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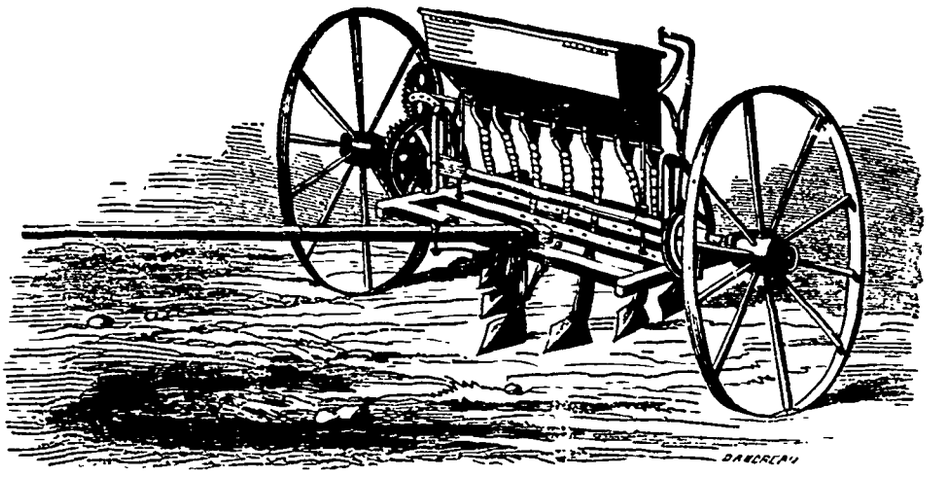
THE CANADA FARMER

VOL. II. No. 18. | TORONTO, UPPER CANADA, SEPTEMBER 15, 1865. | POSTAGE FREE.

The Field.

A Combined Drill and Cultivator.

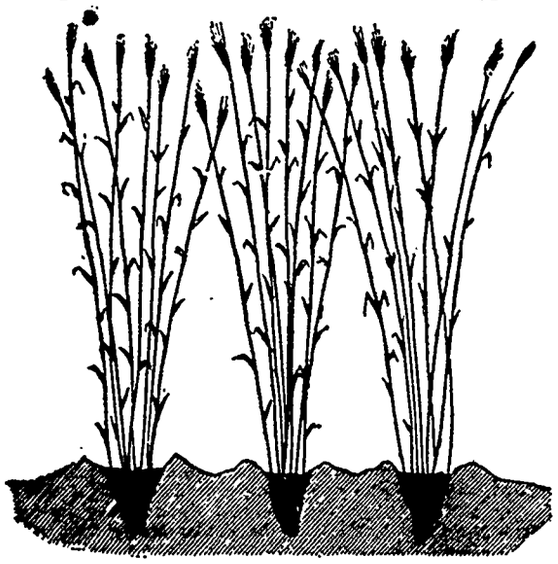
WE herewith present our readers with an illustration of a very useful implement, or rather two implements in one, invented and patented by Mr. B. W. WALTON of Kettleby. The Cultivator, as a separate Machine, has been in use for upwards of three years. It is therefore pretty well known, and, if desired, can still be obtained from the patentee without the sowing apparatus. The patent of "The Farmer's Friend," as the combined implement has been aptly designated, bears date, July 15th, 1865. A pretty numerously signed testimonial, which Mr Walton has forwarded for our inspection, states that the implement works in a highly satisfactory manner; that it is of a comparatively light draught, and may be managed by one person; and that, bearing in mind, the two important operations it performs separately or together, its price is very moderate. The implement, we understand, will be exhibited at the coming Provincial Fair, and the price and any further particulars may be obtained of the patentee.

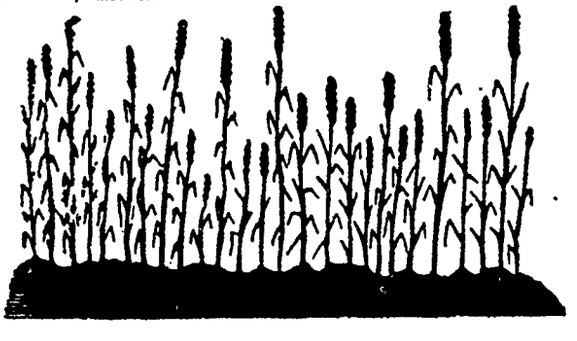


Drill and Broadcast Seeding

THE sowing of the seed is manifestly one of the most important operations of husbandry. Much of the previous labour of the farmer goes for nothing, if the seed be not properly sown at its appropriate time. It is true that even after he has done his best, and committed his seed to the soil in the most approved way, and under the most favourable conditions, many accidents and unforeseen circumstances may diminish the farmer's harvest returns. The weather and the seasons are altogether beyond his control; while the prevention of insect depredations is partially so. Still, at the same time, it must not be forgotten that the measure of his success depends very much on his own persevering efforts, directed by judgment and skill. "If," says the author of the *Dictionary of the Farm*, "the farmer selects the best seeds, chooses the proper season for sowing them, and has them carefully distributed and properly covered with earth, as their nature requires for the most perfect germination, and thus also protects them from the voracity of birds or insects, he will have a much greater prospect of success, under all circumstances, than if he were careless or negligent." The most common mode of sowing in this country is by scattering the seed broadcast over the ploughed surface of the soil. By this process there is no certainty of the seed being uniformly covered.

Experience teaches that harrowing is only an imperfect method for effecting this object. The harrow buries some seeds too deeply, others not sufficiently deep, and a considerable proportion not at all. To ensure a full crop, therefore, the farmer is obliged to scatter an additional bushel or more per acre, than would be necessary, were a machine employed. It will be obvious, on a little reflection and calculation, that the saving of grain alone, in the course of a few years, by the use of a drill, would warrant its adoption on every farm. Such machines not only deliver the required portion of seed with regularity, but deposit it at a proper depth beneath the surface. And as the plants appear in regular rows, weeds or thistles may be destroyed with facility, and the crop is thereby allowed to monopolize the entire nourishment of the soil The air is allowed free circulation between the rows, and a stronger and healthier plant, and. consequently, a heavier crop is produced. Our illustrations very fairly represent the growth of drilled and broadcast wheat. The ears of the machine-sown grain, it will be remarked, are larger, and the plants more uniform in size and height than those sowns by hand. The superior vigour and strength of that sown by the machine will be at once apparent to our readers, and its superiority is by no means exaggerated by the artist. The cost of a drill is, no doubt, pretty considerable. This circumstance will unquestionably prevent its rapid general adoption; but the advantages to be derived from the use of the implement, some of which we have briefly noticed in this article, would, in cases where the requisite amount could be prudently appropriated for the purpose, more than compensate for the investment.





Exhaustion of the Soil.

THE extent to which the alimentary properties or nutritive juices of the soil are extracted or diminished by vegetables is, as a general thing, in the precise ratio of the size and weight of the crops taken off. Experience has long since demonstrated that, with respect to the cereals, the exhaustion of fertility is in direct proportion to the amount of actual nutriment which the plants, including the straw and grain, contain.

Wheat is, perhaps, more exhausting in its effects upon the soil than rye, and rye more exhausting than barley, and barley more than oats. This opinion is predicated upon the results of chemical analyses, although, we are aware, in direct contrariety to the opinion entertained by many practical men who consider oats a more powerfully exhausting crop than either of the other—wheat or barley.

According to the most elaborate and most highly satisfactory experiments of EINHOF, the different quantities of nutrimental or actual alimentary matter —for instance, gluten, starch, and mucilaginous sugar—in the different kinds of field crops, are as follows:

	Per cent.
In Wheat,	78
" Rye,	70
" Barley,	70
" Oats,	58
" Lentils,	74
" Peas,	75½
" French Beans,	85
" Windsor Beans,	58½
" Horse Beans,	73

The amount of nutritive juices in these substances therefore, is as follows:—

	Weight.	Juices
Wheat,	92 lbs.	71 76 lbs.
Rye,	56 "	69 2
Barley,	82 "	48 6
Oats,	52 "	30 16
Peas,	100 "	75 6
Horse Beans,	103 "	75.19

Assuming these data as correct, and allowing for the difference in the nature of the succulent constituents—which is very obvious to the chemist—as well also as in the stem and leaves of the respective plants, the entire series of experiments and examinations relative to the question under consideration, demonstrate conclusively that they have the following relative proportion, each to each, so far as regards their exhaustive effects upon the food or producing power of the soil:

Wheat,	13
Rye,	10
Barley,	7
Oats,	5

Hence we deduce the collary that—

6 bushels of rye are equal to 4.61 of wheat.
6 bushels of rye are equal to 8 58 of barley.
6 bushels of rye are equal to 12 of oats.

We do not vouch for the accuracy of these assumptions; all we can say is, that they are remarkably fortified and borne out by the most accurate chemical experiments which have as yet been made. If erroneous, science and experience are equally at fault.

If the conclusions arrived at are relied upon, and if they are correct, they cannot fail to prove of essential service to the farmer in the distribution of manure upon his several crops. It will enable him to proportion it to his various crops, more according to their several needs than he has heretofore.—*Maine Farmer.*

About Red-Root.

I WAS telling you last month that the red-root was so abundant in my summer-fallowed wheat that I intended to plough the land this fall and plant it to corn next spring. John Johnston has kindly written me on the subject. He says:

"Since looking over the *Farmer*, I opened the letter to say you can not kill red-root with a corn crop. It will only vegetate in August and September, and, if warm, in the first two weeks in October, and in no other months of the year. If the land is pulverized in August, and ploughed in October or in April, you will destroy a vast quantity; but if a clayey soil this has to be repeated for several years before it is all destroyed."

He says red-root has troubled him more on his farm than any other weed. He has paid $500 for pulling and hoeing it out of his wheat. He conquered it at last, but it took many years. Where it abounds, the plan is to summer crop for some years, and this will kill it or so reduce it that it will not be much trouble to pull up what there is in the wheat.

It seems to be a fact that red-root troubles no crop except winter wheat; and my plan for killing it was based on this fact. Treat your land in the fall precisely as you would were you going to sow winter wheat, and then kill the red-root in the spring by ploughing, cultivating, &c. If we had a machine to hoe our winter wheat in the spring, this would kill the red-root; but till we have such a machine, we must try to kill it, as Mr. Johnston says, by "summer cropping." But summer cropping in itself will not kill it. We must, by harrowing or ploughing the land in August or September, cause the seed to germinate. This is the main point. After this is done the red-root can be killed by any course of summer-cropping that is most convenient.

I suppose a good plan would be to harrow the wheat stubble, (that is, of course, where the wheat is not seeded) as soon as it can be done conveniently after the wheat is off. This would start the red-root seed about the middle of September. Then give the field a good ploughing in the fall and sow it to barley or oats in the spring. Instead of this course, I purpose, in my own case, to *plough* wheat stubble in the course of a week or two—ploughing it not very deep and harrowing it afterwards. This would cover up the stubble, grass, &c., and start the seeds of the red-root. Then, sometime before "snow flies," give it a good, thorough, deep ploughing, and leave the land rough for the frosts of winter to mellow it. In the spring, plough again, harrow, cultivate, &c., and plant corn. Then if the cultivator and horse-hoe are used freely, there will be little need for hand-hoeing. Such treatment will not only kill red-root, but will destroy other weeds and leave the land in splendid order for sowing barley the next spring and seeding down.—*Genesee Farmer's Walks and Talks.*

GROWING TIMBER.—"I want to tell my story, which I know to be true and perfectly correct, as all the parties are to me well known and of unimpeachable veracity. The scene is in Berkshire county, Mass. A boy reaped wheat in a field—that boy grew to be a man, and lived to the ripe old age of 82 years. Before he died, he sat in his chair and saw a neighbour of his from day to day drawing saw logs to the mill. This man drew, had sawed, and sold 152,000 feet of lumber, and all from 3½ acres of ground upon which the old man when a boy had reaped wheat The timber was mostly pine, some oak. I believe pine will grow as fast here as that."—HAWK-EYE, in *Country Gentleman.*

DIEHL AND SOULES WHEAT, &c.—John Johnston, under date of near Geneva, Aug. 23; writes the *Country Gentleman* as follows: "I have got one barrel of the so-called Diehl select wheat, and I shall be much disappointed if it is anything else than the Soules wheat, which I have grown ever since 1811. I sent many hundred bushels of it to Indiana and other Western States, a number of years ago, and often thought it would be well to get some of it back, thinking it might do better than that grown in this State for the last 20 years. The only difficulty in raising Soules wheat here now is, that almost every year it turns all yellow in April, and if warm growing weather don't immediately set in, it never recovers, and makes a poor crop. Sowing after the 20th September is generally a preventive, but that of late years is thought to be too late."

