Silence, fellow!" cried Bingham. "I am stopping at the 'Bodkin Arms,' and, upon asking the proprietor if there was any hindrance to my fishing, he replied that there was none. I ought, perhaps, to have been more explicit with him."

"Av course ye shud," interrupted Lanty.

"And I can only say"—here he stared very hard at Mary Joyce—"that it mortifies me more than I can possibly express to you to be placed in this extremely painful position."

"Do not say one word about it," said Mr. Joyce, in a courteous tone. "With the proprietor of the 'Bodkin Arms' I know how to deal, and with you too, Lanty Kerrigan." Lanty wriggled in the boat till it rocked again. "But as for you, Sir, all I can say is that I regret to have disturbed your fishing, and I wish you very good sport." And he bowed with haughty politeness.

"I thank you very much for your courtesy," bowed Bingham, who had by this time landed from the boat, "but I shall no longer continue an intruder." And seizing his rod he snapped it thrice across his knee and flung it into the lake.

It was Mary Joyce's bright eyes that led him to this folly—he wanted to be set right with her.

"Oh, how stupid," she exclaimed, starting to her feet.

"Thru for ye, Miss," added Lanty—"two pound tin gone like a dirink, an' an' illigant throat into the bargain."

"A willful man must have his way," said Mr. Joyce; "but I hope, Sir, that you will afford me another opportunity of enabling you to enjoy a day's sport in better waters than these." And lifting his hat, he waved an adieu as the fiery greys plunged onward and out of sight.

And Mary Joyce! Yes, that charming little head bent to him, those sweeping lashes lifted themselves that the glory of her gray eyes might be revealed to him, the roselid lips had dropped three perfumed petals, three insignificant little words, "Oh, how stupid," and these were the first words in the first chapter of Percy Bingham's first love.

He found the following note awaiting him at the hotel:

Mr. Joyce will be happy if Mr. Bingham will take a day on Shaunanthurga—Monday, if possible—as Mr. J. intends fishing upon that day. A salmon rod and flies are at Mr. Bingham's disposal. BINGHAM, ESQ.

Percy Bingham sent a polite acknowledgment and acceptance, and wished for the Monday. It was very late that night when the warrior returned to his quarters. He had been mooning around Mary Joyce's bower at Knockshin.

"What Masses have you here, Foxey?" asked Bingham of the waiter, whose real name was Redmond, but to whom this appellation was given on account of the color of his hair.

"The last Mass is first Mass now, Sir. Father James is sick, and Father Luke, a missionary, is doing duty for the whole barony."

"Is Mr. Joyce of Knockshin, a Catholic?" This in some trepidation.

"Yes, Sir, of course, Sir—wan of the ould stock, Sir; and Miss Mary, his daughter, Sir, plays the harmonium, Sir, elegant."

"What hour does Mass commence?"

"That's the first bell, Sir, but they ring two first bells always."

Percy Bingham belonged to a family that had held to their faith when the tide of the Reformation was sweeping lands, titles and honors before it. He fought for the Catholic cause when it became necessary to strike a blow; and as he was the only "popish" officer in the regiment, his good example developed into a duty.

Just as he arrived at the church door, the Joyce carriage drew up. Mr. Joyce handed out his daughter. The gray eyes encountered those of the young officer, who lifted his hat. Such a smile!—a sunbeam on the first primrose of spring.

"I was glad to get your note, Mr. Bingham. Could you manage to come over to breakfast? Military men don't mind a short march." And Mr. Joyce shook hands with him.

"Am I to have the pleasure of hearing Miss Joyce's harmonium to-day?" asked Percy.

"No; Miss Joyce's harmonium has a sore throat."

Poor Bingham struggled hard to hear his prayers, to collect his wandering thoughts. He was badly hit; the ruddy archer had sent his arrow home to the very feathers. He humbly waited for a glance as Miss Joyce drove away after Mass, and he got it. He was supremely happy and supremely miserable.

The "missioner," a young Dominican, very tall and very distinguished-looking, crossed the chapel-yard, followed by exclamations of praise and admiration from *votens* who still knelt about in picturesque attitudes:—"God be good to him!" "The heavens open to him!" "May the saints warm him to glory!" while one old woman who succeeded in catching the hem of his robe, exclaimed enthusiastically:

"Och, thin, but it's yerself that knows how to spake the word o' God; 'tis yourself that's the darlint fine man. Shure we never knew what sin was till ye come among us."

Percy Bingham found Knockshin a square-built stone mansion, with a "distinguished countenance" of many windows, surrounded by huge elms, containing an unusually spacious rookery. A huge "free classic" porch surmounted by a set of massive steps, supported by granite griffins grasping shields with the Joyce arms quartered thereon. A lily-laden pond, encircled by closely-shaven grass sacred to croquet, stood opposite the house, and a pretentious conservatory of modern construction ran along the greater portion of one wing.

The gallant warrior, regretting certain London-built garments reposing at Westport, arrayed himself in his "Sunday best," and, being somewhat vain of his calves, appeared in all the woollen bravery of knickerbockers and Highland stockings.

Miss Joyce did the honors of the breakfast table in white muslin and sunny smiles. Possessing the air of a high-born dame, there was an Irish softness, like the mist on the mountains, that imparted an indescribable charm to all her movements, while a slight touch of the brogue only added to the music of a voice ever soft, gentle and low.

Percy, who could have talked like a sewing-machine to Lady Clare Vere de Vere, found his ideas dry up, and when violently spurred, merely developed themselves in monosyllables. He had rehearsed several bright little nothings that were to have been laid like *bonbons* at her feet. Where were they now!

She knew some men in the service—Mr. Poynter in the Rifles. Did he know Mr. Poynter, who danced so well, talked so charmingly, and was so handsome? Yes, he knew Poynter, and hated him from that moment. Did he know Captain Wyberts of the Bays, the Victoria Cross man whom she had met at the Galway Hunt Ball? He knew Wyberts, and cursed the luck that had placed no decoration upon his tunic but a silken sash.

"By the way, you must be the gentleman who interested himself in my toilet on Friday night. Lanty Kerrigan spoke burning words in your favor, if you are the *preux chevalier*. Are you?"

"I assure you, Miss Joyce, I didn't know who you were at the time when the blackguards seemed lazy about your parcel."

"If you had known me, would that have made any difference, Mr. Bingham?" she asked, laughing.

"It would."

"In what way?"

"I would have thrashed Lanty Kerrigan, and have brought the parcel myself." He threw so much earnestness into this that the red blood flushed up into the roots of Mary Joyce's rich brown hair. "I must see to my tackle," she said in a confused way.

"Are you an angler, Miss Joyce?"

"Look at my boots"—a pair of dainty, dumpy little things, such as Cladrella must have worn on sloppy days when walking with the Prince, with roguish little nails all over the soles crying, "Stamp on us; we like it," and creamy laces fit for tying up bride-cake.

"By Jove!" exclaimed Percy Bingham, and that was all he was able to reach at that particular moment. He thought afterward of all he might have said and—did!

A walk of half a mile brought them to the Shaunanthurga, or "Boiling Cauldron," whose seething waters dashed from rock to rock, and boiled in many whirlpools as it rushed madly onward to the wild Atlantic.

What did Bingham care about the fishing? Not a stump. He stood by her side, set up her cast, sorted her flies, spliced

the top joint of her rod, and watched with feverish anxiety the eccentric movement of her gorgeous decoy as it whirled hither and thither, now on the peat-brown waters, now in the soapuds-like foam.

"*Bravisama!* Splendidly struck!" he cried with enthusiastic delight—he felt inclined to pat her on the back—as the young Galway girl, with "sweet and cunning" hand, hooked her fish with the aplomb and dexterity of a Highland gillie.

"Give him line, plenty of rope, and mind your footing!"

"A long hour by Shrewsbury clock" did Mary Joyce play that salmon. Her gloves were torn to shreds. Her hat became a victim to the Shaunanthurga, her shenny hair fell down her shoulders long below her waist, her boasted boots indicated eruptive tendencies, but the plucky girl still held on.

"Let me alone, please," she would cry as her father or Bingham tendered their services; "I'm not half tired yet." The color in her cheeks, the fire in her eye, the delicate nostril expanded, the undulating form—the British subaltern saw all this, and almost envied the fish, inasmuch as it was her centre point of interest.

"The landing-net! Quickly! I have him now!"

Percy Bingham darted forward, caught his foot in the gnarled root of a tree, and plunged head foremost into the boiling waters. An expert swimmer, he soon reappeared and swam towards the bank, still grasping the net. Finding his right arm powerless, and having succeeded in gaining footing, he placed the net beneath the fish, which with a bound sprang clear, and breaking the line that Miss Joyce had slackened in her anxiety for the safety of her guest, was, in an exhausted condition, floundering down the stream, when Percy, by a supreme effort, clasped it fiercely in his left arm and flung himself unto the bank.

"Your fish after all. But you look ill, Mr. Bingham—dreadfully ill," cried the agitated girl. "Your arm—"

"Is broken," he said.

Assisted by Mr. Joyce and his daughter, and with the fractured limb in a sling constructed of handkerchiefs and fishing line, poor Bingham returned to the house. He fought bravely against the pain, and attempted one or two mournful jokes upon the subject of his mishap; but every step was mortal anguish, and he expected to see the serrated edges of the bones sawing out through his coat-sleeve.

"I must insist upon being permitted to return to my hotel, Mr. Joyce," said Percy Bingham when they had arrived.

"If you want *every* bone in your body broken, you will repeat that again, Bingham. Here is a room ready for you, and here, in the nick of time, is Dr. Fogarty."

"I catch him at the cross-roads," panted the breathless messenger whom Mr. Joyce had dispatched in quest of the bone-setter.

"A broken arm, pooh hoo! And so it is—an elegant fracture, pooh hoo! You did it well when you went about it. Lend me your scissors, Miss Mary, and tear up a sheet into bandages. I'll soon set it for him, pooh hoo! Ay, wince away, *ma bouche!* roar murder and it will do you good, pooh hoo! Some splints now. Fell into the river, pooh hoo! After a salmon. You landed him like a child in arms. I forgive you, pooh hoo! I've room for the fish in my gig, and broiled salmon is—pooh hoo! That's it; the arm this way, as if you were goin' to hit me. Well done, pooh hoo! *Ars longa est*; so is your arm—an elegant biceps, pooh hoo! Now sir, tell me if there's a surgeon-major in the whole British army, horse, foot and dragoon, that could set your arm in less time, pooh hoo?" And the doctor regarded the swathed and bandaged limb with looks of the profoundest admiration.

"I shall want to get to barracks—"

"Ne'er a barracks will ye see this side of Lady Day, so make your mind easy on that score, pooh hoo! Keep in bed till I see you again, pooh hoo! I'll order you something to take about bed time, but it won't be whiskey-punch, pooh hoo!" And the genial practitioner pooh-hoo'd out of the apartment.

How delightful is convalescence—that dreamy condition in which the thoughts float upward and the earthly tenement is all but etherealized! Percy Bingham, as he reclined upon a sofa at an open window, through which the perfume of flowers, the hum of summer, with the murmur of the rolling Shaunanthurga, stole like strains of melody; lay like one entranced, luxuriatingly sipping the intoxicating sweets of the hour, forgetful of the past, and untroubled by the future. The events of the last few days seemed like a vision. Could it be possible that he would suddenly awake and find himself in the dismal walls of his quarters at Westport, far, far away from chintz and lace and from her? No; this was her book which lay upon his lap; that bouquet was culled by her fair hands; the spirited sketch of a man taking a header spread-eagle fashion was upon her pencil and must be sent to *Prueck*. She was in everything, everywhere, and, most of all, in the inner sanctuary of his heart.

He had not seen much of her—a visit in the morning like a gleam of sunlight; a chat in the gloaming, sweet as vespers-bell; occasional badinage from the garden to his window, and that was all. How could he hope to win her, this peerless girl, this heiress of the "Joyce country," whose gray eyes roved upon mead and mountain, lake and valley, her rightful dower? He sickened at the thought. Had she been poor, he would woo, and perhaps— It was not to be. He had tarried till it was too late; he had cut down the bridge behind him, burned his boats, and he must now ford the river of his lost peace of mind as best he might.

Days flew by, and still the young officer lingered at Knockshin. Like the fairy prince in the enchanted wood, he could discover no exit. Croquet had developed into short strolls, short strolls into long walks, long walks into excursions. His arm was getting strong again. Mr. Joyce talked "soldier" through pipe-stem and the orderly book with the freshness of a "sub" of six weeks' standing. Mary—what did she speak about? Anything, everything, nothing. Lately she had been eloquently silent, while Percy Bingham, if he did not actually, might have fairly, counted the beatings of his heart as it bumped against his ribs. They spoke more at than to each other, and when their eyes met the glance was withdrawn by both with electrical rapidity. It was the old, old, old story. Why repeat it here?

"Mary, Jack Bodkin, your old sweetheart, is coming over for a few days' fishing," exclaimed Mr. Joyce one morning upon the arrival of the letter-bag.

Miss Joyce blushed scarlet—a blush that will not be put off; a blush that blushed into the hair, comes out on the eyelids, and sets the ears upon fire—and Percy Bingham, as she grew red, became deadly white. The knell had rung, the hour had come.

"This is from the Colonel," extending a letter as he spoke, the words choking him, "and—and I must say good-by."
 "Sorry for it, Bingham, but duty is duty. No chance of an extension?" asked Joyce.

"None, sir."
 And she said not a word. There was crushing bitterness in this. Mr. Bodkin's arrival blotted out his departure. Would that he had never seen Knockshin or Mary! No, he could not think that, and, now that he was about to leave her, he felt what that severance would cost him.

The car was waiting with his *impedimenta*, and he sought her to say farewell. She was not in the conservatory or drawing-room, and as a last chance he tried the library. Entering noiselessly, he found Mary Joyce leaning her head upon her hands, her hands upon the mantelpiece, and sobbing as if her heart would break.

"I beg your pardon!" he stammered. "Is—is—anything the—"
 "A bad toothache," she burst in passionately, without looking up.

What could he do? What could he say?
 "I—I—do not know how to apologize for—for—intruding upon your anguish"—the words came very slowly, swelling too, in his throat—"but I cannot, cannot leave without wishing you good-by, and thanking you for the sunniest hours of my life."

"You—you are g-going, then?" without looking round.
 "I go to—to make room for Mr. Bodkin."

She faced him. Her eyes were red and swollen, but down, down in their liquid depths he beheld—something that young men find once in a lifetime. He never remembered what he did, he never recollected what he said, but the truth came out as such truths will come out.

"And to think that you first learned of my existence through the medium of a pitiful ball-dress!" she said, glowing with beautiful happiness.

"I shall not require the car," said Percy Bingham an hour later, throwing Lanty Kerrigan a sovereign.
 "Bedad, ye needn't have tould me," exclaimed Lanty, with a broad grin. "I seen yez coortin' through the windy."

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES,—The bright holiday time, with its school examinations, its home gatherings, and recreations, and delights, has again drawn close at hand. The planning, the buying, the working, the wondering which pertains to preparations for midsummer holidays has begun. The anticipated visits which some of you will make at grandpapa's, auntie's or uncle's will undoubtedly be a great source of pleasure. It is such fun for boys and girls who live in the cities and villages to go in the country in this heated month. Winter is the time that young country folks visit the city, but now the current runs the other way. Both visitors and those who are visited can do much to make the occasion pleasant. It is too often the case that we are glad when visitors leave, because they do not take to our ways, and make us feel all the time that they are different from us, even if they do not consider themselves superior. Therefore, nephews and nieces, try to adapt yourselves to the ways of whom you visit. If the ways of living are different, do not remark it. City people can make themselves very disagreeable by constantly informing their country friends that they do and have such and such things very differently in the city. Country children, again, must recollect that their city friends are not used to many things that are every-day matters with them. Recollect, everything is new to them; many of them never saw a spring sending up its cool water from its bed; never saw what kind of a bush huckleberries grow on; these, and many other things, will be quite as interesting to them as city sights are to you. Tell them of all the different kinds of birds, show them where the swallows build in the barn, invite them with you when you feed your geese, ducks, chickens, turkeys, pigeons, guinea fowls, etc., and they will be amazed and delighted. There are so many things that you can do to entertain your friends if you go about it with the right spirit, both in the city and country. UNCLE TOM.

Charity.

Trust not to each accusing tongue,
 As most weak persons do;
 But still believe that story wrong
 Which ought not to be true.

PUZZLES.

95—CHARADES.

1. My first is a measure of wine; my second is a measure of coal; my whole you carry on your clothing.
2. My first is a hard mineral; my second secures valuable property; my whole is an old-fashioned weapon.
3. My first is of no use to those who cannot read; my second is an instrument of torture; my whole is a piece of furniture.
4. My first is the young of a common horned animal; my second is worn chiefly in the street; my whole is essential at large parties.

NELLIE PARKER.

96—PUZZLE.

I am but three syllables.
 My first is seen in books, and is also worn by women.
 My first, together with my second, is an occupation carried on in every civilized country.
 My third and whole is used in the compilation of books.

HENRY PTOLEMY.

97—DIAGONAL PUZZLE.

My 1st is a kind of iron ore.
 My 2nd is a kind of stone.
 My 3rd is mirthful.
 My 4th is falsehood.
 My 5th is to humble.
 My 6th is referring to.
 My 7th is apparent.
 My 8th is led.
 My 9th is contrary to the Scriptures.
 My whole is a county in Ontario.
 Beginning with the first letter of the first word, and so on down to the last letter of the last word, forms a county in Ontario. Your nephew,
 A. J. TAYLOR, Glencoe P. O.

98—TRANSPOSITIONS.

Bill of fare at an evening party I lately attended:

- | | |
|----------------------|-------------------------|
| Meats. | Puddings. |
| 1. Old mach. | 6. Patoot. |
| 2. Die gone potluck. | 7. O get-cat. |
| 3. O fast beer. | |
| Bread. | Pies. |
| 4. It is cub. | 8. Cardust. |
| 5. Bald cored. | 9. Turncar. |
| | 10. Gerreboosy. |
| Cake. | Dessert. |
| 11. Melon. | 14. G. Nance Lamb. |
| 12. Giver sold Land. | 15. O lift gal in sand. |
| 13. Se I cook. | 16. Acre mice. |

NELLIE PARKER.

99—HIDDEN NAMES.

It was a most beautiful sight.
 It is made of red cloth.
 We have had no rain for a long time.
 Will you go to the picnic to-morrow?
 Did you see the nest her brother robbed?

FLORENCE.

100—NUMERICAL ENIGMA.

I am composed of 20 letters:
 My 16, 14, 11, 8, 9 is a gamester.
 My 20, 6, 7, 10, 8 is a boy's name.
 My 7, 17, 11, 8 is an animal.
 My 20, 11, 2, 4 is payment.
 My 4, 5, 10, 3, 4, 8, 8, 19 is a number.
 My 5, 8, 3, 2, 14, 11 means noble.
 My 20, 4, 2, 1, 8 is a weight.
 My 4, 12, 9, 8 is a weed.
 My whole is the name of a race of people.

DANIEL LAMONT.

101—CROSS-WORD ENIGMA.

My first oft brings a wish'd relief
 To ease a laborer's pain,
 Oft to assist the wary thief
 In his unlawful gain.
 My next we seek when Sol's bright fire
 Emits a powerful ray,
 The hapless traveller's vain desire
 In Libya's burning ray.
 My whole's a plant you may descry,
 Soon to perfection brought;
 And tho' no danger meets the eye,
 With baneful powers 'tis fraught.

J. M. TAYLOR.

102—ENIGMA.

My first is in stone but not in rock,
 My second is in watch but not in clock;

My third is in horse but not in mare,
 My fourth is in den but not in lair;
 My fifth is in talk but not in speak,
 My sixth's not in day but 'tis in week;
 My seventh is in can but not in jug,
 My eighth is in carpet but not in rug.
 My whole is the name of a very small isle
 Where there once dwelt a man known to all for
 a while;
 'Twas the scene of his death and his last fading
 years,
 Of his unfulfilled hopes and his oft bitter tears.

ELLA BURGESS.

103—HIDDEN PUZZINGS.

1. Mamma told Edgar ice would cool his fevered mouth.
2. As I went in, Diana looked up with a smile.
3. When the grapes were passed, little Sue took two bunches.
4. Caleb reads to his mother every evening.
5. Said the chairman, giving the table a tap, "I, O. Candee is nominated."
6. "When you clap, please do it gently," said the tired teacher.

WILLIAM FROST.

104—DIAMOND PUZZLE.