WHAT WERE CANADA THISTLES MADE FOR?—For the double object of cultivating the ground for man's use, and compelling man to cultivate the ground for his own benefit—to banish idleness, the scourge and curse of humanity, high or low, rich and poor. The deeply penetrating shouldered roots of the Canada Thistle search all the ground for life and growth, and bring to the surface in successive seasons, vegetable matter, which, decaying, enriches the land, and thus prepares the way for the husbandman. The tiller of the soil must then banish the preceding elaborator, and show, by his industry, that he is worthy to succeed; and, also, that he is willing to occupy the land from which he seeks to dispossess an occupant, appointed by the Creator to hold possession until earth's rightful tenant evinces sufficient faith and patience to subdue it.—*Cor. Country Gentleman.*

A WONDERFUL TREE.—In the birch wood of Culloden there is a remarkable tree, well worthy of note. Somewhere about thirty years ago a little giant of the forest was blown down in a storm, and fell across a deep gully or ravine, which it completely spanned, and the top branches took root on the other side. From the parent stem no less than fifteen trees grew up perpendicularly, all in a row; and there they still flourish in all their splendour, while the parent stem evinces no token of decay. Several of the trees are not less than thirty feet high. The tree is a larch fir.—*Elgin Courant.*

THIN SEEDING.—The following quaint bit of experience and wisdom is from Sir A. Fitzherbert's "Boke of Husbandry." "There is a seed called Discretion; if a husbandman have of that seede, and mingle it amongst his other corne, they will growe doubtless much the better, for that seede will tell him how many casts of corn a land ought to have. And if a young husband, or, it may so fortune, a man that by possibility might have grey headed experience, hath not sufficient of that seede, yet he that lacketh, it is lawful for him to borrow of his neighbours that have, and his neighbours be unkind if they will not lend this young husband part of their seede, for this seede of discretion hathe a wonderous virtue, for the more it is eyther taken of or lent the more it is. Now, discretion is that part of good conduct which takes wary account rather of the difficulties, risks, and dangers of the way than of the object or rewards of the journey; and it is, we think, a fortunate circumstance that in one of the earliest specimens of 'book farming' in our language, it should have been desired that the 'young husband' do mingle it with his 'seed corne.'"

CANADIAN WHEAT GROWERS.—You may think it strange, but I question if the best farmers in America are not to be found in Upper Canada. They beat us in raising wheat; their barley is certainly superior to ours in quality, and I think the same is true of oats. In the cultivation of root crops we are nowhere. Don't get angry. We beat them in raising corn—and in all crops which partake rather of a commercial than a strictly agricultural character. We are willing to raise small crops if we can get large profits, while a Canadian farmer, partaking largely of the Scotch and English conservative character, continues on in the even tenor of his way. He is not so constantly looking for some easier method of earning a living. He is a farmer, and his father was a farmer before him, and he intends to live and die a farmer. If the midge destroys his wheat he does not, as we did in this section, propose to turn the whole country into one grand apple and pear orchard. He looks out for some variety that will ripen sufficiently early to escape the ravages of the insect.

I have often remarked that where a new kind of wheat has been alluded to in the *Genesee Farmer*, it attracts more notice, ten times over, in Canada than in this section. A few years ago I induced some gentlemen to contribute a few hundred dollars to get up a wheat show. We offered large premiums and managed, by personal persuasion, to induce a few farmers to show their wheat. The affair was essentially a failure. Had it been a big pumpkin show, it would have been a grand success. The entries of wheat at the Provincial Show are three times more numerous than at our State Fair, even when held in the centre of the wheat-growing districts, and the number of people which crowd around the samples, shows the interest which is felt in the matter. The Deihl wheat, advertised in the *Farmer* last month, attracted at once the notice of Canada farmers, and one of their agricultural societies sent a delegation to Indiana to inquire into its merits. They were so well pleased with it that they purchased *eight hundred bushels* for seed. Such enterprise is commendable. No wonder they beat us raising wheat.

This Deihl wheat closely resembles the Soules, and I should not be surprised if it turns out to be this variety. Its chief merit is its earliness, and it is probable that this quality is due to the fact that it has been grown for several years in a more southern latitude. There can be no doubt that, so far as earliness is concerned, we should get our seed wheat from a more southern rather than a northern latitude, and I have no doubt that should this Deihl wheat prove to be the Soules it will ripen earlier for two or three years than the Soules grown from seed raised here.—*Genesee Farmer's Walks and Talks.*

The Canadian Crops of 1865.

REPORTS OF THE STATION MASTERS ALONG THE LINE OF THE GRAND TRUNK RAILWAY

BUFFALO AND GODERICH DIVISION.

GODERICH.—Fall wheat has suffered from the midge; yield, 16 to 18 bushels per acre. Spring wheat, oats, barley and peas, considerably over an average. Root crops promise well.

CLINTON.—Fall and spring wheat quite an average. Barley, peas and oats, very good. Root crops are good, and flax promises well.

CARRONBROOK.—Spring wheat will average 25 bushels per acre—but little fall wheat. Splendid crops of oats, peas and barley. Turnips will be moderate, having been injured by the fly. Hay crop could scarcely be surpassed.

MITCHELL.—The crops, on the whole, are above an average. Fall and spring wheat both slightly injured by rust. Peas, oats and barley, will be an excellent crop Root crops look well and promise a very large yield.

TAVISTOCK—Fall wheat has been injured by rust, and its yield will fall below an average. Spring wheat only moderate. Oats a splendid crop. Peas and Barley, quite an average. Root crops are good, with the exception of potatoes, which, in some places, are affected by rot.

PLATTSVILLE.—Fall wheat rather below an average crop, with a probable yield of 18 bushels per acre. Spring wheat is a very poor crop. Barley, oats and peas, are very good indeed. Root crops promise better than for some years past. Flax is very little sown, but looks well.

DRUMBO.—Fall wheat will be an average crop and will probably yield 18 bushels per acre. A large breadth of oats, peas and barley was sown, which will give a large yield. A large quantity of flax sown, which is an excellent crop. Hay: a heavy crop. Root crops will be light.

PARIS, C. W.—Fall wheat has suffered from rust and the midge, and the yield will be under an average. Spring wheat will yield poorly. Barley is largely cultivated and will yield well. Root crops, generally speaking, are poor.

BRANTFORD.—The crops in this district are generally good. Fall and spring wheat will yield 20 bushels per acre. Oats and barley are good, and will yield well. Root crops are generally good.

CALEDONIA.—Fall wheat will average 25 bushels per acre. Spring do., about 16. Peas and barley will average 30 and 35 bushels, per acre, respectively. Root crops, below an average yield.

CANFIELD.—Fall wheat, spring do., barley and oats are only one third of an average crop. An inferior system of farming has been the principal cause. The only root crop grown here is the potato, which promises well. These remarks apply only to this township. In the adjoining districts, they have not had better crops for twenty years.

DUNVILLE.—Fall wheat, in some places, will reach 40 bushels per acre, and, generally, will average 25 Spring wheat is a very inferior crop. Barley, oats, peas and buckwheat, all excellent crops. Root crops promise fairly.

PORT ERIE.—"Midge proof" fall wheat is very good, and will yield 25 bushels per acre. Spring, very little sown, and a very poor crop. Other crops, in consequence of the severe drought, proved almost a total failure.

WESTERN DIVISION.

DETROIT,—It is estimated that the wheat yield will be an average. Corn is a heavy crop. Oats, barley, and roots will exceed any former year.

UTICA.—Fall wheat above an average. Coarse grain and root crops could not be better.

MT. CLEMENS.—Fall and spring wheat will probably yield 25 and 20 bushels respectively. Good crops of roots and coarse grains.

SMITH'S CREEK.—All kinds of crops are good.

PORT HURON.—Little grain is grown here, but what there is has turned out well. Other crops are excellent.

SARNIA.—Grain crops are all good and will yield well, probably six times that of last year. Root crops are excellent.

CAMLACHIE.—Very fair crops of fall and spring wheat. Oats, barley and rye are splendid crops. Potatoes, good; turnips, deficient.

PARK HILL.—Wheat very good, as are also oats and peas. Root crops are excellent.

AILSA CRAIG.—The staple produce, spring wheat is a full average crop. Turnips and potatoes are good.

LUCAN.—Crops are above the average of the last three years. Twenty thousand bushels of wheat expected to be shipped at this point.

LONDON.—Fall wheat, spring do., barley, oats, and root crops are above an average.

ST. MARY'S.—Fall wheat, fair crop; spring do., a fine crop. Coarse grains will yield magnificently Root crops are an average. Flax, a very satisfactory crop.

STRATFORD.—Fall wheat, 20 bushels per acre; spring do., 23; peas, pretty fair, roots, abundant.

SHAKESPEARE.—Fall wheat, scarcely an average; spring do., above an average. Peas, oats, and barley, are very good. Root crops are very light.

BADEN.—Fall wheat below an average; spring do., barley, oats and peas, are all fine, both as to quantity and quality. About 800 acres of flax in this vicinity, which has turned out a fine crop.

PETERSBURG.—Fall and spring wheat will yield very moderately. Oats, barley, rye, peas and root crops, about an average.

DOON.—Fall wheat below an average. Corn is good. Oats, barley and peas, will be above an average. Root crops, very good. Flax, very fair.

BERLIN.—Fall wheat, owing to the midge, will only be two-thirds of an average crop. Other grains promise well. Flax is much sown and will yield splendidly.

BRESLAU.—Wheat, a fair average crop; root crops, good; very little flax grown this year.

GUELPH.—Fall wheat will be under an average; spring do., is expected to yield fairly. Peas and oats will turn out well. Root crops generally have a good appearance.

ROCKWOOD.—Fall wheat will be only half a crop; spring do., an average crop. Coarse grains will yield about 40 bushels per acre. Root crop promises well.

ACTON WEST.—Fall wheat, half a crop; spring do., average. Barley, oats, and peas, fully an average; root crops, do.

LIMEHOUSE.—Fall wheat, crop very poor; spring wheat, do. Peas and oats are good, as is also the root crop.

GEORGETOWN.—Crops are all good, except fall wheat, which has suffered from the midge. Flax has turned out well.

NORVAL,—Fall wheat, old varieties almost a total failure; "midge proof" is an average crop. Oats, peas, and barley are an average crop. Flax largely grown, and has yielded well.

BRAMPTON, MALTON, AND WESTON.—Same as Norval.

CARLTON.—Neither fall nor spring wheat is an average crop. Coarse grains are very good; root crops promise well.

TORONTO.—Not much fall wheat sown. The average yield may be placed at 25 to 30 bushels per acre. Peas and oats are splendid crops. A few farmers have tried flax with success.

CENTRAL DIVISION.

SCARBORO'.—The crops are all above an average. Roots look well, but there are indications of rot in the potatoes.

PORT UNION.—Fall and spring wheat an average. Barley, oats, rye, and root crops will yield a good return.

FRENCHMAN'S BAY.—All kinds of crops will be over an average.

DUFFIN'S CREEK.—All crops in this section are excellent.

WHITBY.—A large breadth of fall wheat was sown, and the yield will probably be 20 bushels per acre. Barley is the best crop ever known. Root crops are generally good.

OSHAWA.—Wheat crops, good and abundant. Barley, peas and oats, good Root crops, very moderate.

BOWMANVILLE.—The crops of all kinds were never better. Farmers are quite satisfied.

NEWCASTLE.—Fall and spring wheat below an average. Corn and roots about an average.

NEWTONVILLE.—Fall wheat about 25 bushels per acre. Spring do., 18. Barley, peas and oats, will yield abundantly. Root crops, about an average.

PORT HOPE.—Wheat, a large yield and good sample. The harvest, altogether, is more abundant than for some years past.

COBOURG.—Good crops of fall and spring wheat. Coarse grains have turned out well. Root crops, good.

GRAFTON.—Fall and spring wheat, a good average Barley and oats, very fair. Root crops, good. Flax, a medium crop.

BRIGHTON.—Large crops of fall and spring wheat Coarse grains also good. Root crops, excellent.

BELLEVILLE.—Fall wheat, 25 bushels per acre Spring do., 15. Barley, 25. Rye, 20. Oats, 30. Peas 15. Potatoes and turnips, good.