1. A consonant.
2. A fairy.
3. An aromatic spice.
4. A vine.
5. A vowel.

WILLIAM FROST.

105—EASILY CONNECTED DIAMONDS.

- First Diamond:
1. A consonant.
 2. A popular beverage.
 3. A vowel.
- Second Diamond:
1. A consonant.
 2. A small vessel.
 3. A labial.

NELLIE PARKER.

Answers to June Puzzles.

- 81.—A spinning wheel. 82.—Troy, Buffalo, Lyons, Lowell, Dima.
 83.—Island, knives, fiddle, chairs, ionian, galloN, (Indian).
 84.—Blouse, louse, ouse. 85.—My country, oh, my country, (By William Pitt).
 86.—May the fragrance ever be
 Like the rosebud on the tree,
 And thy every virtue shine
 With a lustre more sublime.
 87.—All that glitters is not gold. 88.—France. 89.—Set a good example.
 No. 90.—
- | | | |
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- 91.—PIPE. 92.—CARE.
 IDEA. AREA.
 PENS. REAR.
 EASE. EARS.
 93.—GOLD. 94.—COBN.
 OGEE. OLIO.
 LEAF. RIFT.
 BEFY. NOTE.

Names of Those Who Have Sent Correct Answers to June Puzzles.

Amelia Stanbel, Willy Esther, Fred. Luce, Joel Kennedy, Theo. French, Sigmund Henderson, Daniel Lamont, Ella Burgess, J. M. Taylor, Geo. H. Beard, W. Droughton, S. Rogers, Austin Scott, Ira Carruthers, Minnie Hyde, George M. Sired, Hattie A., Dick Thunary, George Jones, Nora Hooper, Jane Shore, Harry Trevail, Thomas Johnson, William Frost, A. Thompson, Jennie Leach, A. Symonds, Susan Hunt, Joseph Hescott, James Harris, Nellie Parker, Emily Summers, Mary Eastwood, Theo. Black, Frank McPherson, Florence K., Harry W. Husband, Viola, Henry Maione, Susie Leade, A. J. Taylor, Alice Maud Nicholson, Kitty Lowe.
 The prize offered last month for the three best original puzzles was won by our little niece Mary Maude Nicholson, but owing to some delay or neglect in post offices, her puzzles did not arrive in time for this month's publication. The star which you will observe amongst the names, marks the one who has answered all the puzzles correctly. Try, try again, my little nephews and nieces.

LOGICAL.—Lady (to shopman, after making him turn over all the stock)—"There, that's exactly the quality I want; but it's green, and I want plum-color." Insinuating Shopman—"You can't do better than take this; besides, ma'am, it is plum-color." Lady—"What! plum-color?" Shopman—"Certainly; only the plums are not ripe!"

HUMOROUS.

A modest young lady, desiring a leg of chicken at the table, said: "I'll take the part which ought to be dressed in drawers!" A young man opposite immediately said, "I'll take the part that ought to wear a bustle!" Hartshorn was immediately administered to the lady.

Times are improving and prospects brightening. So much so that one girl can now afford two beaux, and families of only moderate enterprise and industry boast a double spring crop.

I am willing to rock the baby while wimmin folks are biling soap; I am redly to kut rags to work into rag carpets; they kan keep me hunting hen's eggs, or picking green kurrants, or I will even dip kandles or kore apples for sass, but I won't churn.—*Josh Billings.*

A young St. John dry goods clerk out of a job got a situation in a meat market. The other morning he stood thinking dreamingly about his girl when a lady entered and said, "Are these steaks good?" "Splendid, mum; wear you like India rubber." Nothing slazy about our goods, mum; last you a long time; in fact you can't make any impres— The recommendation of the absent-minded young man, who had got his two callings mixed in his abstraction, was cut short by the hasty departure of the customer.

"Mary, I do not approve of your entertaining your sweethearts in the kitchen," said a lady to her servant. "Well, ma'am, it's very kind of you to mention it; but he's from the country, you see, ma'am, and I'm afraid he's too shy and orkard in his manner, ma'am, for you to like him to come up into the parlor," replied Mary.

"Why, Sammy," said a father to his little son the other day, "I didn't know that your teacher whipped you last Friday." "I guess," he replied, "if you'd been in my trousers you'd know'd it."

After a Detroit small boy had leaned up against a wall for full two hours yesterday, a policeman asked if he was waiting for any one in particular. "Waitin' for a runaway to come along," replied the boy. "You want to see a team run away, do you?" "I want to see a truck-team come zippin' along here, hit that pea-nut stand in the middle, and while the sympathetic public are picking up the Italian, I want to be picking up the peanuts," was the frank reply. The officer decided to enforce the twenty-second joint rule, and the boy was made to move on.

A GENEROUS OFFER.—Crossing-Sweeper—"G'ive us a copper, please." Austere Party—"I never give to beggars in the street." Crossing-Sweeper—"Don't yer? Well, in general miern's a ready-money business, but jest let's know where yer' ang out, and hi don't mind calling fur yer subscription, if it's honly to git another look at yer 'appy face."

Music has a wonderful power over the passions. The man who couldn't set a tub out under the caves to catch rain-water for his wife without grumbling in a most profane way, stood for half an hour in the rain without an umbrella, and listened to the minstrel band on the hotel piazza with a face of perfect repose.

A fat French lady despairingly says: "I am so fat that I pray for a disappointment to make me thin. No sooner does the disappointment come than the mere expectation of becoming thinner gives me such joy that I become fatter than ever."

"Do you reside in this city?" asked a man of a masked lady at a masked party the other evening. He felt sick when she said to him in a low voice: "Don't be a fool, John; I know you by the wart on your thumb." It was his wife.

An old woman, on being examined before a magistrate as to her place of legal settlement, was asked what reason she had for supposing her husband had a legal settlement in that town. The old woman said: "He was born and married there, and they buried him there, and if that isn't settling there, what is it?"

BEAUTY.—After all, the truest beauty is not that which suddenly dazzles and fascinates, but that which steals upon us insensibly. Let us each call up to memory the faces that have been most pleasant to us—those that we have loved best to look upon, that now rise most vividly before us in solitude, and oftentimes haunt our slumbers—and we shall usually find them not the most perfect in form, but the sweetest in expression.

Only.

Beware of an "only," "'tis but," and "just one." These traitors have many a coward undone. All Troy for one woman in ashes was laid; One tree mother Eve into ruin betrayed; One crack will suffice that a vase be not sound; One spark, and all London on fire was found; One worm-eaten stick is enough for a wreck; But one step too far, and a fall breaks our neck; From only one word many quarrels begin; And only this once leads to many a sin; Only a penny wastes many a pound; Only once more, and the diver was drowned; Only one drop many drunkards have made; Only in play many gamblers have said; Only a cold opens many a grave; Only resist many evils will save.

The Old School-Book.

On the old school-book, in its dusty nook,
With a tearful eye I gaze;
Come down, old friend, for an hour we'll spend
In talking of by-gone days.
I gaze once more, as in days of yore,
On the task that vexed the brain;
The lesson done, and victory won,
And I feel I'm a child again.

And I seem to stand with the youthful bard
In the old house on the green;
I hear the fun ere the school began,
And I join in the gladsome scene.
I take my place, with a sober face,
O'er the well-carved desk I bend,
And hourly pore o'er the antique lore
Of thy wonderful page, old friend.

Then our cares were few, and our friends were true,
And our griefs were rare and light;
The world was naught (so we fondly thought)
But a region of pure delight.
But time has sped, and our path has led
Through the dark and tearful scene;
And passed away are the good and gay,
Like the old house on the green.

But we'll sing no more of the days of yore,
For the tear-drop dims the eye.
Sleep on, old book, in thy dusty nook,
As in years that have glided by.
No gilt we trace in thy honest face,
But a mine of gold within
Enriched the youth, as they sought for truth,
In the old house on the green.

How They Got Ready.

When they reached the depot Mr. Man and his wife gazed with unspeakable disappointment at the receding train, which was just pulling away from the bridge switch at the rate of a thousand miles a minute. Their first impulse was to run after it, but as the train was out of sight and whistling for Sagetown before they could act upon the impulse, they remained in the carriage and disconsolately turned the horse's head homeward.

"It all comes of having to wait for a woman to get ready," Mr. Man broke in with, very grimly.

"I was ready before you were," replied his wife. "Great Heavens!" cried Mr. Man, in irrepressible impatience, jerking the horse's jaws out of place; "just listen to that! And I sat out in the buggy ten minutes yelling at you to come along until the whole neighborhood heard me!"

"Yes," acquiesced Mrs. Man, with the provoking placidity which no one can assume but a woman, "and every time I started downstairs you sent me back for something you had forgotten."

Mr. Man groaned. "This is too much to bear," he said, "when everybody knows that if I was going to Europe I would rush into the house, put on a clean shirt, grab up my gripsack, and fly, while you would want at least six months for preliminary preparations, and then dawdle around the whole day of starting until every train had left town."

Well, the upshot of the matter was that the Mans put off their visit to Aurora until the next week, and it was agreed that each should get him or herself ready, and go down to the train and go, and the one who failed to get ready should be left. The day of the match came around in due time; the train was to go at 10:30, and Mr. Man, after attending in his business, went home at 9:45.

"Now, then," he shouted, "only three quarters

of an hour to train-time. Fly around—a fair field and no favors, you know."

And away they flew.

Mr. Man bulged into his room and rushed through that, and dived into one closet after another with inconceivable rapidity, chuckling under his breath all the time to think how cheap Mrs. Man would feel when he started off alone. He stopped on his way up-stairs to pull off his heavy boots to save time; for the same reason he pulled on his coat as he ran through the dining-room, and hung it on the corner of the silver closet. Then he jerked off his vest as he rushed through the hall and tossed it on the hat-rack, and by the time he reached his own room he was ready to plunge into his clean clothes. He pulled out a bureau-drawer, and began to pour things like a Scotch terrier after a rat.

"Eleanor!" he shrieked; "where are my shirts?"

"In your bureau-drawer," calmly replied Mrs. Man, who was standing placidly before a glass, calmly and deliberately coaxing a refractory crimp into place.

"Well, by thunder, they ain't!" shouted Mr. Man, a little annoyed. "I've emptied every last thing out of the drawer and there isn't a thing in it that I ever saw before."