SHANNONVILLE.—Fall and spring wheat will average about 25 to 30 and 20 25 bushels per acre, respectively. Coarse grains will average 30 bushels per acre.

TYENDINAGA.—Fall wheat, good. Spring do., not quite so good. Coarse grains are very good. Root crops, do.

NAPANEE.—Fall and spring wheat crops are moderate. Rye and barley, very good. Root crops a complete failure.

KINGSTON.—Fall wheat, a great crop. Spring do., an average crop. Barley, oats and peas are extremely good. Root crops, very fair.

LANSDOWNE.—Wheat crops are good. Barley, oats, peas and rye, are excellent crops. Every prospect of a good root crop.

MALLORYTOWN.—The cereal crops are generally good. Root crops have suffered from drouth.

LYN.—Fall wheat, none, spring do., less than heretofore. Hay, double that of last year. Rye, oats and barley, good. Root crops are poor. The decrease in the wheat crop is owing to the weevil.

BROCKVILLE.—Crops generally very good, Fall wheat, not much grown; spring do., short and thin on the ground.

PRESCOTT.—Fall wheat, an excellent crop, both as regards quantity and quality. Spring, a good average crop. Barley, oats, hay and root crops, fair average crops.

EDWARDSBURG.—Crops all very good, and more than an average yield expected.

MATILDA.—Fall wheat, double of last year of fine quality. Spring wheat, little sown, but has yielded well. Barley, oats, peas, corn, rye and flax, good crops. Root crops, light.

WILLIAMSBURG.—Crops are all in excellent condition. A large quantity of fall and spring wheat sown, which will yield 35 to 40 bushels per acre.

AULTSVILLE.—Wheat, corn, peas and oats, are a good crop. Barley and roots, rather poor.

DICKENSON'S LANDING.—Fall wheat, not much grown, what there is is an average crop. Other cereal crops promise extremely well. Root crops are very little cultivated.

LANCASTER.—Crops good, and farmers are well pleased.

VAUDREUIL.—No fall or spring wheat sown. Other cereal and root crops are very good.

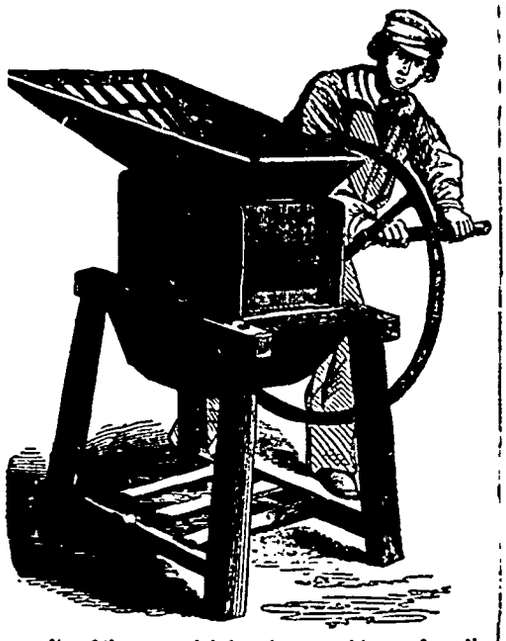
ST ANN'S—Fall wheat, none grown. Spring do., good, and an average crop. Barley and peas, very fair crops. Oats are partially damaged by rust. Root crops, below an average.

MONTREAL.—Not much wheat sown, but this year's crop is above an average. Coarse grains are a magnificent crop; root crops, do. The apple crop is likely to be a heavy one.

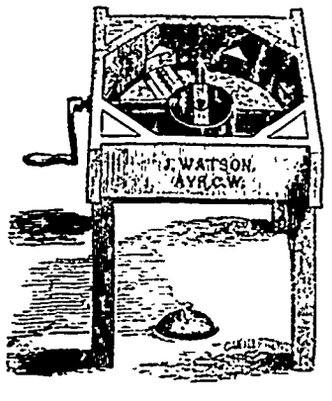
The Breeder and Grazier.

Implements for Cattle Feeding.

Most of our readers are aware that the treatment of cattle with respect to winter food and shelter has long been, and still is, a topic of much conflict of opinion among practical stock farmers. The thoughtful farmer is perplexed amid the contrarieties which exist in the directions of the most eminent authorities on the subject. Not only so, he is surprised at the



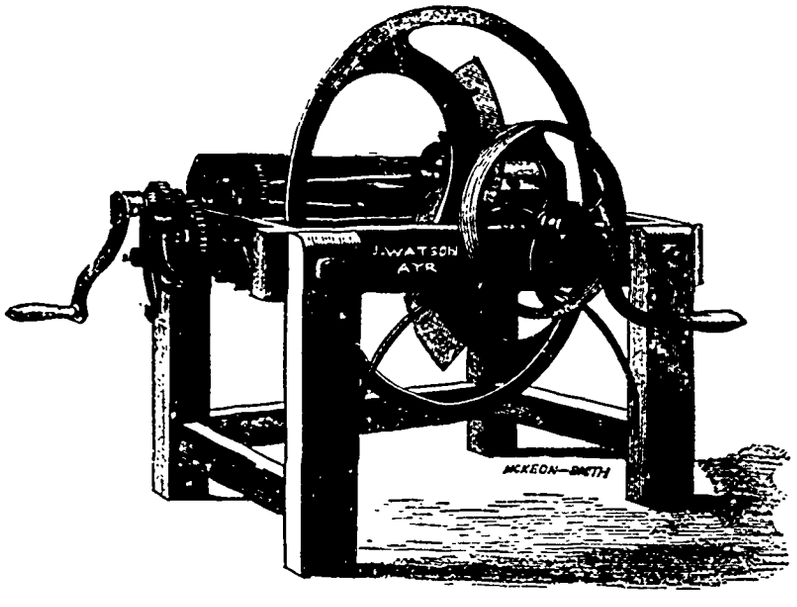
paucity of the material bearing on this confessedly important branch of farm practice to be found in the publications of great modern agricultural authors. The cause of much of this uncertainty has been the almost total neglect of the great objects of winter feeding. These, we take to be—the maturity of the cattle in the shortest time, with the least outlay for food and labour, and with the largest quantities of flesh and manure. The important uses of the turnip are now generally admitted and understood. At this day it is as much identified with the diet of the farm-yard as with the improved methods of tillage, and a judi-



cious rotation of crops. This being so, it is not unnatural that we should expect a somewhat uniform expression of opinion as to the best method of feeding it.

It is not our present object to attempt any solution of the difficulty. We merely throw out the hint for the consideration of our reflecting readers, with a half-matured intention of returning to the subject on a future occasion. Our immediate purpose is to indicate some useful auxiliaries, in the shape of easily procured and not over expensive implements, to assist our farmers in the preparation of their cattle food. It is almost unnecessary to premise that cleanliness, a due degree of warmth, abundance of litter, pure air and precaution against disease, are requirements as essential as an adequate supply of wholesome nutritive food. This consideration will be obvious, and therefore need not be further insisted on. Besides these ordinary precautions it is highly important that farm stock should be fed at regular times and in a fixed routine. Where several animals are housed together, a uniform process of fodderling, by always commencing with the same animal, should be adopted. By this means the cattle adjoining will be spared much fretting and uneasiness, and will soon learn to wait patiently for the regular time, and for their appointed turn. It is not easy to over-estimate the importance of a methodic course of procedure. Our readers, however, will more readily realize the advantages of the system for themselves, by personal observation, than by any lengthened explanation of its benefits in the present article.

It is generally admitted that in feeding turnips it is advisable to alternate them with crushed linseed or grain, mixed with a certain proportion of cut straw or chaff. For cattle intended to be fattened off, turnips ought to be cut into convenient slices, and into much smaller pieces for calves. Several machines have been devised for effecting this double onject. Probably that invented by Mr. Gardner, of Banbury, England, and made in this country by Mr. J. Watson, of Ayr, is about the best. Our first illustration shows this useful implement. The cylinder, on whose axle the fly-wheel is placed, contains arranged upon it, in the "step by step" method, a knife or cutter, or rather a series of knives, which cut the turnip into finger-shaped pieces suitable for calves. By simply reversing the motion of the cylinder, another knife edge comes into operation by which the turnips are sliced larger for cattle. Our next cut represents another "double action root-cutter," known on this continent as "Cant's Patent." This implement is manufactured "under an agreement with the patentee" by Mr. J. Watson, of Ayr. It is only half the price of Gardner's machine, and was awarded the first prize at the Provincial Exhibition at Hamilton last year, while the first mentioned implement was placed in the second position. With all due deference to the judges who officiated on the occasion, however, we beg to record our decided opinion that, for the farmer who looks for strength, thoroughness and durability in a machine, Gardner's is the implement he should purchase.



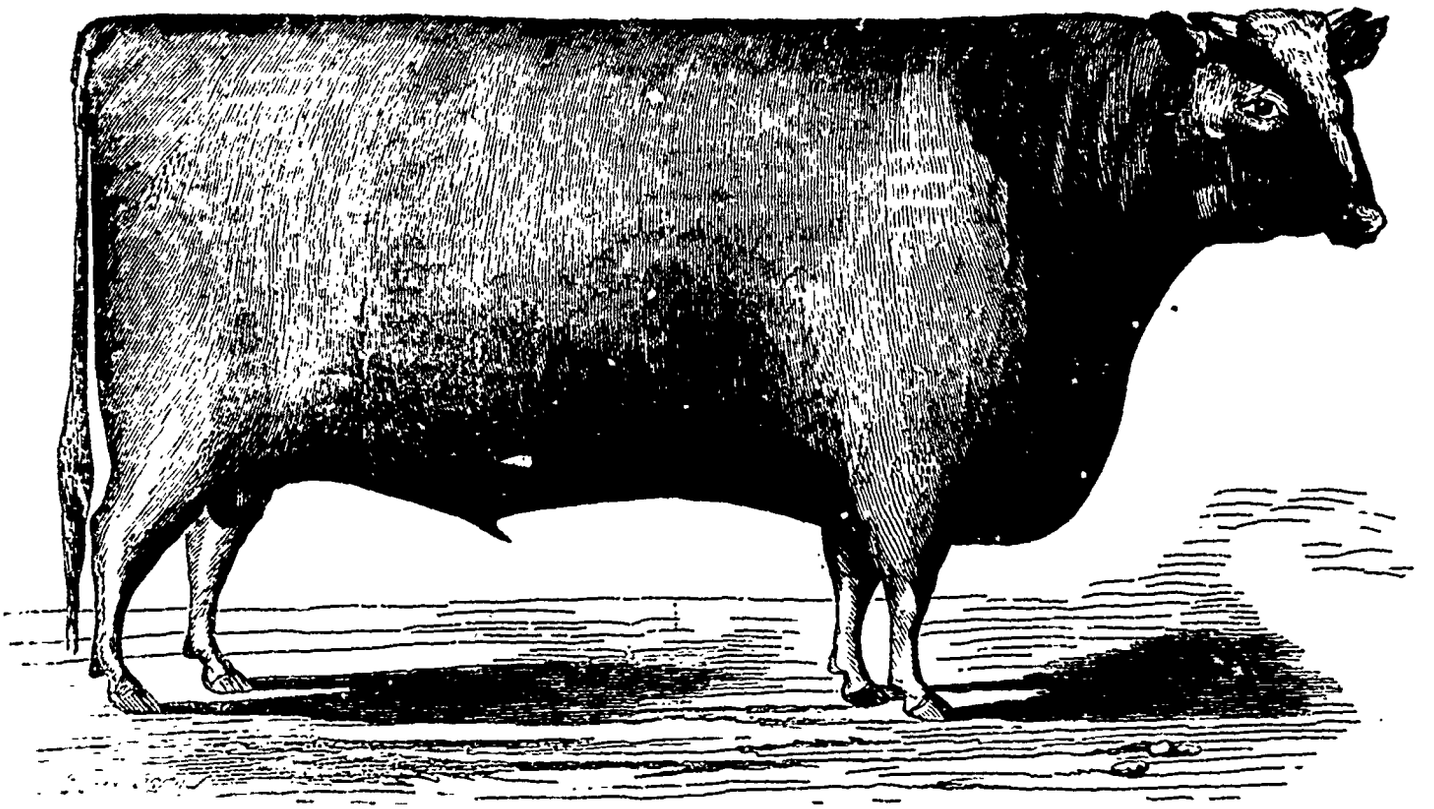
In our last illustration is shown an "Improved Power Straw-cutter" also manufactured by Mr. Watson. Straw and chaff-cutting machines are useful and economical as food preparers because they facilitate the mixture of the material so cut, with the crushed linseed or grain, and thus prevent the animal from choosing and wasting its food. The machine before us appears strong and substantial, well built throughout, and, is said by the proprietor to be "capable of cutting one ton per hour into lengths of ¾, ½, and ¼ inch as may be desired, by changing the gear wheels." The large balance wheel makes it work easily, and two handles accompany each machine so that if necessary, it can be used as a hand power.