Mrs. Man stepped back a few paces, held her head on one side, and after satisfying herself that the crimp would do, and would stay where she put it, replied:

"Those things scattered around on the floor are all mine. Probably you haven't been looking in your own drawer."

"I don't see," testily observed Mr. Man, "why you couldn't have put my things out for me when you had nothing else to do all the evening!"

"Because," said Mrs. Man, settling herself into an additional article of raiment with awful deliberation, "nobody puts mine out for me. A fair field and no favors, my dear."

Mr. Man p'unged into his shirt like a bull at a red flag.

"Where's my shirt-studs?" he cried.

Mrs. Man put on her gloves, while Mr. Man hunted up and down the room for his cuff-buttons.

"Eleanor," he snarled at last, "I believe you know where those buttons are."

"I haven't seen them, said the lady, settling her hat. "Didn't you lay them down on the window-sill in the sitting-room last night?"

Mr. Man remembered, and he went downstairs on the run. He stepped on one of his boots, and was immediately landed in the hall at the foot of the stairs with neatness and despatch, attended in the transmission with more bumps than he could count with a "Webb's Adder" and landed with a bang like the Hell Gate explosion.

"Are you nearly ready, Algernon?" asked the wife of his family, sweetly, leaning over the banisters.

The unhappy man groaned.

"Can't you throw me down the other boot?" he asked. She pityingly kicked it to him. "My valise?" he inquired, as he tugged away at the boot.

"Up in your dressing-room," she answered.

"Packed?"

"I do not know—unless you packed it yourself—probably not," she replied, with her hand on the door-knob. "I had hardly time to pack my own."

She was passing out the gate, when the door opened, and he shouted:

"Where in the name of goodness did you put my vest? It has all the money in it."

"You threw it on the hat-rack," she called back.

"Good-bye, dear."

"Eleanor! Eleanor! Eleanor Man! Did you wear off my coat?"

She paused and turned, after signaling a street-car to stop, and cried:

"You threw it on the silver closet."

And the street-car engulfed her graceful figure, and she was seen no more. And when he went away, at last, he left the kitchen-door, side-door and the front-door, all down-stairs windows and the front-gate, wide open. And the loungers around the depot yesterday were somewhat amused, just as the train was pulling out of sight down in the yard, to see a flushed perspiring man, with his hat sideways, his coat buttoned two but-

tons too high, his cuffs unbuttoned, and neck-tie flying, and his gripsack flapping open and shut like a demented shutter on a March night, and a doorway in his hand, dashing wildly across the platform and halt in the middle of the track, glaring in dejected, impotent, wrathful mortification at the departing train, and shaking his tremendous fist at a pretty woman who was throwing kisses at him from the rear platform of the last car.

How to be a Gentleman.

We want a few private words with the boys. The truth is we have a great idea of boys. We used to think men were made of boys. We begin to think now that those were old-fashioned notions, that they are all out of date. We look around and see a great many persons grown up, with men's clothes on, who are called men. But they act and behave so that we feel certain they were never made out of boys. If they had been, they would know how to behave better. Where they came from we do not know. But what we wish to put into the ears of the boys is this, be gentlemen. In this country every boy may grow up to be a gentleman if he will. It is not necessary that he become rich—and most boys think it is—nor is it necessary that he should become a great scholar, nor that he should become a distinguished man.

But some impatient ones are asking, How can we become gentlemen? How can a boy go about making himself one? Can he work for it? Yes he can. And the harder he works in the right way, the better. Can he study for it? Yes he can. But he must study with his eyes and his ears. Reading books and newspapers is not enough. He must think and feel as well as speak and act. Can he buy it? No, he cannot. Money will buy many things, but it will not buy what makes a gentleman. If you have money you can go to a shop and buy clothes. But that, coat, pants and boots do not make a gentleman. They make a fop, and sometimes they come near making a fool.

Money will buy dogs and horses, but how many dogs and horses do you think it will take to make a gentleman? Let no boy, therefore, think he is to be made a gentleman by the clothes he wears, the horse he rides, the stick he carries, the dog that trots after him, the house that he lives in, or the money he spends. Not one of all these things do it—and yet every boy may be a gentleman. He may wear an old cheap hat, cheap clothes, and have no horses, live in a poor house, and spend but little money and still be a gentleman. But how? By being true, manly and honorable. By keeping himself neat and respectable. By being civil and courteous. By respecting himself and respecting others. And, by doing the best he knows how.

The Bear Pits.

When in Philadelphia last year we paid a visit to the Zoological Gardens. We were much pleased with the bears. They would stand and beg with their mouths, then one large one would lie on its back and beg; the boys and girls would throw apples, nuts and cakes to them. Sometimes you might hear a great roar, if one of them attempted to steal from the other. We thought you would all have been pleased to have seen them. To gratify you as well as we can, we requested Mr.

T. M. Martin, of Toronto, who is considered the best Canadian animal painter, to draw them for us. This is the result. You must imagine the noise and the quarrels that ensue, and the pleasure of their eating the nuts. They were a fine, sleek, fat lot of bears, and appeared as happy as bears generally do. We never saw one look very cheerful, although we have seen them dance, but they would rather have let somebody else dance than dance themselves.

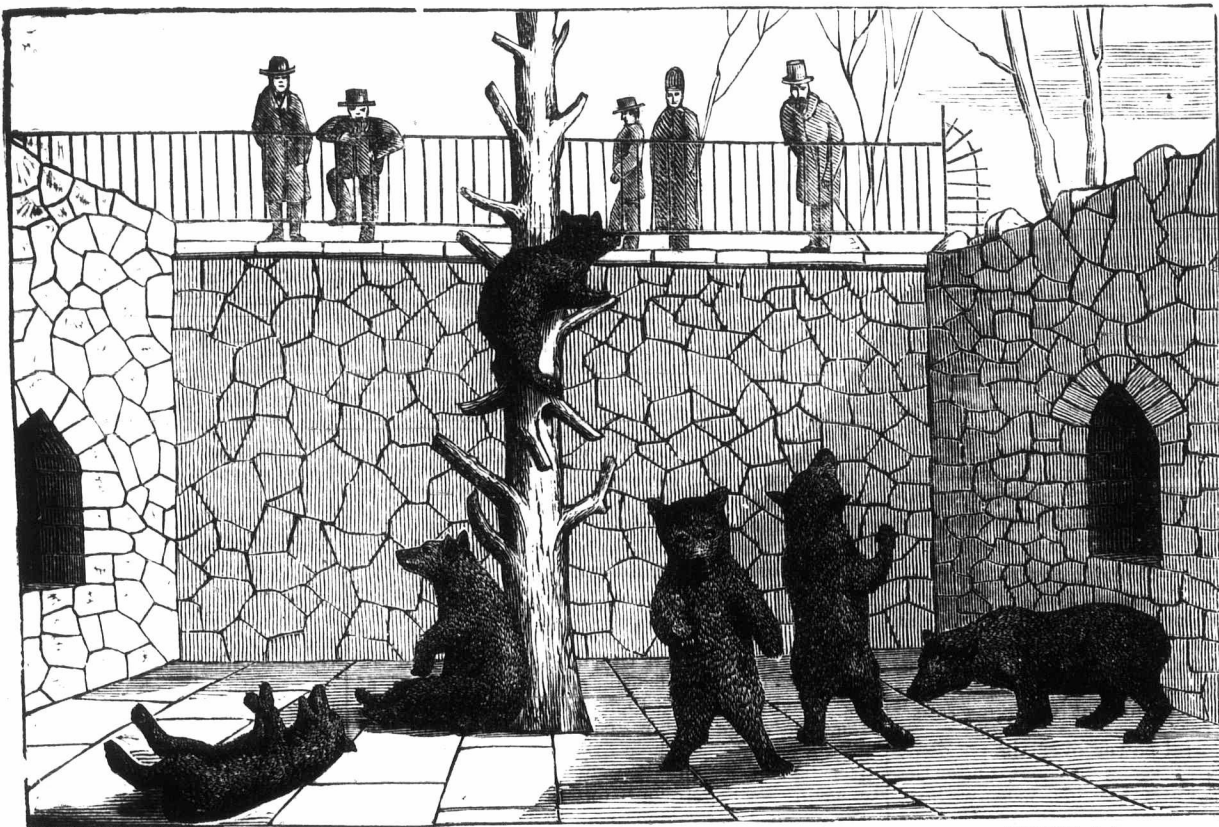
The sea lions at the gardens were fine animals, and made a great noise. They live principally in the water, but come up on the rocks to sun themselves. The day was very windy when we were there. One boy's hat blew off and over the fence into the water; there was a walk around the water. The boy jumped over the fence and was about to get his hat off the water, but the keeper, whom we had not previously observed, sprang at the boy as quick as lightning and made him get out as quick as possible. He said he was in greater danger there than in a common lion's cage. The sea lion had his head above water a few seconds

ing on the floor; a dead bird was painted as if hanging on a nail that was drawn on a pine board. We asked him why he painted it on that board. He gave the picture a tap. It showed us it was in canvas. This was the first time we were ever deceived with a painting, and would like to be fooled that way again, the artist's work was so good. We spoke to Mr. Verner, the celebrated landscape artist of Canada, who said he was caught in the same way we were with this picture. We had a good, hearty laugh at it, and so would you. You will have to practice drawing and painting a long time to deceive such an artist as Mr. Verner. If you live near Toronto, go to Mr. Martin's studio, and ask to see the painting we speak of.

A Brave Regiment.

During the Peninsular campaign, Wellington was often forced to send picked men into dangerous places. On a certain occasion it became necessary to capture a battery at St. Sebastian—a battery which was hurling death and destruction into the British ranks—and the lay of the land and attendant circumstances were such that not more

than a full regiment could be used in the work. The Duke selected the body of men, and told them what he wanted done. He knew the danger of the enterprise but the safety of the whole army depended upon the success of that one movement. Said he to the commanding officer: "Colonel, I have faith in you and your men. Your regiment is the first in the world." "Aye my lord," replied the Colonel, quickly, "and by the time your order is fully executed it will be the first in the next!" and then plunged to the head of



BEAR PITS AT THE ZOOLOGICAL GARDENS, PHILADELPHIA.—Drawn by T. M. Martin, Toronto.

after the boy was out of the cage. The keeper had a large pole with iron at the end to protect himself. Had the lion seized the boy he would have taken him under the water immediately.

The monkey cage was a very amusing place. We saw a monkey steal a feather from a lady's hat and tear it to pieces. Hundreds of gloves, walking sticks, handkerchiefs, parasols, &c., &c., were stolen by these cunning, long-armed rascals. Mr. Martin, our artist, wears spectacles—all other artists and most of the Toronto people know this. When he was looking at these monkeys, one of them snatched his spectacles off his nose, and jumped away with them as quick as wink. He pulled out the glasses and put them in his mouth, and twisted the cases up and threw them away. We hear there were a half bushel of spectacles taken by these sharp, quick, cunning, mischievous creatures.

FOOLED.

We do not like getting fooled as a general thing, but there are some instances in which we care but little about it. We were in Mr. Martin's studio. He had a very handsome gilt frame stand-

ing on the floor; a dead bird was painted as if hanging on a nail that was drawn on a pine board. We asked him why he painted it on that board. He gave the picture a tap. It showed us it was in canvas. This was the first time we were ever deceived with a painting, and would like to be fooled that way again, the artist's work was so good. We spoke to Mr. Verner, the celebrated landscape artist of Canada, who said he was caught in the same way we were with this picture. We had a good, hearty laugh at it, and so would you. You will have to practice drawing and painting a long time to deceive such an artist as Mr. Verner. If you live near Toronto, go to Mr. Martin's studio, and ask to see the painting we speak of.

his regiment, and gave the order for the forward movement. His reply to the Duke had been heard by those who stood near, and they told it to others, and so it flew through the regiment, and became the battle cry. The old soldiers caught inspiration from it. It made them invincible. They somehow felt that it would be all right with them anyway. They would be the first regiment, let it be in this world or the next. With a loud shout they dashed on—dashed on with an impetus against which the French cannoners went down like grass—and not more than one man in twenty of the attacking party was fatally stricken. Wellington afterwards declared, and others declared with him, that it was the most magnificent charge ever seen.—*Guardian*.

Reading.—Make it a rule to read a little every day: A short paragraph will often afford you a source of profitable reflection for a whole day. For this purpose, always have a book or paper within your reach, so that you may lay your hand on it, whenever you have a few moments of leisure.

Court the company of the learned, and the conversation of the aged; their discourse is often more useful than any book you can read. And there is nothing more dangerous to the virtuous, than association with the guilty who possess amiable and attractive qualities.

Minnie May's Department.

MY DEAR NIECES,—I want to have a chat with you upon table manners. Individual refinement is in no place more conspicuous than at the dinner table. Here one may read, as in a book, who is fine, who is coarse, who is gentle, who is vulgar, who is ill-bred, and who is well-bred. All true refinement shows itself in three thousand little ways that no book on etiquette can ever hint of; it comes from within, and is the result, in its manifestation, of nature and culture combined. Childhood is the proper time to form nice habits in eating. All noise should be avoided in chewing, as the noise thus made is distressing to a cultured ear. The size of the mouth and of the throat must be taken into account by the graceful feeder, and no more food taken at one time than can easily be taken care of. Avoid a bulging cheek and drinking with a mouthful. Epicures love to taste their food; and to get the good of it, masticate it thoroughly. There must be inevitably, more or less, clatter of knife and fork, but the less of this the better. How untaught it looks to see one leaning back in a chair, that is, compelling it to stand on two legs instead of four; also to the use of the toothpick during meal time. When one has finished eating, the knife and fork should be laid side by side, in the middle of the plate; all litter about the plate should be avoided. Peelings or other parts of food or vegetables that are rejected should be placed neatly on the side of the plate, never on the table-cloth. And, dear nieces, unless we observe all these little proprieties of the table habitually, we will feel ill at ease when dining with those who are thoroughly versed in table etiquette. Hence, in order not to violate the rule of propriety, we must accustom ourselves, at all times, to eat properly, and observe "company manners" as strictly when company is absent as when present.

MINNIE MAY.

RECIPES.

DEAR MINNIE MAY,—As the eggs are coming in quite plentifully now, we must furnish our cellars in readiness for the season when there is a scarcity. I prepare them for keeping any length of time fresh and good, as follows:—

Place ten or a dozen in a small basket and immerse them in boiling water, taking out almost instantly. I then pack them, small end down, in dry salt or sawdust, as convenient. If they are rubbed over with a little lard, it might be an advantage. The principle of this method is obvious. The entire portion of the surface of the white of the egg immediately under the skin-like membrane which exists in every egg is congealed, thus forming an impervious coating, which prevents the evaporation of the contents, and consequently the admission of the atmosphere.

MYRA.

POTTED TROUT.

Clean the fish well, cutting off the head; cut in two or three pieces, according to size of the fish; lay a piece in the bottom of a stone jar; cover or sprinkle it over with pepper, salt and half a dozen whole allspice. Then put in trout again, then more seasoning, and so on until the jar is nearly full. Then fill up with strong vinegar. Cover the pot with a paste made of flour and water, set in an oven and bake two hours, then set away to cool without disturbing the paste cover. This is delicious for tea or lunch.

RASPBERRY VINEGAR.

Put one quart of good vinegar over two quarts of berries; let them stand over night; strain and pour the juice over two more quarts; stand over night; then strain again; to every pint of juice allow one pound of white sugar; let it come gently to a boil; then bottle for use in small-necked bottles. One tablespoonful in a glass of ice-water, on a hot summer day, is refreshing.

TO REMOVE WARTS.

To remove warts, *Hall's Journal of Health* says, that to dip a stick the size of a knitting-needle into muriatic acid and touch the top of the wart

night and morning with what adheres to the stick, will effect a painless cure. Buy a small quantity in a glass-stoppered bottle, keep out of the way of children, off your clothes and the skin, and you are safe in using it.

Very small green nasturtium seeds, picked as soon as the flower has fallen, and pickled, make a fine substitute for capers in white sauce for boiled mutton.

DRESSING FOR LETTUCE SALAD.

Boil the eggs for ten minutes; put the yolks on a large plate, and rub fine with a wooden spoon; mix with them one tablespoonful of cold water, two tablespoonfuls of sweet oil; add slowly a salt-spoonful of salt, tablespoonful of dry mustard, and a teaspoonful of granulated sugar; when these are well blended, add very gradually three tablespoonfuls of vinegar; put it in the bottom of your salad dish, and place the salad in it, but do not stir it, as this would make it wilt and spoil.

CANNING GREEN CORN.

Cut the corn carefully from the cob; put it on to boil, pouring on water enough to cover; let it boil one hour, and then add tartaric acid enough to make it taste sour—about two tablespoonfuls to every gallon; but if that does not make it taste sour, add a little more. Let it boil a few minutes after putting in the acid; can seal while hot. When you open to cook, add sufficient quantity of soda to take off the sour taste; boil at least half an hour before seasoning with cream and butter, the same as when fresh. The above recipe, if followed exactly, will give entire satisfaction to all lovers of green corn.

CURE FOR COLD IN THE HEAD.

It is snuff—composed of the following ingredients:—Hydro-chlorate of morphia, two grains; acacia powder, two drachms; trinitrate of bismuth, six drachms; the whole making up a quantity of powder of which from one-quarter to one-half may be safely taken, if necessary, in the course of twenty-four hours.

BLACK CALICOES.

Rosa M. asks if there is any way to wash black calicoes without fading them. Yes. Pour boiling rain-water on them, let them stand a few minutes, then wash, rinse, and starch with starch made of coffee instead of water. Iron on the wrong side.

GREEN CORN FRITTERS.

Grate a sufficient number of ears of ripe corn to make a quart; rub together quarter of a pound of butter, quarter of a pound of sugar, and three tablespoonfuls of flour, a pinch of salt; stir into this one quart of rich milk, eight eggs, well beaten, and lastly the grated corn; if not thick enough, a little more flour may be added; fry in hot butter, or bake in a pudding dish. You may make half this quantity.

SPIRITS OF AMMONIA.

There is no telling what a thing will do till you try it. I knew ammonia, diluted in water, could restore rusty silks and clean coat collars, but when I got a green spot on the carpet I tried half a dozen things before I thought of that, and that was just what did the work effectually. I put a teaspoonful into a teacupful of hot water and took a cloth and wet the spot thoroughly, just rubbing it slightly, and the ugly spot was gone. It is splendid for cleaning your silver; it makes things as bright as new without any expenditure of strength; and for looking glasses and windows it is best of all; and one day, when I was tired and my dish-cloths looked rather grey, I turned a few drops of ammonia into the water and rubbed them out, and I found it acted like a charm, and I shall be sure and do so again some day. I suppose housewives have a perfect right to experiment and see what results they can produce; and if they are not on as large a scale as the farmers try, they are just as important, and make our work lighter and brighter too.—E.

TO MEASURE CORN IN THE CRIB.

Multiply the length, breadth and height together in feet, to obtain the cubic feet; multiply this product by 4 and strike off the right figure, and the result will be shelled bushels, nearly.

CARBOLIC ACID.

A few drops of carbolic acid in a pint of water will cleanse house plants from lice in a very short time. If mosquitoes or other blood-suckers infest our sleeping rooms at night, we uncork a bottle of pennyroyal, and these insects leave in great haste,

nor will they return so long as the air in the room is loaded with the fumes of that aromatic herb. If rats enter in the cellar, a little powdered potash thrown into their holes or mixed with meal and scattered in their runways, never fails to drive them away.

CAYENNE PEPPER.

Cayenne pepper will keep the buttery free from ants and cockroaches. If a mouse makes an entrance into any part of your dwelling, saturate a rag with cayenne in solution and stuff it into a hole which can be repaired with either wood or mortar. No rat or mouse will eat that rag for the purpose of opening communication with the depot of supplies.

TO PICKLE GHERKINS, FRENCH BEANS, PEAS AND RADISHES.

Gather and pick off the bottoms and stalks, and put them in the jar directly; put some salt in the vinegar, and pour it boiling hot over them; cover them and then next day put the pickles and vinegar into the stew-pan. Set it on the fire and let the heat increase gradually till they simmer, but do not let them boil. Add ginger bruised and pepper corns in any quantity you think proper.

MRS. P.

LEMONADE FOR THE SICK.

Put two teaspoonfuls of arrow-root or cornstarch in a quart bowl, wet with a little cold water; add three tablespoonfuls of sugar, the juice of half a lemon, and a small piece of the rind. Stir all briskly while pouring in boiling water, till the pitcher is full. Serve it when cold. It is more nourishing than ordinary lemonade. L. S. P.