A Cow Producing Four Calves at one Time.—A circumstance occurred in this neighbourhood some little time ago, which, I believe, is almost unparalleled in the history of the bovine tribe, and which you may think worthy of record in your columns. Mr. Holloway, of Thain's Farm, in the parish of Montcombe (Dorset), has in his possession a roan, or red-and-white spotted cow, seven years old, which, on the 23d day of May last, produced at one birth four perfect calves. The calves were not in any way joined to each other by ligament or inter growth of limb; neither was there, in either of them, the slightest external appearance of deformity or monstrosity of any kind, but, on the contrary, each little animal was perfectly shaped, had the proper number of limbs, and presented in every way a natural and symmetrical appearance. There was a remarkable coincidence with respect to the colour and sex of the calves; for while one was of deep red colour and a male, the other three were pure milk white and females. Although born alive the whole batch died soon after birth. A photograph has been taken of the cow and her remarkable family, and is now exhibited in a shop window in this town, and, if likely to be of any interest, I could procure and forward to your office a copy of the picture. I ought, perhaps, to add that this cow on two previous occasions produced twins, so that she has been, during the last three seasons the prolific mother of eight calves.—*J. S. in London Field.*

Choked Cattle.—D. Hyzer states in the *Rural New-Yorker* that he has found that pouring half a pint of melted lard down the animal's throat, relieves it immediately, and without failure. Good managers by the use of slicing machines, &c., will scarcely ever need such remedies; but sometimes, through the carelessness of hired men, such accidents will occur. We give the above remedy for what it is worth, commending it for trial.

Oxen.—In a good working ox we want to see the following qualities: Let him have large nostrils, a long face, a bright hazel eye, which will indicate docility and intelligence, a hoof rather long and not turned outward very much, a straight back, a broad breast, wide gambrel, small tail, and horns of medium size. When you find such an ox as that, he will be a good worker.—*Exchange.*

PRIZE SHORT-HORN BULL, "THE BRILLIANT LAMP."



THE splendid roan year-old Bull,—"THE BRILLIANT LAMP," shown in the accompanying illustration, is the property of James Anderson, Esq., of Grace Dieu, County of Waterford, Ireland. This animal was exhibited at the Royal Dublin Society's Show, held in the Spring of this year, and carried off from ninety-eight competitors the First-Prize of his section, and the Ganby Challenge Cup. "The Brilliant Lamp" is by "Bright Lamp," (19.356), by "Lamp of Lothian", dam "Octavia the Second" by "Soubadar," (18.901, gd. "Octavia" by "Drishane," (14.414.)

Entomology.

Insects on the Gooseberry and Currant.

FROM the following extract, which we take from the columns of the *Scottish Farmer*, it seems that the application of helibore to destroy these insects, as recommended recently by various writers, is not altogether an advisable proceeding:

"Growers of gooseberries and currants would do well, as soon as the buds break into leaf, to go over their bushes early in the morning, when the dew is on them, with a flour-dredger charged with flour of sulphur; also repeat the process about the end of June. This with me has always been a certain preventive. A boy will go over 200 bushes before breakfast, and the expense would be about ninepence for two pounds of flour of sulphur.—JOSEPH BURGESS, *in Midland Florists' Guide for April.*" This is another, and we should think rather a good addition to the numerous recipes for preventing the ravages of the gooseberry caterpillar, sulphur being one of the most effective appliances for the destruction of insect life, and at the same time one of the least injurious to vegetable health. And we would specially recommend trial of it, in course of this and next month, to gooseberry bushes in districts infested with that intolerable nuisance, *the gooseberry bug.* A respected old lady, who was famous for the excellence of her home-made ginger-beer, once assured us that she had found, from long experience, nothing was such an effectual caterpillar destroyer as that beverage, which she sprinkled over the bushes from the rose of a small watering pan. To such a harmless application, made at any time, there can be no objection; but we decidedly protest against all poisonous applications, such as helibore—now so extensively used—especially when or after the young berries have become fit for tarts or other purposes, as small quantities might adhere to their skins, especially to those of the rough or hairy sorts, and result in very unpleasant if not dangerous consequences, not only to gooseberry eaters, but to the partakers of jams, jellies, wines, tarts, &c., made from them either when green or ripe. Sulphur does not rank among these poisonous applications, nor does it affect the flavour of the fruit, but it should only be applied in the younger stages, as what lady or gentleman would go a-gooseberry-picking at the risk of having their clothes sulphur scented?—*Country Gentleman.*

THE DIET OF WORMS.—Many persons are not aware of the fact, that the earthworm really does live upon earth. It is sometimes stated in popular works on zoology that the worm picks out portions of leaves, grass, &c., and devours them; but this is quite a mistake—the earthworm lives upon earth. It must not be supposed that it assimilates the mineral constituents of the soil; its gastric and biliary secretions dissolve the decomposing animal and vegetable matters which are invariably contained in rich soil, and it is these which are assimilated. The earthworm could not live upon earth that had been burnt and deprived of its organic constituents. In a similar way the arenicola, or lug-worm, which lives in the sands exposed by the action of the tide, gorges itself with that substance, and extracts the matters which it contains fit for nutriment. More frequently, however, the "lug" lives in the rich clays of creeks and saltings, which abound in animal and vegetable matters. It is worthy of observation, that a very large quantity of earth or sand, as the case may be has to be gorged before any appreciable amount of nutriment is extracted; at the same time swallowing of earth is an assistance to the worm as it burrows in the ground, inasmuch as large quantities of material are thereby removed from its path and ejected behind. The appearance of those curious little masses of digested earth on the surface is thus caused, by means of which the earthworm effects such wonderful changes on the surface of the ground, turning up the earth, burying the stones, and producing a fresh and fertile soil where formerly was a barren waste.—*Hardwicke's Science Gossip.*

BIRDS AND INSECTS.—A correspondent who has been considering the effect that birds have upon keeping down insects, writes to the *Field* expressing his belief that their influence is much less than is generally supposed. He says:—"Of my own personal observation I know only three birds that seem to abstain entirely from insect food—the goldfinch, linnet, and red-poll. I have never noticed the sparrow take anything but winged insects, abstaining altogether from caterpillars and larvæ. Now, there are many insects which birds do not devour at all—take, for instance, the wasp—and yet they appear and disappear in certain seasons in a manner which I have never heard satisfactorily explained. We generally look for them in dry, hot seasons, and last year they came in great numbers; and this spring, from the numbers of queen wasps, the gardeners were in despair, anticipating the destruction of their fruit; but although the weather has been seemingly most propitious, they have entirely disappeared. I have not seen a wasp for several weeks, and this before the heavy thunderstorms of last week, which we might suppose would have destroyed them. Again, the gooseberry caterpillars, which two or three years go stripped all our gooseberry bushes of their leaves, have also vanished. Although they appeared to be so loathsome to the taste of birds that I could never persuade any of my birds to touch them—even the ducks, the foulest feeders, rejected them—yet, as I said before, they have disappeared. I remember, many years ago, when travelling in Australia, to have met with a plague of grasshoppers, which came in such incredible numbers as almost to darken the air. They devoured every green thing in their way. During their flight, which lasted for two hours in the morning, and the same time in the evening, it was difficult to get our horses to face the storm, and those feeding in the bush would turn their backs to them just as we see horses turn in a violent thunderstorm. They were accompanied by great flights of birds, which, of course, devoured great numbers; all the domestic poultry fattened on them; even the pigs and dogs ate them, but seemed to have no effect upon their numbers; and as the grasshoppers were laying each day in millions to deposit their eggs in the ground, the inhabitants became seriously alarmed. However, the grasshopers vanished as mysteriously as they came, and the following year they were not more than usually numerous."

The Dairy.

Philadelphia Butter.

THE superior quality of the above, to the general average found in other cities and places of resort, is a very common observation of travellers. Its excellence has indeed become proverbial, and there may be several reasons given.

1st. The character of the pastures in the dairy districts around Philadelphia comprises a *mixture* of grasses. We find among these, varying of course, somewhat with the locality, Kentucky blue grass, (Poa pratensis), greatly valued by our best dairymen, red clover, white clover, herds grass, timothy, sweet scented vernal and rye grass. The mixed character of this pasturage is probably of some importance. Where the pasture is *chiefly* red clover, it is a common remark here that the butter is apt to be strong.

2nd. Our dairy farmers are very particular to take out of their herd every cow whose cream, partaking of an oily character, does not separate freely from the milk and harden readily. We once owned a cow of this character, and had to churn every cow's milk separately before we could find which she was. The cream was what is called *ropy*, and would never harden into anything but *oily* butter. It spoiled the butter of 20 cows, when mixed with it.

3rd. When milk is allowed to stand too long, as, for instance, in a spring house, below the proper temperature, it becomes mouldy, which of course hurts the quality of butter. This is obviated by keeping on hand a pan of *sour* or thickened milk, a table-spoonful or two of which is mixed with every pan of fresh milk, when it is first put in the spring house. This *hastens* the decomposition or souring of the milk, which it is believed here is indispensable to secure the whole quantity of cream from each pan. The rule is generally for pans to stand for three milkings before the cream is skimmed off and put into the cream pot.

4th. The care of the *cream* is considered important. It is put in a tin vessel, about 15 inches deep, by 10 or 12 in diameter. A hole is made below the level brick or plank floor of the spring house, in which the cream pot is plunged up to its rim in water. This keeps down the temperature, and prevents fermentation. Very particular care is used to stir it well round once or twice daily.

5th. Churning not less than once a week contributes to make prime butter. Most of our best dairymen churn twice in the week through the summer.

6th. The cream being in proper order, the *churning and working* of the butter follows. If butter gathers soft in the churn, no subsequent working or manipulation will make good butter out of it. It is essential that the butter "come hard," and this is insured by throwing in a lump of ice, and working it around a few times in the churn with the butter, &c., when it first begins to break.

It is then transferred to the butter table, and all the water and buttermilk worked out of it in a very few minutes, no matter how large the quantity, by one of our patent butter workers. A sponge enclosed within a soft muslin cloth is used at the same time, and when the process is through, it would be difficult to discover a single trace of either water or buttermilk.

The salt is applied at this first working, and thoroughly incorporated, by the fluted rollers of the worker. The use of any water at all in working is *generally* avoided by our best dairymen.

The late D. B. Hinman, President of the Chester County Agricultural Society, often replied to visitors from a distance, who said they could not make such good butter as he gave them, "that they were too ambitious. You try," says he, "to save both the *butter* and the *buttermilk*. I am content with the pure butter, and allow the other to drain off."

7th. Entire cleanliness in and around the spring house, is scrupulously observed. The milk pans, buckets, strainers, &c., are daily scalded and exposed to the sun, and all noxious odours, which milk and cream absorb so quickly and readily, carefully avoided. An old lady on a dairy farm once told us that she fully excused her son for giving her a sudden and violent blow on the mouth. Thoughtlessly she had gone into his spring house, smoking her pipe. A sudden blow, and stamping under his foot dashed away pipe, tobacco, and smoke. One minute more would have done the business, and damaged the quality of his whole churning. He had been obtaining an extra price for a choice article of butter, sold always in advance, and took the only method to save his reputation, as he thought.

8th. After working, and printing into half pound and pound lumps, each separate piece is rapped up in a clean white rag, often with the owner's name on it, packed in the tub among ice, and brought into market as fresh and hard as it leaves the spring.

Butter made in the above way is now selling (6th mo. 1st,) at 50 cents per pound in Philadelphia market, and has brought for many weeks the past winter 75 to 85 cents per pound. Such butter is one of the luxuries.—*Phil. Rural Advertiser.*

Don't Run the Cows.

Now, boys, we have a word to say to you. When we were of your age we always had to drive the cows to pasture, and go and bring them, too. Sometimes we got a little late, or were anxious to get off to play, or a cow found a bit of good, sweet grass, better than she had found all day in the pasture, and would stop to take a bite and fall behind the rest. That was provoking, and we were apt to give her a pretty severe lesson. In fact, we were guilty of hurrying up on many occasions. It was all wrong, but we little knew how much injury we were inflicting on ourselves, as well as on the cows.