Helping Mother.

When mother is without help, boys and girls, I will tell you a way by which you can save her a great deal of work and weariness. It is by setting and clearing tables.

You are accustomed to look upon the "hard work" of housekeeping as the washing and ironing. But with modern conveniences, and modern soap of the first class, washing may be made almost one of the fine arts—a pleasure rather than the old-time, most formidable task of the week. Ironing, too, may be made comparatively light, if the house-keeper will but take the coarse clothes one day, and the fine clothes the next. It is this "rushing through" work that breaks down our smart house-keepers so much earlier than they need to break.

But this ceaseless round of setting and clearing table makes miles of weary walking every day, and where the pantry is at the end of the dining-room, and the kitchen at the other, as ours is, it makes the travelling still more wearisome. When one has been busy all the forenoon, the setting of the dinner-table often seems like the "last straw." Now, boys, if there is no sister at your house; then how many you can be by helping mother through this part of the work. Spread on the tablecloths neatly, and lay the plates in their accustomed places. Try to follow mother's order of placing things, so she will not be worried by any confusion. Two or three pairs of hands make labor light, and you will have the work done before you know it. Now, let one run down to the cellar for the cold pitcher of milk and the plate of butter, and let the other bring in the pail full of water from the well. How much it has saved mother, who has been busy dishing up the substantial dinner, and is now quite ready to sit down with the rest.

When the meal is over, gather up the things to be washed in an orderly way, and set them on the kitchen table. Put away the eaters and salt dishes, and whatever goes into the pantry, and take to the cellar what belongs to the hanging shelf. Mother thus can stand by the kitchen table and arrange things to her mind, and very likely be half through with the dish-washing by the time you are through clearing the tables.

To have this work a real saving to her, it should be performed willingly, not reluctantly, by word of command. I know your mother would prefer doing the work herself to pressing you into the service, unless you have made up your mind to shirk out if you possibly can.

Female Education.—What though the superstructure be ever so beautiful and elegant, ever so symmetrical and tasty; yet, if the foundation be deficient; where is the worth of the edifice? Who would choose it for a resting place? Who would repose in it with trust and security?

Husbands.

There can be no doubt that, if a woman grows dissatisfied, it is the fault of the husband. There is a certain moral and physical condition which women attain who are not happy at home. They become moody, discontented, and sullen. If you ask them, the answer always is, "Oh, that man!" When pressed for further explanations—for it is with the greatest difficulty you can get a woman of delicate susceptibilities to impart her wrongs—"that man," of course, turns out to be the heartless brute who has worked her misery—her own husband. And, what is so provoking is, he can't be brought to see it. He smiled at her across the table with the assurance and impertinence of an Irish Low-Church curate. An invitation to champagne is a studied insult—he knows she never drinks it. If he proposes to ride with her in the Park, it is because he has heard her order the carriage. A trip to Paris would be all a most exacting wife could desire; but have not all the children been ordered to the sea-side, and it is impossible to go? You would have thought him the most tender, affectionate, thoughtful of husbands. Of course you would. The hypocrite knows what he has to expect from society if he does not appear to be all this. But see him in his domestic privacy, when he returns, gloomy and cross, from his day's business or pleasure. Instead of amusing her with the news or gossip of the day, he pleads fatigue and retires to his smoking room by himself—whence, presently, his sonorous nose announces to the whole household that he is asleep. Is he the companion for a woman of cultivated mind and business habits? Whose concern is it to overlook the weekly bills, and see that they are sent in correct by the tradesmen? What pleasanter occupation for a quiet evening? True, the checks are always forthcoming when asked for; but any idiot can sign his name to a document, especially if it shows on the face of it that he is throwing away his money. He actually paid her milliner's bill last year without looking at the items; merely remarking that he thought the total was rather high, and that she ought to be a good advertisement for Madame Fichue. He doesn't understand her. There is not that sympathy or confidence there ought to be between husband and wife. He is a fool, and she was a greater for marrying him. Why did she? Papa was very much involved, as every one knows, and he offered to relieve him of his embarrassments. He did not certainly propose to do so till after she accepted him; but was she the less sold for all that? Of course, he would not have come forward if she refused him. Then he takes absurd prejudices against this man, and the other; whereas, when Mrs. Lovemore comes to dinner, he has neither eyes nor words for any one else; and, for all she knows, may at that very moment be running after her all over the town. Who can help pitying and sympathizing with an admirable woman of this kind, whose oath lies in such rough places? What might she not have been in a different, perhaps in a more humble, sphere?—*Once a Week.*

Keeping Pianos in Order.

A musical journal says that there is not attention enough paid to pianos to keep them in good tone. It asserts that a piano should be tuned at least four times a year by an experienced tuner. If you allow it to go too long without tuning it usually becomes flat and troubles a tuner to get it to stay at tuning pitch, especially in the country. Never place the instrument against an outside wall, or in a cold, damp room, particularly in a country house. There is no greater enemy to a piano than damp. Close the instrument immediately after you practice; by leaving it open, dust fixes on the sound board and corrodes the movements, and if in a damp room the strings soon rust. Should the piano stand near or opposite to a window, guard, if possible, against its being opened, especially on a wet or damp day; and when the sun is on the window draw the blind down. Avoid putting metallic or other articles on or in the piano; such things frequently cause unpleasant vibrations, and sometimes injure the instrument. The more equal the temperature of the room the better the instrument will remain in tune.

The Farmer's Tea-Table.—It walks a fairy vision of wondrous witchery, and with a courtesy and a smile of winning and mysterious magic, takes her seat just opposite you. It is the farmer's daughter, a living creature of eighteen; fair as the lily, rosy as the rose itself, and sweet as a posy of violets.

Answered Prayers.

BY EUDORA MAY STONE.

Lily-bud, rose-bud, down in the dale,
Watching and wishing for rain;
Little blue violet, deep in the vale,
Waiting and longing in vain;
Little green leaflets that hang on the tree,
And blossoms that brighten the bowers,
Little green grasses on hillside and lea,
Praying and sighing for showers.

When shall the clouds yield the burden they bear
To the grass and the flowers and the trees?
Clouds that so languidly hang in the air,
Floating about in the breeze.
But see! how the lightning illumines the land,
The crash of the thunder I hear;
And surely I felt a cool drop on my hand—
I know that the shower must be near.

Lily-bud, rose-bud, down in the dale,
Open, their petals aglow;
Little blue violet, deep in the vale,
Smiles at the crowd as they go;
Little green leaflets that drooped on the trees,
Flutter with joy and delight;
Little green grasses on hillside and lea,
Give thanks for the shower to-night.

Arrangement of Flowers.

Flowers may be arranged either according to the harmony or contrast of colors. Red harmonizes with orange, orange with yellow, violet with red, indigo with violet, blue with indigo, and green with blue. Green is the contrast with red, sky-blue to orange, yellow to violet, blue to orange-red, indigo to orange-yellow, and violet to bluish-green. To find the contrast to any flower, cut a small, circular piece out of its petals, place it upon white paper, look at it steadily with one eye for a few seconds, without letting the eyelids close, then look from the colored circle to another part of the white paper, when a circle of another color will be apparent; the color is the true contrast, or complementary color. Tastes differ as to whether the arranging of flowers according to contrast or complementary is more pleasing to the eye than according to harmony. The former is the most in favor. To carry it out, a blue flower should be placed next an orange flower, a yellow near a violet, and a red or a white should have plenty of foliage around it. White contrasts with blue or orange, or still better with red or pink, but not with yellow or violet.

The Woman who has the Charm of Neatness.

It is difficult to be rude or rough or coarse in her spotless presence; it is impossible to be unduly loud and familiar with a woman whose dress bears the impress at once of refinement and reserve. "Cleanliness," says St. Paul, "is next to godliness," and even the ungodliest man is ready to put off his mental shoes and acknowledge he is on holy ground in the presence of a pure and spotless woman. We do not like to think of any lady having to rush away in abject terror if by chance one of her husband's friends should call during the forenoon. Dress is not without its influence on address. A woman in her right gown will seldom be in her wrong temper. She will feel at ease, not racked as to the "sit" of her bib and tucker, or exercised as to the angle of her topknot. Not needing to think of herself, she will be better able to think of her guests, and will enter into the conversation of the moment with a gaiety and gusto that will charm her visitors. Should, on the contrary, her gown "gag," her shoes be down at heel, her hair untidy, embarrassment and pre-occupation will sit heavily upon her.

A Matrimonial Hint.

We remember somewhere to have read a story of a youth who, hesitating in his choice between two young ladies, by both of whom he was beloved, was brought to a decision by means of a rose. It happened one day, as all three were wandering in a garden, that one of the girls, in attempting to pluck a new-blown rose, wounded her finger with a thorn. It bled freely; and applying the petals of a white rose to the wound, she said smilingly: "I am a second Venus; I have dyed the white rose red." At the moment they heard a scream; and fearing the other lady, who loitered behind, had met with an accident, hastened back to assist her.

The fair one's scream had been called forth by no worse an accident than had befallen her companion. She had angrily thrown away the offending flower, and made so pertinacious and fretful a lamentation over her wounded finger, that the youth, after a little reflection, resolved on a speedy union with the least handsome but more amiable of the two friends. Happy would it be for many a kind-hearted woman did she know by what seeming trifles the affection of those whom she loves may be confirmed or alienated forever.

CANARIES.—Make just half the fuss directed in the bird-book over the matter, and you will have, doubtless, better success in raising birds. Never give them sugar, but all the red pepper they will eat. It is the best thing for them. And if your bird feels hoarse at any time, put a piece of fat salt pork in the cage, and see how the little fellow will enjoy it. Give him flaxseed once in a while, and if he appears dumpy, occasionally give a diet of bread and water, with red pepper sprinkled in.

Hints About Letter-Writing.

Letter-writing is very much a matter of habit, and for that reason it is important that young people should learn early to consider it a pleasant way of communicating thoughts and feelings to their friends, instead of a burdensome task to be got over as quickly as possible.

We often hear people excuse themselves by saying that they have no "gift for writing letters," as though it were something like an ear for music, only accorded to a favored few. But the truth is that any one can write interesting and pleasant letters who will take a little trouble and really persevere in the effort. The grand difficulty in the way is that they are too selfish and too indolent to try. Nothing that is worth anything comes without effort, and if you do not care enough about gratifying your friends to take a little pains for it, you deserve never to receive any letters yourselves. A few simple rules carefully observed, will help you over some of the things which you call difficulties. In the first place always write distinctly.—It destroys much of the pleasure in receiving a letter, if it cannot be read without puzzling out every word. Many an epistle, written on cream-laid paper, with a monogram at the top, is only an annoyance to the one to whom it is addressed, on account of pale ink and careless handwriting.