Now it is perfectly well known that overdriving causes the milk to be heated and feverish, especially in hot weather, and this milk is not a healthful article of food, either as milk or when made into butter or cheese. Cows that are abused, kicked, or roughly treated, cannot give good milk, and no process of manufacture can make it into so good an article of diet as milk that is not injured by such treatment.

Never let the dogs chase the cows. A worriment of this kind not only lessens the quantity, but injures the quality of milk, and it should be carefully avoided. Dogs are generally a curse among a herd of cattle, and particularly so among milch cows, unless they are trained to drive and tend them, as few of our dogs are.—*Mass. Ploughman.*

☞ GLYCERINE is the best article for curing cracks in cow's teats. Apply it twice a day after milking.

LOOK OUT FOR THE LACTOMETER.—At the Trenton, N.Y., Cheese Factory, this little instrument told a tale which excited suspicions against the fair dealing of two "patrons" of the association, and detectives were set to watch, when both parties were seen to add water by the pailful. The matter created quite a stir, but was hushed up so far as private claims are concerned by the payment of $50 each, and an agreement that one-eighth should be deducted from all the milk they had delivered this season. Verily the way of the transgressor is hard.—*Country Gentleman.*

A GOOD COW.—Mr. Joseph Brown, of Delavan, Wis., writes to the *Rural New Yorker* thus of a rare specimen of the bovine race:—"I have a cow that gave 1,496½ lbs. milk during the month of June last, from which my wife made 66 lbs. of butter. Said cow was 13 years old last spring—received no feed during the time, except what she got from a good pasture—has always been kept in good condition and milked regularly. Each milking was weighed during said month; the most she gave at any one milking was 28 lbs., the least 19½ lbs. The June after said cow was 7 years old she gave 1,334 lbs. milk from which was made 62 lbs. 7 oz. butter. She is said to be one-fourth Durham."

TRAINING CATTLE TO JUMP.—A Western farmer says he makes it a rule that whenever cattle are made to pass a fence, whether through bars or "slip-gap," to leave one rail for them to pass under. This gives them a downward tendency, and lessens their inclination to jump or look upwards, as they are sure to do when a lazy attendant throws down a part of the rails, and makes them vault the rest. Cattle may be learned to go over any fence, by the careful training they often get for this end, and performed as follows: First starve them, or give them poor feed, which will make them light and restless. As soon as they go over the lowest part of the fence after better provender, make them jump back again, and put on one more rail, saying, "I guess that will keep 'em out." Next day, (as of course they will be in mischief again,) repeat the process, adding another rail; in a short time they will take care of themselves, and harvest the crops without charge.—*Tucker's Rural Affairs.*

Veterinary Department.

Puerperal or Milk Fever.

THIS disease consists in a partly febrile and partly inflammatory state of the system, accompanying the formation of milk, and always occurring more or less after calving. In some instances the fever becomes very great, and inflammation of the peritoneum sets in. When this takes place it is called parturient peritonitis. The symptoms are tolerably well marked, and are rapid in their course, frequently gaining their full intensity in six or eight hours. The animal has an unsteady, reeling gait,—the pulse is high, beating from eighty to ninety per minute,—the muzzle hot and dry,—the respiration also very much increased,—the gait becoming still more unsteady, and in a short time the animal falls down. When lying she is very restless, and perhaps makes ineffectual attempts to rise. She moans continually, and stretching out her neck looks around at her flanks, as it were pointing to the seat of the disease. In most all cases there is obstinate constipation of the bowels. In fact all the secretions are stopped, and the urine is retained within the bladder. If these symptoms gradually increase, death soon supervenes.

This disease occurs in cows of all ages, and may follow any kind of parturition. However, it generally arises from bad usage immediately preceeding or during parturition. It generally shows itself about the third or fourth day after calving. A *post mortem* examination reveals the whole peritoneal surface of both the intestines and the uterus, covered with a dirty granular lymph. If the disease has lasted for a few days there is an effusion of fluid into the abdomen; while the substance of the nerves going to the abdomen are thickened and darkened in their character. The veins in the neighbourhood of the uterus, will be found to contain either broken down lymph or pus. The lungs and liver are found often conjested. In the treatment of parturient peritonitis, as the bowels are constipated, a smart dose of purgative medicine, such as epsom salts, must be administered:—one or two pounds combined with two drachms of calomel, and eight to ten drops of croton oil. Give also every two hours, from thirty to forty drops of tincture of aconite, until five or six doses are given. If the abdominal pains continue, a pound of castor oil may be given, combined with two ounces of laudanum. Apply cloths wrung out of hot water to both the loins and abdomen. The teats should be drawn regularly and frequently; and the patient encouraged to take as much liquid as possible.

In other cases the brain is congested, and is called parturient apoplexy. It is also very rapid in its course, and more fatal than peritonitis. It differs from the latter in being active congestion of the brain, accompanied by inflammation of the spinal cord. It is most likely to attack cows that are good milkers and in high condition, and generally occurs about three days after calving. The first symptom observed is a deficiency in the quantity of milk, and the yield gradually diminishing at each milking, the urine is suppressed and the bowels costive, the eyes begin to get dull, the pulse quickened, and as in peritonitis, the cow has a staggering gait, lies down and is unable to rise; the breathing becomes stertorous, a state of coma sets in, and the eyes become of a dull opaque leaden colour. This disease requires energetic treatment. In the early stage, bloodletting is useful, which should be followed by a very large dose of purgative medicine combined with a diffusable stimulant repeated at intervals. Clysters should be administered often, as if the bowels can be freely moved the cow may be considered safe. After an animal becomes comatose it is useless administering medicines. This disease may be prevented to a great extent. If a cow is in very high condition she should be fed sparingly some days before calving, and also allowed exercise and plenty of water. As a sequel of parturient fever, paralysis sometimes occurs to such an extent that the cow is unable to rise, in other cases she partly looses the power of her hind quarters. Paralysis may continue for weeks and even months and still perfect recovery may take place. When it becomes somewhat chronic, the powdered nux vomica given in doses of two to three drachms twice a day has been found of much value in ensuring and expediting recovery.

The Apiary.

Queens and Queen Cells by the Wholesale.

I am tempted to relate an occurrence of to-day, thinking it may interest your bee-keeping readers. On the 4th inst. we removed an Italian queen from a full colony and shipped her to a customer, giving the stock a young fertile queen on the 7th inst. Being very much hurried we neglected to make a final examination, but supposed the young queen was accepted. This morning the colony threw a large swarm. On opening the hive the peculiar "piping" of an imprisoned queen was plainly heard, and an investigation resulted in the capture of *ten* beautiful young Italians, all of whom had their full colour and were able to fly; but after cutting, the cap of their cells had been resealed by the bees, and fed through an opening in the lid, as so correctly described by Huber. The colony having started queen cells as soon as their queen was removed, had refused the young queen given them on the 7th, and an enumeration of the cells showed that they had finished *twenty-five*, one of which contained an immature drone swimming in "royal jelly." (This attempting to convert drone eggs into queens is, by the way, a common occurrence.) Several had been opened and their inmates murdered; others had hatched, and two we cut out and placed in a box, leaving one in the hive. Our next onslaught was on the swarm which had clustered on a small tree. We hived it, getting *five* more young queens which had accompanied it, and on returning to the queen cells which we had cut out, found one hatched and the other just hatching, thus securing *seventeen* young queens and a queen cell for the old hive! I think this a pretty good haul from "a buckwheat swarm." Although I know of no buckwheat nearer than a mile and a half from our apiary, we are having swarms from our Italians almost daily, and they are rolling in the honey famously.

The amateurs who have examined the Italian bees closely, have noticed in every hive many workers whose yellow bands were of the most brilliant hue, while their abdomens were of a jet black—rivalling Day and Martin's blacking. We have had numerous inquiries in regard to this, some thinking that these fellows were the *pure* bees, and that the presence of others was a mark of impurity in the queen producing them. This is what might be called *a posteriori* reasoning. The fact is that there are *old* bees whose bodies have been worn smooth by hard labour, and any one doubting has only to catch a worker, and with a wet finger rub its back gently for a few moments to polish him up to the African type.

We have just received some queens direct from the district in Italy, where, according to the last German Bee-Keepers' Convention, these bees are found in their highest purity, and expect to be able by their possession to solve some questions yet in dispute by apiarians.—James T. Langstroth, *in Country Gentleman.*

Among the Honey-Makers.

The August number of the *Atlantic Monthly*, has an interesting article on Bees, by Miss H. E. Prescott, from which we make the following extracts:

A NEW QUEEN.

"The queen is dead: It is lamentable, but nothing is so easy as to make another. There is only to tear down some dozen cells, to set the youngest embryo afloat in the royal jelly, and a queen appears, who if not in the legitimate line, is capable of performing perfectly all the office of a sovereign. There is a moment of intense despair, great riot and agitation; work is suspended; the temperature of the hive mounts many degrees. All at once the old art is remembered—the administration of that delicious medicament, of so astonishingly affluent nature that it can make a queen out of a commoner, the enlargement of the narrower cradle to that ampler space which forbids the atrophy of a single fibre of the body. The preparations are made, and with tranquility restored the people await the event. One day there comes a single piping sound—it is the cry of the royal babe—the hive is filled with rejoicing—there is no longer any interregnum of the purple—the queen is born! Perhaps the queen-makers have been too much in earnest, and at nearly the same moment the inmates of two royal cells issue together. Then is the time to try one's mettle—no shrinking, no bias, nothing but pure patriotism. Let a ring be formed, and she who proves herself victor is worthy of homage. Is one of the two a coward? The impartial circle bring her back to the encounter, bite her, tease her, tumble her, worry her, tell her plainly that life is possible to her on no terms but those of conquest. At length the matter decides itself; the brilliant and victorious Amazon bends her long, slender body, and with her royal poignard . erces the abject pretender through and through. Then these satisfied subjects surround her, load her with endearments, cleanse her, brush her, lick her, offer her honey on the ends of their proboscides, and if there are yet remaining other royal apartments whose tenants give notice of timely appearance, they conduct her on an Elizabethean progress, in which, filled with instinctive dismay, she pauses at every cell, and stabs her young rival to death with her sting. As the story runs there are still other conditions to be fulfilled by the aspiring princess—she must give her people the assurance of a populous empire. Should she fail in this, they have recourse to their old manœuvres, becoming manifestly insubordinate and unruly. If, however, they at any time wax unbearable in their insolence, the young monarch has it in her power, by assuming a singular attitude, standing erect at a little distance her wings crossed upon her back and slightly fluttering, while she utters a shrill, slender sound, to strike them dumb, so that they hang their heads for shame."

It is quite distressing, after reading this pretty story, to be told that "the later apiarists deem it a tissue of fiction and fallacy. If, when a hive is deprived of its queen, there happen to be a royal egg remaining in it, they say, it will shortly produce a queen, as, if it had been a common egg, it would have produced a common bee. They insist that the organism of the creature to be produced is inherent in the egg, and do not believe it in the power of a bee to alter a law of nature; they deny the statements of Schirach, Huber, Dunbar, Rennie, and others to this effect, and scout the idea of the existence of such a thing as royal jelly at all, with the supposed aristocracy of its compounders." Another story is told which proves the sagacity of the bee. In the latter part of last century there appeared in Europe a strange, big, ugly insect, called the *Sphinx Atropos*, which invaded the bee-hives and destroyed the honey. The attention of the apiarist Huber was directed to the matter:

A PROBLEM SOLVED.

"Huber took counsel with himself for some means of protecting his bees from this daring robber. Should he make gratings? Should he make doors? And how? That was his doubt. The best imagined closure possible had the inconvenience of hindering the great movement of exit and entrance always going on at the sill of the hive. Their impatience rendered these barriers, in which they would entangle themselves and break their wings, intolerable to the bees.

"One morning, the faithful servant who aided him in all his experiments, informed him that the bees had already solved the problem for themselves. They had in various hives conceived and carried out divers systems of defence and fortification. Here they had constructed a waxen wall, with narrow windows, through which the huge enemy could not pass; and there, by a more ingenious invention, without stirring anything, they had placed at their gates intersecting arcades or little partitions, one behind another, but alternating, so that opposite the empty spaces between these of the first row stood the partitions of the second row. Thus were contrived numerous openings for the impatient crowd of bees, who could go out and come in as usual, and without any other obstacle than the slight one of going a little zigzag; but limits, absolute obstructions, for the great, clumsy enemy, who could not enter with his unfolded wings, nor even insinuate himself without bruises between the narrow corridors.