Be particular in the matter of dating, giving every item distinctly, and sign the letter with your full name. If this habit is formed, you will not run the risk of losing valuable letters, which cannot be forwarded from the Dead-Letter Office, unless accompanied with the full address. You will find it more easy to reply to a letter soon after you get it, than if you neglect it for a few weeks, because you will have the impressions which the first reading made upon you. Tell your friend when you received the letter which you are answering, and take up the topics in the order which they naturally come, remembering to answer all the questions which have been asked. Try to think what your friend would like best to hear about, and when you undertake to tell anything, do not leave it half told, but finish the story. People who are not careful about this often give a false impression without meaning to do so. For instance, one of these careless writers, in giving an account of a fire simply stated that a house was burned, without giving any qualifications, thus giving the impression that it was entirely consumed, thereby causing a whole family much unnecessary trouble and anxiety, as the actual burning in question was very slight.

Do not consider anything too trivial to write about, which you would think worth mentioning in conversation. Writing letters is simply talking upon paper, and your friends will be much more entertained by the narration of little every-day affairs, than by profound observations upon topics which they care nothing about.

In writing to very intimate friends who will be interested in the details of your daily life, it is well sometimes to make your letters a sort of diary—telling something of how you have spent each day since you wrote last; what books you have been reading, what letters you have received from mutual friends, and what you have heard or seen which has interested you.

Write all that you have to say on one subject at once. That is, do not begin to tell about your garden, and then about your school, and then about your garden again; but finish one subject before you begin another. Do not be afraid of using the pronoun I. Some people avoid it, and thus give

their sentences a shabby and unfinished sound, as, "Went to Boston—called on Mrs. Smith." Never apologise for what you write, by saying that you do not write letters. You would not think it quite polite, in visiting a friend, to say, "I do not like to talk to you, so I shall not say much." Keep the idea before you that you are writing for the sake of giving pleasure to your friend.

When your letter is merely an enquiry, or on a matter of business, the case is different. You then should try to be as brief, concise, and clear as possible. An elaborately drawn out business letter is as out of place as it is inconsiderate.

"Do not think what to write, but write what you think," is an old rule, and a good one to remember. If you are away from home, it is very selfish not to share your good times with the family by writing frequent letters. You can tell what you are enjoying so much better while it is fresh in your mind, than you can after you return, when you may not have leisure to go over the whole ground; and these home letters may be a means afterward of refreshing your own memory, and reminding you of incidents which you would otherwise have forgotten. There are many other things which might be said here, but this will do for the present. A very good rule for letter-writing is the golden one, "Do as you would be done by."—*St. Nicholas.*

The Crops.

The prospect of the crops is not quite as cheering as at the time of writing our last report. Recent refreshing rains have done much good in this locality. A frost at the unusual date of the 22nd of June has done some damage to the fall wheat, corn, potatoes, millet, and many other crops have been affected by it; some will recover themselves. The low and damp lands are the most affected. The day after the frost we examined a field near this city of corn, potatoes, beans, cucumbers, &c. We could not find the least trace of frost. The field was well drained and on high land.

Weather Prospects.

Mr. Vennor, of Montreal, who has gained himself high esteem for his correct forecasts of the weather, now forebodes heavy rains and high winds that will do damage. We may profit by this information by securing our crops as soon as possible. If anything is fit, cut and carry it into the barn with extra diligence this year. See that the roofs of your buildings are as secure against wind and rain as you can make them.

Of the coming exhibitions, the first list we have received is that of Hamilton. The fair is to be held on the 2nd, 3rd, 4th and 5th of October. Competition open to all the world. Eight thousand dollars will be offered in premiums for stock, agricultural and horticultural products, implements, manufactures, fine arts, ladies' work, &c. The association will make such favorable arrangements as are found practicable with steamboat and railroad proprietors for carrying articles and passengers at reduced rates.

Poland China Hogs.

To "G. H."—A full description, with cut, of this strain of hogs was given in the April number of the FARMERS' ADVOCATE, and they can be procured from W. K. Secord, Winona, P. O., Ont., or D. M. Magie, Oxford, U. S., whose cards appear in "Breeder's Directory."

Stringent Milk Laws.

The better class of dairymen in the West are up in arms against the fraud of adulteration practiced by their less conscientious brethren. The form of a statute has been agreed upon, which it is thought will hold in the Courts, and this will be made the basis of a good deal of legislation during the coming year. It imposes the penalty of a fine, or imprisonment, or both, to any one who shall, (1) for the purpose of sale for human food, adulterate milk with water or other foreign substance; (2) or sell for human food milk adulterated with water or any foreign substance; (3) or sell for human food

milk from which cream has been taken, without the purchaser thereof being informed or knowing the fact; (4) or sell for human food milk from which what is commonly called "strippings" has been withheld, without the purchaser thereof being informed or knowing the fact; (5) or sell for human food milk drawn from a diseased cow, knowing her to be so diseased as to render her milk unwholesome; (6) or sell for human food milk so tainted or corrupted as to be unwholesome; (7) or supply or bring to be manufactured into any substance for human food, to any cheese or butter factory or creamery, without all interested therein knowing or being informed of the fact, milk adulterated with water or any foreign substance, or milk from which cream has been taken, or milk from which what is commonly called "strippings" has been withheld, or milk drawn from a diseased cow, knowing her to be so diseased as to injure her milk, or milk so tainted or corrupted as to be unwholesome; (8) or, with the intent to defraud, take from milk after it has been delivered to a cheese or butter factory or creamery, to be manufactured into any substance for human food, for and on account of the persons supplying the milk, cream, or shall with like intent knowingly add any foreign substance to the milk, whereby it or the product thereof shall become unwholesome for human food.—*Evening Post.*

A sale of Shorthorns took place in the park at Dundas. Only a few stock-men knew of it. The highest price paid was \$155.

A farmer in Montgomery county asks us why it is that oxen after they have been used for years at hard work, make the beef so much superior to young bullocks which have never been used to the yoke? The answer is very simple. When oxen are stall-fed every pound weight they gain is new flesh, so that by the time they are ready for the butcher they furnish almost an entire new carcass, sweet, juicy and tender. Young cattle never take on fat so readily while they are growing, and hence their meat becomes so solid, tender or juicy. Tender it frequently is, but it is dry and spongy and possesses but little flavor.

M. Chatot recommends common salt as an antidote for mildew on vines. By sprinkling a handful of salt around the base of each vine the effect, he says, was marvelous; and vines hitherto covered with the fungus grew luxuriantly, and had an abundance of grapes entirely free from oidium.

When planted in very rich soil, tomatoes often produce much wood and little fruit. The best crop of tomatoes I ever saw was furnished by main stems as free from side growth as a walking-stick. All growths except the leaves and flowers attached to the principal stem had been pinched off as they appeared.

A good compost for common house plants can be made up of one part clean sand, free from salt; one part mould from thoroughly decayed leaves; one part cow manure, well rotted and pulverized; two parts rich garden soil, or better, well-decayed turf mould. About one-fifth of the pot may be filled with materials for drainage, composed of oyster shells, charcoal, or broken bits of pots or crockery. A small quantity of moss placed over these prevents the earth from washing through.

HOW TO SET A GATE POST THAT WON'T SAG.—I will suppose the gate when shut to hang to the west side of the post—opening southward; dig the post-hole at least three feet deep, flatten the east and west sides of the post (the part in the ground); nail a short board, say 10 by 12 inches, on the east side even with the bottom of the post; put in the post, placing it where you want it; fill in the dirt and beat it down thoroughly till within sixteen inches of the top; then take a two inch-board, 16 by 24 inches, nail it on the west side of the upper edge even with the top of the ground, and one like it on the south side, 16 inches long. Fill up and pack the dirt well, and my experience is that your post will not sag.—*Correspondence Indiana Farmer.*

PARASITES IN SHEEP.—During a recent lecture, Professor Cressy spoke of the strongylus or thread worms of sheep, a species of insect but little known in this country, though he had discovered them in a flock owned by Mr. H. L. Stewart of Connecticut, and had described them in his second annual report to the Governor of that state. Spirits of turpentine, given in milk, had helped sheep affected with this parasite. The blue knots often noticed on the intestines of sheep are the burying-grounds of parasitic insects.

In this city many gentlemen have had wind-mills erected by Mr. Cousins for watering their gardens and lawns, and house purposes. Many farmers would find it a great advantage in using them where water has to be pumped for their needs.

SCREENS.—Mr. E. Moody said at the Rochester Horticultural meeting that he found screens of trees of much value to some of his fruit plantations. In his garden he gets abundant crops of Frauconia raspberry, except where there is an opening in the screen which surrounds it. He has known peaches to be killed on the windward side of a screen and to escape on the other side.

FINE CATTLE.—Mr. Price, of the firm of Reeves & Price, shipped on SS. "Dominion" last week five magnificent specimens of cattle, one, a six-year-old white Durham ox, weighing 3,000 lbs. Another white roan, three-year-old heifer weighs 2,150 lbs.; both having been fed at Guelph. The finest of the five is a four-year-old red and white steer, fed in Toronto, which weighs 3,100 lbs., and is fatter in proportion than either of the others. There is also a pair of red and white grade six-year-old steers, fed in Stanstead county, whose joint weight is 5,500 lbs. The firm propose to exhibit the cattle in some of the principal agricultural centres of England before disposing of them finally.

No less than seven suits in reference to lightning rods were tried at the Guelph Chancery Court on the 4th inst. They were brought to recover notes given to the Ontario Lightning Rod Company, and John and Robert McDougall, of Galt, on the ground that the notes were obtained by fraud. The plaintiffs were principally from Garafraxa and Eramosa townships. The cases were all settled by the defendants giving back the notes to the farmers and paying \$250 costs.

Jottings by the Way.

Millions of sheep are dying of starvation in Australia, in consequence of excessive drought.

The grasshoppers have blasted the hopes of many farmers in the Western States. Before their approach, the fields are rich with the promise of spring; after them, all is as a bare desert.

Forest fires is again the news in season. From New York, in the Northern States, and Michigan in the West, come reports of forests and crops being burned up by the thousands of acres. Is there no way to prevent these annual conflagrations?

Thousands of Indians and Chinese are starving in California, the land of gold. San Franciscans are perishing from want of food.

A reporter of a Detroit daily paper says he saw a rattlesnake, four feet long, crawl out of a load of hay that was standing in the hay market.

A specimen of the seventeen-year locusts is described as a savage-looking insect, about two inches long, with claws like a mole, a head like a black bean, and, probably, an appetite like a bohemoth. He was found in a hill of corn, on a farm in Michigan, in a field of several acres, which had nearly all been destroyed, and had all to be replanted.

The currant worm has been troublesome in New England, as we have found it in Canada. The squash and cucumber vines are injured by a small, yellow bug. Caterpillars are also very abundant. The late rains have lessened the number of potato bugs.

Another Indian war in the States—Indians killing white men, and white men killing Indians. Meantime, Sitting Bull and his followers have taken refuge in British territory.

The most disastrous fire in the annals of St. John, N. B., was that of June 20th. Public buildings, palaces of commerce, churches, banks, splendid residences, newspaper and telegraph offices, school houses, were all laid in ruins in a few hours. The post-office, the custom house, every wharf in the city, fourteen churches, have been destroyed. Fifteen thousand are without a home. The estimated loss is \$20,000,000, and the insurance about \$10,000,000. Thirty bodies have been recovered from the ruins, and as many more are missing.

In Kentucky there has lately been a fight between the "Vigilance Committee" and a number of horse thieves. There were fifty or sixty men engaged, and four or five are reported killed. Both parties had their commanders.

Packing Butter.

In packing butter it is essential that it be well tamped together, leaving no fissures or air cells. This can be well done only when in a mellow condition, and by putting in small quantities at once and stroking it lightly a number of times with a ladle; never rub it, but give a direct, positive impression at each stroke.

The butter should never be placed against the edge of the package, but always in the center, and be kept there all the time a little the highest. In this way there will always be both a perpendicular and lateral pressure on it, which will exclude the air and close up all fissures. By so doing the brine, or excess moisture, will also get to the edge of the package, where it will finally be taken into and keep filled the pores of the wood, thus rendering it constantly air-tight, and preventing the butter from getting into the wood, and so causing it to adhere to the package. If this is allowed to be done there will be a loss of a number of pounds to whoever undertakes to use it, by a little that adheres and by far more that gets affected. On the other hand, when the pores of the wood are entirely closed with the salt from this brine, not one particle of butter will be either wasted or damaged; it will cleave from the package perfectly clean and sweet.

Two pounds of butter wasted is equivalent to one cent a pound on the whole package. Retailers and consumers understand this; and when they find a package that really costs them two or three cents a pound more than they expected, by reason of waste, they are very apt to try another dairyman's butter, or if they are compelled to buy any more of the same kind to do so at a reduced price.

A poor churning of butter sandwiched in between two good ones will condemn a package of butter on almost any market, and the whole package will bring but very little if any more than if all was equally poor as the poorest in it; or a churning of good white butter between two of fine yellow will detract from the price fully as much as would be equivalent to throwing the white away altogether. It is therefore far better to pack such churnings separately or to use them up at the dairy while they are new and in their best condition. Such butter is useful if consumed soon after it is made, while if kept a short time it will become nearly worthless, and so detract from the good, which, had it been packed by itself, would have commanded a good price. I have known a dairy of butter to bring more money after throwing out a whole package that had a poor churning in it than was offered for the entire dairy. If a churning of butter does not fill a package it should be covered with a damp, clean, white cloth with salt on, to protect it from dust and air, until another churning shall fill it, when a damp cloth and salt may again be put on and the package sealed and set away ready for the market. The best time to market butter is when in its best condition, and butter seldom improves with age.—N. Y. World.

Big Strawberries.

Mr. Allen Moyer, of Jordan, Ont., will receive our thanks for a box of strawberries, containing six varieties, namely:—The New Dominion—these were the largest and finest looking berries of the lot; they were of an even size and form, and of a lighter color than either of the other varieties. The Kentucky strawberries are inclined to be flat and square on the edge and of large size. The Col. Cheney was not quite as large, but by some the quality was commended. The Green Prolific is a new variety, of fine size and good flavor. The Jusudas were not as ripe as the other varieties. The Triomfle de Gand was not to be compared to the three other varieties. We do not doubt but that each have their advantages.

The inhabitants of droughty regions in California are said to be leaving with whatever they can take with them. This emigration from parts of the State has greatly lowered the price of labor, and numbers of half-starved laborers are only too glad to work for their board.

Commercial.

London Market.

Farmer's Advocate Office, June 26, 1877.

Deihl wheat, \$2.50 to \$2.80; Treadwell, \$2.25 to \$2.80; Red Winter, \$2.20 to \$2.25; Spring wheat, \$2 to \$2.50; Barley, \$1 to \$1.10; Peas, \$1.25; Oats, \$1.45 to \$1.50; Corn, 90c. to \$1.10; Rye, \$1 to \$1.10; Wool, 20c. to 31c.; Butter, 12c. to 17c.

Toronto Market.

Toronto, June 25.

Barley, nominal; Spring wheat, \$1.40 to \$1.45. Red winter, \$1.40 to \$1.42; Treadwell, \$1.45 to \$1.48; Deihl, \$1.40 to \$1.50; Oats, 45c. to 50c.; Peas, 75c. to 78c.; Flour—superfine, 80; do, spring extra, \$6.50; do, extra, \$6.25; do, superior, \$7.50; Butter, 10c. to 15c.; Wool, 20c. to 29c.

New York Market.

New York, June 25.

Wheat, a shade firmer: \$1.61 to \$1.62 for No. 2 Chicago; \$1.61 to \$1.65 for No. 2 Milwaukee; Corn, a shade better: 57c. to 59c.; Oats reported dull; sales 16,000, at 48c. to 57c. for mixed State and Western; 43c. to 63c. for white; Pork quiet, at \$14.25; Butter 13c. to 22c.

Liverpool Market.

Liverpool, June 25, 1 p. m.

The following are each day's latest quotations for the past week:—

	June 19	20	21	22	23	25
	s d	s d	s d	s d	s d	s d
Oats	3 9	3 9	3 9	3 9	3 9	3 9
Barley	3 6	3 6	3 6	3 6	3 6	3 6
Peas	39 6	37 9	37 9	37 9	37 9	37 9
Pork	56 6	59 0	53 0	53 0	52 6	57 6
Lard	44 0	44 6	44 6	44 6	46 0	46 0
Beef	81 0	81 0	83 0	82 0	80 0	80 0
Bacon	37 0	37 0	37 0	37 0	36 6	36 6
Tallow	40 3	40 0	39 6	39 6	39 6	39 6
Cheese	62 0	62 0	61 0	61 0	60 0	59 0

The Cheese Market.

London, June 23.

6,400 boxes were offered; only 1,000 sold to fill immediate order; 9c. was paid; 8c. was offered and refused. Several factories forwarded their cheese on consignment; others preferred holding. There is greater difficulty in holding June cheese than the cheese made later; it will not keep. The Americans are making nearly half as much more cheese this season than they did last. The Eastern War tends more to decrease than increase the price of cheese, as it is not supplied to the armies or navies in quantities.

LITTLE FALLS.

Albany, N. Y., June 25.

The representation of factories at the Little Falls cheese market to-day was the largest of the season. Salesmen seemed to think that though the prices were exceedingly low, there is no probability for better, and a prospect for a greater decline; 8,000 cheese offered; mostly selling for 9c. to 10c.; 400 farm dairy sold at 8c. to 9c.

UTICA.

Utica, N. Y., June 25.

Of 10,000 boxes cheese offered, 3,000 went on commission; 7,000 sold at 8c. to 9c.; extreme, 9c.; leading factories, 9c. The average market is active, but lower.

Chicago Markets.

Chicago, June 23.

Hogs.—Market dull and weak at 25 to 30c. lower; light grades selling at \$4.50 to 4.55; heavy to packers at \$4.50 to 4.60; heavy shipping at \$4.60 to 4.80.

New York Market.

New York, June 22.

BREVES.—Prices were 4 1/2 to 5c. for two cars-bulls; 9 1/2 to 10c. for course natives; 10 1/2 to 11 1/2 for fair steers; 11 1/2 to 12c. for good to prime calves; the bulk of fair brought 6 1/2 to 6 3/4. Sheep and lambs; a few extras 9c.; but we call 8 1/2c. really the top price. Hogs, mostly selling at 7 to 7 1/2c.; with extremes 6 1/2 to 7 1/2c.

Live Stock Market.

Montreal, June 21.—Journal of Commerce, reports.—The arrivals of live stock at Point St. Charles last week consisted of 10 car-loads of cattle, one mixed load of cattle and hogs; 150 Chicago hogs, 235 Canadian hogs and 27 horses. Ten car-

loads of these cattle were shipped on Monday, by L. Samuels & Bros., of New York, on the Allan SS. Canadian; another 10 car-loads were shipped on Tuesday by SS. Phœnician for Glasgow. On Monday another car-load of cattle arrived, also 220 hogs from Chicago. The supply of cattle was so limited during the week, owing to the heavy shipments, that drovers had it nearly all their own way, and prices went up fully 25c. per 100 lbs for all kinds of cattle. At the St. Gabriel market on Monday, nearly all of the cattle on the market, except the bulls, were sold early in the day, and some butchers were unable to supply the local demand. The price of first class cattle was from \$4 to 6.50 per 100 lbs.; distillery-fed bulls sold from \$5 to \$5.50 per 100 lbs. A dealer sold 21 fat cows at \$5.50 per 100 lbs. A drover who sold his cattle at \$5.50 per 100 lbs. saw the purchaser re-sell them at \$6.12 1/2 per 100 lbs. A city dealer sold 300 head of superior cattle to a Boston party for \$28,000 in 1877; these were intended for shipment this week on the SS. Adriatic from Boston to London. There is some indication of a fall-in, but prices remain steady as yet. We quote:—The price of hides,—Hide No. 1 inspected, \$9 to \$9.50, No. 2, \$8 to 8.50, and No. 3, \$7 to 7.50 per 100 lbs.; Calfskins 12c. per lb.; Sheepskins, 25c. to 30c. each; Lambskins, 35c. to 40c. each; Rough tallow has fallen to 5 1/2c. per lb.



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