"This was the *coup d'etat* of the lower order the revolution of insects, executed by the bees, not only against those that robbed them, but against those that denied their intelligence. The theorists who refuse that to them, the Malebranches and the Buffons, must consider themselves conquered."

Sheep Husbandry.

Wool Shrinkage—Michigan Test.

We present to our readers herewith the result of the test concerning the shrinkage of wool, afforded by the Farmers' Mechanics' and Stock Breeders' Association, of Jonesville, in the cleansing of ten Merino fleeces sheared at the sheep-shearing of the association in May last. In this test it may be safely said that the best fine-wools of the State were represented, as Hillsdale and the adjoining counties are ranked among the very best sheep districts in the West, and the sheep-shearing in question brought out what were supposed to be the very best specimens of the very best flocks in the section. The entries were made in competition for premiums offered for the "best cleansed fleeces," and from the facts in the case it is evident that the exhibitors acted in good faith, and that no fleeces were entered which in the opinion of the owner did not stand a fair chance of obtaining a premium, the owners not being aware, up to the time of this test, of the enormous shrinkage of fine wool in the operation of cleansing. Hence, the result of this test may be regarded as a fair exhibit of the average shrinkage of first-class Michigan fine wool. The association is entitled to the thanks of all interested in wool-growing for thus settling an interesting and highly important question by this practical test.

In presenting the table, as furnished us by the Secretary, Hon. W. J. Baxter, we will only premise that the fleeces were cleansed under the superintendence of Mr. L. D. Green, of the Jonesville Woollen Factory, who was chairman of the committee, the cleansing being carefully done in the usual manner of preparing wool for cloths, and that we believe the figures may be relied upon as correct:

No of entry.	Fleece of ewe or buck.	Wt of fleece uncleansed. lbs. oz.	Wt. of fleece cleansed. lbs. oz.	Loss in cleansing. lbs. oz.	Loss per cent. in clean's'g
A	ewe	10 8	3 12½	6 14½	63.3
B	ewe	12 0	4 10½	7 6½	61.1
C	ewe	11 8	4 12½	6 11½	63.4
D	buck.	14 8	5 10½	8 13½	62.9
E	buck.	14 8	5 15½	8 8½	63.8
F	buck.	15 0	6 1½	8 14½	59.3
G	buck.	11 0	4 3½	6 12½	61.6
H	buck.	9 8	3 14½	5 9½	58.8
I	buck.	16 0	4 6½	11 10½	72.8
J	buck.	9 8	3 12½	5 11½	60.1

It is interesting to compare this table with that prepared by the committee of the New York Fair. Our Western wool-growers will learn with pleasure that the average per cent. of shrinkage is *less*, while the average weight of the scoured fleeces is greater, in the case of the Michigan fleeces, compared with the Merino fleeces cleansed in New York. It is but fair to state that none of the Western fleeces had so small a per cent. of shrinkage as the New York prize ewe, and that one of the fleeces cleansed at Jonesville showed a greater shrinkage than any one of the New York fleeces. For convenience we place these facts in a tabular form, viz:

	Michigan	New York.
Least per cent. of shrinkage	58 4	52
Greatest per cent. of shrinkage	72 8	71 4
Average	61.5	62.7
Average weight uncleansed fleeces	12.40 lbs	12.63lbs
Average weight cleansed fleeces	4.70 lbs.	4.61lbs

The Michigan fleeces have one and two-tenths per cent. in the shrinkage and nine-hundredths of a pound in the weight of the fleeces in their favour. Our Western wool-growers may well be proud of this result.

The public will understand that the names of owners of the fleeces in the Jonesville test are withheld out of deference to their feelings. The fleeces were "brag" fleeces from "brag" sheep, and the shrinkage was so much greater than was expected that the owners felt a disappointment which it would be ungenerous to aggravate by a public exposure.—*Western Rural.*

Note by Ed. C. F.—We give the above report in full as we recently gave that respecting the Canandagua trial, believing that these documents are most encouraging to our sheep-breeders. The *Rural New Yorker* says that according to the conditions of the Michigan competition, "*a respectable Cotswold, or a grade sheep, if admitted to the trial, would have won the prize.*"

Correspondence

Market for Summer Fattened Hogs.

To the Editor of THE CANADA FARMER:

SIR,—Since my arrival from England, per "*Persia*," I have read in THE CANADA FARMER, of the 15th inst., a letter purporting to be written by "a Farmer," in which he is inclined to reflect upon the truthfulness of encouraging statements emanating from Hamilton curers to the hog breeders; and asking "what a farmer is to do with his 100 fat pigs in the middle of summer, &c." To every man who has, or is likely to have a stock of fat hogs, I have a most satisfactory reply. Let them be brought to the Ontario Pork House, Hamilton, and I undertake to give 7*c. per lb. gross*, for any number up to 3,000 a week, until the 30th September next, and no seller shall be turned away through any want of capacity or inclination on my part. If your correspondent is in reality "a farmer," I ask him, will that promise fulfil every encouragement the Hamilton curers have ever held out? I unhesitatingly state that since the Ontario Pork House has been in operation (excepting during the rebuilding after the destruction by fire) no owner of 100 fat hogs, or any smaller or larger number ever had to seek in vain for a buyer at a fair market price, either summer or winter. In conclusion, I reiterate the Hamilton curers' assertion that the average price of hogs in summer is higher than in winter, and each summer to come we are sure to see the difference in favour of summer prices increased. The cause is most apparent to the trade. The large consuming population of England is more dependent on foreign supplies, during the period between the exhaustion of Irish and English home-made stocks, and the appearance of the new cure (in November), because the means of curing is not at their command during summer months, except on a most limited scale, owing to the costliness and scarcity of ice in those countries. J. T. DAVIES.

Pork House, Hamilton and Liverpool.

P.S.—Having had the above submitted to me, I endorse every promise and argument put forth, and I hold myself prepared to carry out the offers.

SAMUEL NASH.

CHEESE FACTORY WANTED.—"Paul H." writes from North Fredericksburgh as follows:—"I have read so much in your paper about cheese factories, that I have concluded to request some one of your readers, and at the same time a moneyed man, to come down and start a cheese factory here in the vicinity of Napanee. I think one is much needed, and would be well patronized."

CURE FOR HYDROPHOBIA.—"Thos. May," of Beauport, Quebec, communicates the following:—"In your last number of THE CANADA FARMER, I read the death of John Cowling from hydrophobia, also an article on "Rabies or Canine Madness." I lately received from England, a copy of the *Bromley Record*, containing the following receipt for the cure of hydrophobia:"

"Having seen in your paper an account of the death of a poor boy at Greenwich from hydrophobia I am induced to inform you of a preparation, which, if taken in time after a person has been bitten, will prevent this dreadful malady; though it will not cure it when the patient has got into a rabid state. It has been in the possession of a family in the neighbourhood for upwards of 100 years, until it came into the hands of one member who was much reduced and I, with some neighbours, was induced to try it, not with the view of profit, but to make so remedy known for the good of the public generally. The following is the receipt:—"Take dried herbs—of bear's foot wood betony, woodsage, agrimony, box, and rue, each 2 oz., with a small piece of nightshade. Cut these small and put them into a gallon of rain water, and boil all together in an iron vessel until reduced to a quart. When the liquid has boiled some time add one ounce of antimony, and an ounce of filed pewter. Half a pint to be taken three mornings fasting for an adult, and a smaller quantity in proportion to the age by younger persons. The same quantity to be again taken at the next full of the moon. The patient to abstain from any spirituous liquors, and be very careful not to heat the blood by violent exercise."

REMEDY FOR SMUT IN WHEAT.—"Agricola," of Wyoming, sends the following:—"There has been some complaint, in this Western section, this season of smut in wheat, a thing of which we have not had reason to complain for many years past. In the early times of our settlement, we were sometimes annoyed with it, but found in the following a cheap and effectual remedy. We give it the more cheerfully, as we can recommend it with full confidence:—Take common lye sufficiently strong to bear an egg or a potato; when all is ready for sowing, put the wheat into the lye for a few seconds; take it out and let it drain for a few minutes; roll in dry ashes, and sow without delay. Though there is not much danger, care must be taken not to let the wheat remain *too long* in the lye, or keep it any length of time before sowing, as its vital qualities would thereby be destroyed."

The Canada Farmer.

TORONTO, UPPER CANADA, SEPT. 15, 1865.

The Cattle Plague in Britain.

FROM the various lengthy reports of the progress of the cattle plague which appear in the columns of our latest British exchanges, it seems that there is no mitigation in the virulence of its attacks, or in the rapidity with which it is spreading. In London the disease has made a clean sweep of many of the dairies, and in the surrounding counties its spread is alarming, while new and serious outbreaks are reported from Northumberland, Edinburgh, and the somewhat remote vale of Llangollen, in North Wales. It is naturally to be expected, in these circumstances, that the public mind in Britain should be strongly affected, and accordingly public meetings have been held in most of the agricultural districts, to consider the best means to prevent the spread of the malady. Much difference of opinion, as to the origin of the plague, exists in what may be termed the educated mind of the country. Professor Simonds and Gamgee, with a number of other eminent members of the veterinary profession, still adhere to the opinion that it is of foreign origin, and that, as a general rule, the animals in which it manifests itself should be destroyed at once. On the contrary, the importers and salesmen of foreign cattle, backed by the London *Times*, *Examiner*, *Saturday Review*, and other papers of weight and position, as stoutly maintain that "the disease is of home origin, and has been generated in the impurities of the London cow-sheds, during a summer of unprecedented heat and duration." The *Mark Lane Express* inclines to the latter view, and expresses its "disgust at the proceedings of certain professional alarmists and their efforts to make capital out of a calamity, by a system of monstrous exaggeration."

A careful perusal of the facts and speculations adduced in support of both views of the question, leads us to believe that the weight of evidence is in favour of the "foreign origin" theory. "We cannot believe," says the veterinary editor of the *North British Agriculturist*, "in the spontaneous origin of a disorder, so specific in its character. Invariably will it be found traceable to contagion. Nowhere in the history of the complaint, either in our own or in other countries, can we discover the Rinderpest breaking out, like influenza and other such epizootics, in remote parts of the country, or in spots removed from the influences of contagion. On the other hand, it notably spreads after the great Continental fairs; it extends during times of war; curiously does it travel westward, following in the wake of the droves from the steppes of South Siberia; shortly after the stranger cattle sicken, the plague affects those with which they have unfortunately herded; where the sick and the sound are carelessly permitted to herd together the malady lingers long, and the losses it occasions are extensive; on the contrary, where the first cases are noticed, immediately destroyed, or effectively separated from the healthy—where the places they have lived in are disinfected, and other sanitary means employed, the pestilence has often been promptly arrested with very insignificant losses."

The *Scottish Farmer* pursues a similar line of argument. It says:—"It should not be forgotten in the measures adopted to check the propagation of disease from infected stock in our own country, that this malady is undoubtedly a foreign importation, and that we can never be considered safe until some arrangement has been made to prevent its further introduction. It is quite true, that like all zymotic diseases, the *Rinderpest* finds the conditions most favourable to its development in an animal weakened by confinement, damp, bad air, want of exercise, improper or insufficient food, or by any condition which tends to reduce its vital powers, and that such an animal is more likely to fall a victim than one in vigorous health; yet it is as certain that no amount of these injurious influences will of themselves ensure the development of the disease in this country. With these the virus will act with redoubled energy, but without the specific virus, these are incapable of producing the *Rinderpest*."

County and district associations are being promptly formed in England and Scotland, for the purpose of mutual insurance against the losses that are or may be occasioned by the disease. The funds are either raised by a charge on the rental, varying from a penny to sixpence for every acre of land occupied, or by a contribution of from one to five shillings for every head of cattle kept. Propositions have been made in many quarters to interdict for the time being the importation of foreign cattle into Britain. This course the *North British Agriculturist* condemns for the following considerations:—"From abroad we have during the past twelve months imported nearly 200,000 head of cattle, or probably about one-fourth of our meat supplies. To cut ourselves off from such supplies would obviously enhance greatly the already high price of beef, and thus tend to lower the health of the community; and that too at a time when the approach of cholera to our shores demands that our people should be well fed, and in the highest possible state of health."

It is satisfactory to learn that increased care is being taken in the examination of all imported stock, and that amongst the thousands of animals recently brought into London, Hull, Leith, and other ports, not a single diseased animal has been discovered. Greater attention is being paid by shippers to prevent over-crowding during the voyage, and to the cleansing and disinfecting of the vessel. Railway companies, too, are exerting themselves to effect a more healthful cleanliness of their sheds and trucks; while in many provincial towns, a veterinary inspector is appointed to examine all marketed stock. "The adoption of these and other such precautionary measures" says the journal last quoted, "the wholesome dread which now everywhere obtains regarding the serious nature of the disorder, and the thorough belief which in most quarters prevails as to

its contagious character, all conspire to place farmers and other stock owners on their guard. For some time to come a very limited and carefully conducted trade in cattle will be carried on; all new purchases will for at least a fortnight be kept entirely separate from the bulk of the herd; especial care will be paid to health and cleanliness, lime and disinfectants will be freely used; all beasts will be watched with zealous care; any outbreaks of the disorder will be promptly discovered, the cases isolated, and the further spread of the disease arrested."

With regard to the nature of the disease, the same journal remarks:—"It is a blood disorder, characterised by rapidly prostrating low fever, and by typhoid inflammation, especially of the intestinal mucous surfaces. Some of our readers may perhaps have a more accurate notion regarding it if informed that it bears in its symptoms and *post mortem* appearance considerable resemblance to serious cases of the gastric or typhoid fever of man. A more intimate experience of the complaint does not unfortunately materially diminish its mortality. More than one-half of the cases of true Rinderpest die howsoever they are treated. Virulent and specific as is this complaint, its fell progress cannot be materially shortened. Like smallpox and most fevers, it runs a tolerably definite course. It is therefore irrational to suppose that the plague when it has attacked a beast can be routed out, as might be supposed from some of the statements that have been made regarding it. Our curative measures can, at best, consist in the rational supporting of the vital powers, and thus enabling the animal to outlive, as it were, the disease. Hence good nursing, and small and often repeated doses of stimulants and tonics are most to be relied on."

On the Lowering of the Surface of the Soil by Culture.

It has, perhaps, become too much the custom to consider the soil of a cultivated field as merely the medium which receives manure, which manure is by vegetation converted into a crop. That this is one main purpose served by the soil is unquestionable; and, in arable culture, large crops, or at least a continuous succession of large crops, can only be obtained by frequently adding plant-food or manure to the ground. Nevertheless it is manifest that after such treatment a succession of small crops may be taken from a field year after year, and century after century, and yet the land remain as fertile as at the commencement of the cropping. There are many pastures in the moist climate of the British Isles which have from time immemorial raised cattle, which cattle when they have come to maturity have been sold, all their bulk and structure having been derived from the herbage of the field; and yet the field remains in such a condition as to be able to afford sustenance to fresh generations of cattle, and notwithstanding that each animal carries with him pounds of phosphorous, sulphur, lime, potassa, chlorine, and other elements, every grain of which has by the intervention of vegetation been derived from the ground. But as the same field can still produce grass that contains these same elements of phosphorus, lime, potassa, &c., it is plain that it has some stock or store of them; and it is in the practical development of these latent substances that constitutes a most essential part of a successful agriculture. This store place is of course the subsoil. The subsoil contains these elements, but in such states of combination as not to be soluble in water, and therefore unsuited as food for the grass. By the gradual action of air and moisture, however, they form new combinations, and do become soluble in water, and can in consequence be taken up and assimilated by plants. That the soil forms a great part of plants, that the subsoil is gradually, either by culture or by the slower action of the roots, becoming converted into soil, are well known facts. It has not, however, been as clearly perceived that a great part of the produce of the country,—that is of soil and subsoil converted into plants and animals,—finds its way into large towns, and is not returned to the country (being deposited either in grave yards or into the streams which receive the sewers), and that therefore the surface of the country is gradually becoming lower and lower. Such must be the case, and has only escaped observation from the extreme slowness with which the process is carried on, and from the absence of any mark by which to notice this degradation of the soil. It has been observed in very level districts after a long period of cultivation with but scanty manuring, that an outfall into the natural drainage of the country, has by degrees become more difficult, in consequence of the slow depression of the surface.

Since the introduction of draining tiles, however, there has been produced a mark by which this lowering effect of culture can be determined. If tiles be placed say 20 inches from the surface, and if it be true that culture carries off so much of the soil, then it is evident that at the end of a number of years the tiles will not be so much as 20 inches from the surface. From the comparatively scant introduction of tiles, this fact has not been hitherto sufficiently apparent as to be noticed by ordinary observers, but it is nevertheless a fact.

When very shallow draining has been practiced, as was generally the case forty or fifty years ago in England, this degradation of the surface soil becomes of course more apparent, and several illustrative instances have of late been adduced. A farm that had been in possession of the same tenant, or his family, for a lease of 21 years, and the greater part of another of the same duration, was drained early in the first lease, and the tiles put, as when then the ordinary custom, less than a foot deep. Being situated near a large town, the crops, or nearly all of them, including the straw of the cereal grain, were sold off the farm. During the course of the second lease the farmer and his ploughmen were astonished at coming, by deeper culture, nearly on the tiles in the course of their ploughing. The explanation they gave of the matter was, that from some occult course the tiles had risen; but the true account of the matter is unquestionably, not that the tiles had come nearer the surface, but that the surface had gone nearer to the tiles. In other words, a portion of the soil had been converted into crops, *without having the same amount artificially added*, and these crops had been sold in the town; and the inevitable consequence was, that the surface of the soil had been lowered.

The same lowering of the surface is constantly going on in our new lands, to which no manuring substances are applied, and which, by repeated cropping and the treading of horses in the processes of cultivation, gradually become more and more consolidated. The degree of surface degradation will of course depend much on the character, chemical and mechanical, of the soil, and the course of cropping to which it is subjected. Under any view of the subject, it becomes apparent that to maintain the permanent fertility of soils, they must have restored to them artificially the inorganic elements removed by the crops; this, however, can in most cases be accomplished by opening up the subsoil, draining and deeper cultivation, to the beneficial action of air and moisture.

Death of Sir William Hooker.—This veteran leader of botanical science in Britain died at Kew on the 12th ult., in the eightieth year of his age. He was born at Norwich in 1785, and devoted himself to the study of botany from his early youth. In 1820 he was appointed Regius Professor of Botany in the University of Glasgow, an office which he most efficiently filled until he was transferred to the Directorship of the great national horticultural establishment at Kew, in 1841. "These celebrated gardens attained under his estimable management their present unrivalled position, and were made the centre through which all that could be found useful in the plant world were transferred to suitable climates for developing their properties and values, in the numerous colonial possessions of Great Britain.'

The Exhibition of the Royal Agricultural Society of Ireland.

The annual show of this society recently took place at Clonmel, in the county of Tipperary. In most respects it presented a marked improvement as compared with the Sligo meeting of last year. Clonmel is situated in a rich district where dairy farming is extensively practiced, and its commercial prosperity contracts favourably with most of the provincial towns in the southern and midland parts of Ireland. Some apprehension was felt regarding the success of the meeting, in consequence of the alarm and excitement produced in the grazing districts of Ireland, by the fatal cattle plague in Britain, and certain timid supporters of the society actually proposed to memorialize the Lord Lieutenant, for the purpose of having the show postponed till the danger should have passed. The Secretary's announcement, however, that no English or Scotch cattle were entered, put an end to the alarm, and rendered any precautionary measures unnecessary.

There were seventy-nine entries in the Short-horn class, and, without exception, the animals exhibited were highly creditable to their owners. The first prize aged bull, "White Chieftain,' we learn, is an animal of great substance, as was also "Professor Miller, the second in the same section. The display of cows and heifers was particularly good. There were few Herefords, but those shown were well bred, and had descended from the best blood in England. The show of horses was only moderate, and the repeated entry in the judges' books of "want of merit" plainly testified the opinion those gentleman had formed of the sections. The sheep classes were well filled, the English type of Leicesters prevailing. An Irish show of swine, particularly of Berkshires, is always good, and the Clonmel Royal, held in a district famous for its cure of bacon, proved no exception to the rule. The show of implements was small, and showed a great decline as compared with past years. The centre of a rich agricultural country such as Clonmel, might reasonably have expected a richer treat in this department; but, although hundreds of acres of ripe corn waved in the breeze within sight of the show grounds, no trial of reaping machines took place.

We are informed that Mr. Joseph Chisholm, of the 2nd Concession, Hamilton, has taken two crops of large globe turnips off the same land this season.

Agricultural Exhibitions.—We are requested to make the following announcements:—The show of the Garafraxa Agricultural Society will take place in the village of Douglas, on Friday, September 29th inst. The united societies of Nichol and Pilkington, will hold their annual exhibition of stock, produce, manufactures &c., in the village of Fergus on Wednesday, October 4th. The union exhibition of the East Durham and township of Hope societies, will be held at Port Hope, on the 4th and 5th days of October, instead of the 3rd and 4th as previously announced.

Importation of Pure Leicester Rams.—A correspondent in Waterloo complains of degeneracy in Canadian samples of this breed of sheep, and proposes what he considers "one of the grandest schemes" for importing from time to time some of the finest specimens of the breed from Britain. He would have a Provincial Society formed for the purpose, and two persons deputed every three or four years to purchase the choicest animals, which are, on arrival, to be distributed among the various counties in the Province according to a system to be adopted for the purpose. We do not think the Leicesters are so open to the charge of degeneracy as our correspondent imagines, and in our view their importation may safely be left to private enterprise, as is the case with other breeds of sheep.

Agricultural Intelligence.

[FOR THE CANADA FARMER]

Notes from Lower Canada.

FRANKLIN, Huntingdon Co., C. E., September 5th, 1865.

APPLES.

NOTWITHSTANDING the severity of our winter climate, the thermometer falling occasionally to 40 degrees below zero, apples can be raised, and raised successfully, and, with those who go into apple-growing intelligently, and on an extensive scale, constitute a very large item in the total of annual profits from the farm. I was somewhat amused to see in a back number of THE CANADA FARMER, among some speculations on the suitability of various kinds of apples for culture in Canada, the idea thrown out that, on account of the severity of the climate in this section of the country, we would have to seek in the Siberian crab and its seedlings a race of apples sufficiently hardy. The writer was misled by the fact that, in the adjoining County of Chateauguay apples do not thrive. But their failure there—and even in this county, along a belt of country not half a dozen miles from where I am writing—is due, not at all to the severity of the climate, but to the nature of the soil, which is a heavy clay, with a cold, wet subsoil. Whether it is possible, by proper methods of cultivation, to make apples grow there or not, I am not prepared to say; but, through this higher tract of country, we have an excellent soil for the purpose, and find the climate sufficiently favourable for a very large number of the most approved and favourite varieties. Good profits can be realized even from the native ungrafted trees, taken indiscriminately from local nurseries, in which they are raised from the seed. The French people from the Counties of Chateauguay, Napierville, and where they grow no apples to speak of, come round with carts in the fall and pay for them in the orchard 25 or 30 cents a bushel. At this rate, in an ordinary good fruit year, they are much more profitable than potatoes, as such trees get very little care, and the ground they occupy is generally made to yield crops of hay, grain or roots, in addition.

The grafted varieties also are being gradually introduced, and yield well with good culture, and even tolerably with very careless culture. Any one who fancies that a temperature at times of 40 degrees below zero should doom us to growing only the Siberian crab and its seedlings, would be radically cured of any such notion by visiting the carefully-tended orchard of Mr. James Stewart, at Rockburn, in the adjoining Township of Hinchinbrooke. Mr. Stewart is well advanced in years, and, having sons to take care of his mill, has latterly made skilled fruit-growing his particular hobby, to which his circumstances enable him to devote a large portion of his time. He tells me that he has not found any of the varieties of the apple embraced in the catalogue of Mr Bailey, of Plattsburg, as suitable for northern New York, too tender for this part of Canada. I found the Siberian crab trees pretty numerous in his orchard—placed there, however, not for their own fruit, but as stocks for the grafted fruit, which, when grafted on the Siberian crab, he finds to be hardier, and to bear better than on the common stocks. Among the apples cultivated successfully by Mr. Stewart are the Fameuse, the Twenty-ounce apple, the Red Astrachan, the Bailey Sweet, Sops of Wine, which he finds a most vigorous grower, soon taking nearly the whole tree to itself, and yielding a pleasant fruit, ready for use in August and September; the Lady Finger, the fruit of which grows almost too large, being liable to be knocked down by wind; and the Blue Pearmain, liable to the same objection as the Lady Finger. He has not tried the "Northern Spy," having learned that it is a "shy bearer"—a serious objection in the eyes of an old man when selecting trees to set out. The Fameuse is his favourite. It is a good bearer, and yields fruit exceedingly grateful to the palate, and good for eating from the time it is gathered, and enduring winter as late as the month of March. The St. Lawrence, King of Tompkins County, Bourassa, and many other standard varieties, are also grown successfully.

Some six or seven years ago Mr. Stewart's orchard, and many others in this vicinity, suffered most severely from a violent hail-storm, occurring in the fall of the year. The hail was driven with such fury as to indent even the rail fences, and it smashed the bark of the trees to such an extent that some good orchards were almost totally destroyed. The bark is apt to suffer from the south-west sun, whose rays, of course, fall upon the tree during the portion of the day when the heat is most scorching. To protect his orchard against this danger, Mr. Stewart has all his young trees, and some of the older ones, sheltered by a strip or a complete envelope of bass-wood bark, which acts, he says, not only as a preventative of injury to healthy trees, but as a cure for those which have suffered the injury. He showed me one of those which had been roughly dealt with in the storm to which I have referred, and, although the tree had been injured almost to the core, the sheltering bark had not only stopped the spread of the canker, but had caused the growth of new and healthy wood about the wound, and the tree this season has as healthy and productive a top as almost any other in the orchard.

The effects of the hail-storm were a severe damper on the exertions of those who had previously been the most success-ful fruit-growers in the district, and for some years not much was done in the way of putting new trees in the place of the old shattered ones. But, within the last two or three years, the interest in fruit-growing has revived, and there is now almost a mania for planting apple trees. Some plant out native trees from their own nurseries or those of their neighbours. Others have been putting in root grafted trees from the Montreal nurseries; and a considerable number have been planting trees from Rochester nurseries, whose agents during the last two seasons, have been doing a thriving business in supplying orders obtained in this neighbourhood. In the spring of last year a few dwarfs of pears, plums and apples, were among the supply from Rochester, and during this spring a much larger supply of these dwarfs, from the same quarter have been obtained and set out. I doubt very much, however, whether trees from Rochester, standards or dwarfs, will succeed, when transferred here from a warmer climate. In my own orchard I have only a few survivors of a considerable number (all standards) obtained from Rochester some dozen years ago, and a neighbour (who tends his trees very carefully) was showing me the other day the last one which remains of five and twenty from the same source, which he set out at the same time. Good trees from the Montreal nurseries are more likely to thrive, if they get proper treatment.

Some of those who set out orchards in this neighbourhood have rather singular ideas as to the most profitable mode of going to work. Assuming that apple trees thrive best in hard, stony ground, they select as the site for their orchard an acre or two of the stoniest portion of their farm, through which no plough could pass. Holes three feet in diameter and a foot and a half, or perhaps two feet deep, are dug with crowbar and pickaxe. Of the stuff brought up, a half or three-fourths consist of stones, and the remainder of earth. The earth is mixed with enough manure to supply the place of the stones, which are left outside, except a sufficient number of them to steady the tree and pack down its roots, and the tree thus planted is expected to thrive. The argument is, that before its roots require to stretch away in search of nutriment beyond the prepared hole, they will have acquired sufficient strength from the heavy dose of manure to enable them to push their way among the surrounding stones. Apple trees planted thus live and bear crops for a number of years. But I have yet to be convinced that it will pay to set out orchards in this fashion to anything like the same extent as planting them in good soil, well prepared and afterwards kept in proper cultivation.

The profits of apple-growing, if conducted with tolerable care, are so great that it is surprising the orchard should generally bear so insignificant a proportion to the size of the farm. One of my nearest neighbours has obtained in one year as many as 800 bushels from an orchard of 150 trees, covering, perhaps, a couple of acres. These, sold at even 25 cents a bushel, would have yielded $200, equal to the value of the product of 15 acres of wheat, while the fruit, acre for acre, did not require a tithe of the labour and expense necessary for the production of the grain. But I have no doubt that a higher sum than I have mentioned was realized, as some of the trees were grafts, and good grafted fruit will bring at the nearest market town as much as eighty cents a bushel. On the next farm, previous to the storm I have spoken of, there was an orchard of some 500 bearing trees. The storm worked great havoc amongst them, but vigorous young trees are now growing up to take the place of those that were then killed.

AGRICOLA

The English Crops of 1865.

A RECENT issue of the *Agricultural Gazette* gives in a tabulated form reports of the harvest of 1865 from correspondents. In an editorial it is stated: "The returns from our correspondents as to the character of the crops now being harvested, give but a sorry account of the corn fields of 1865. Excepting the autumn-sown clay lands, all grain crops are this year much below their average productiveness.

Wheats on the lighter soils and loams are generally inferior. Barley on the lighter and thinner barley soils is much below an average, and, though probably the best crop of the year, it, too, as a whole, is inferior. Oats, excepting the few instances where winter sown, are the poorest crop we have had for many years. Beans and peas are generally below their usual yield."

The following is a tabular statement of the returns:

NUMBER OF RETURNS.

Crops.	Under Average.	Average.	Over Average.	Total.
Wheat	76	90	29	195
Barley	40	112	28	180
Oats	154	27	2	183
Beans	64	58	4	126
Peas	37	67	6	110

The exceptions to the general failure are in the case of clay-land wheats, and notably in that of wheat on the poorer clays, which is almost everywhere unusually good. The barley on the better class of barley soils is also a fair crop wherever early sown. Peas are a good crop in some districts. The root crop is a great improvement over all southern and midland England over that of last year. Mangolds are generally good, and Swedes and other turnips are tolerably promising. In the north and all over Yorkshire and Northumberland they are, however, being destroyed by the grub. In the dairy districts there has been generally a good crop of grass, and the hay has been well made. All over the eastern and southern counties the hay crop has been unusually short.

FLAX.—J. W. Langs, Esq., of Windham, brought a load of flax into town on Thursday last. It was the first load, we believe, that has ever been taken to market in the County of Norfolk. The load weighed about a ton and a half. *Simcoe Reformer.*

PROFITABLE SHEEP.—The *Kingston Journal* states Mr D. W. Dubois of Libertyville, Ulster Co., has 27 ewes, from which he raised this season 40 lambs. He sold the lambs for $201. From the ewes he sheared 114½ pounds of wool, which sold for $65.41, making a total of $269.41.

COTSWOLDS FOR THE UNITED STATES.—The *Weekly Ohio Farmer* of the 26th ult. contains the following:—"Mr. William Squires of Copopa, Lorain county, has just returned from Canada West, where he has been examining the flocks of Cotswolds and Leicesters. While there he purchased of Mr. F. W. Stone, of Guelph, a Cotswold ram and three Cotswold ewes, all yearlings. The ram weighs near three hundred pounds."

FLAX.—We are informed that Mr. A. McKinnon, of the 8th line Esquesing, sowed this spring three and a half bushels of flax, and has made by the sale of the flax and seed $61. This is surely as profitable as wheat growing. We have also been shown a fine specimen of hops grown on his farm, as he has grown a large quantity this season. We understand that hop growing is on the increase in Esquesing.—*Milton Champion.*

CRADLING EXTRAORDINARY.—We learn from the Hastings *Chronicle* that Mr Archibald McLellan, of Caradoc, lately undertook, for a wager, to cradle eight acres of spring wheat between sunrise and sunset. The trial came off on the 9th ult., on a field of wheat containing 8¼ acres. Mr. McLellan commenced the work at 5 o'clock A.M., and at 18 minutes to 5 o'clock P.M. the last stroke of the cradle levelled the last portion of the wheat, and thus finished the field—the whole time occupied in performing the herculean task being eleven hours and forty-two minutes.

THE UNITED STATES WHEAT CROP OF 1865.—Mr. Newton, of the Agricultural Department reports a deficit of over twenty-six million bushels of wheat in the crop of the present as compared with last year's, namely:—

	Bushels.
Crop of 1864	160,695,822
Estimated crop for 1865	134,454,125
Decrease	26,241,698

The loss is as follows:

New England and Middle States	657,383
Maryland and Delaware	1,719,571
Western and N. W. States	23,864,741
Total	26,241,698

All other crops, particularly corn and potatoes are most promising, except tobacco, of which considerably less has been planted. The oat crop is very large, and the hay crop in the West has been much injured by wet weather, but is still abundant.—*Weekly Ohio Farmer.*

NICHOL AND PILKINGTON AGRICULTURAL SOCIETIES.—We learn from the *British Constitution* that "the Directors of these Societies met in Hamilton's Hotel, Elora, on Friday last, 11th instant, for the purpose of uniting the resources of the two Societies in order to hold a joint show—to arrange the prizes, appoint Committees, &c., for said show.

"Alexander Watt, Esq., was appointed to the chair. It was resolved that persons joining the Society after the 1st of June last, shall, if they obtain a prize at the show, return the sum of 50c. out of their prize money to the Secretary as an equivalent.

"The prize list was then considered and revised, some alterations from last year's being made. A few of the rules were also changed. In regard to thorough bred cattle it was resolved that they date their age from show to show and grade cattle from the 1st January previous to the Show. Calves must have their age marked upon the ticket. The bill as amended was adopted, and 100 copies ordered to be printed. It was then resolved to hold the Union Show at Fergus on Wednesday, 4th October next."

In appointing of Judges of Produce, a slight discussion arose as to the propriety of having the grain weighed. Some objected on the plea that large grain and dark in colour might take the premium if weighed, while another sample, not so large, but much fairer in colour would not get a prize, and thought the matter of weighing should be left to the discretion of the Judges. We observed during the whole of the proceedings that harmony and good feeling prevailed between the sister-societies. The prize list this year speaks well, and as soon as the Managing Committee reports to the Secretary where the dinner shall be held, the bills will be issued."

The Household.

Tanning Small Skins.

EDS. RURAL NEW-YORKER:—Seeing an inquiry how to tan small furs, I will give you my plan. If green, sprinkle the flesh side with saltpetre and alum, (ground fine,) then fold the flesh sides together, roll it up, tie it, and lay it away one or two days. Then unfold and rub with paper or something, as dry as possible, and lay them out to dry. Work and pull them when most dry, so they will dry soft. Dry skins may be treated in the same way, by first soaking till soft, and wringing out as dry as possible. I can make such leather as the sample I send you from sheepskin, by the following process, which is also good for furs and small skins:—First, trim the skins of all useless parts; second, soak till perfectly soft, and flesh them well; third, wash thoroughly in suds of soap and sal-soda to free from grease, and rinse in clean water to free from soap and soda, then rub them as dry as possible; fourth, dissolve two ounces of salt in about a quart of water, and add three quarts of sweet milk (or four quarts of bran water), and one ounce best sulphuric acid; fifth, put in the skins and stir briskly, forty or fifty minutes, and take them dripping from this and put them in a strong solution of sal-soda, and stir as long as it foams. Rub them from this as dry as possible, and hang in a cool place to dry; work them when nearly dry, and they will dry soft. Lime and ashes will take off fur, hair or wool, and sour milk will take on: the lime and ashes. The black fur was tanned by the first process (with saltpetre and alum). M. BAKER.

Perry Center, N. Y., Dec. 10, 1864.

REMARKS.—The samples of tanned skin accompanying this letter are very finely prepared. The sheepskin is very strong, white, and soft. Our correspondent has our thanks for his communication; and, judging by enquiries received, many of our readers will feel obliged.—*Rural New Yorker.*

Personal Neatness.

SOME may say that it is quite out of the question for farmer's wives and daughters, who have so many duties to perform, to always look tidy. Some do say so, and I have often heard them; but such declarations do not, in my opinion, militate against the general principle. A wife or daughter *can* be personally neat, no matter what duty she may be employed at. Those who allow themselves to appear negligently dressed on the plea that they have something to do—cooking, washing, scrubbing, whitewashing, &c.,—are pretty sure to be habitually untidy. A torn, faded, soiled, bad-fitting gown, with a sun-bonnet in keeping, worn in the house or out of it, slipshod shoes, &c., no appearance of a white collar; hair squashed upon the head, and plenty straying about the neck—do not give the husband, if he possesses any idea of cleanliness himself, a very elevated idea of his wife's attractions; nor will the daughters, who may be equally delinquent, impress the young men of the neighborhood very favorably.

I am a wife and a housekeeper, and have been a daily worker for twenty-five years in my household, but I have never seen the day when I could not take time to attend to my personal appearance. System and a *desire* to be always cleanly, will not only afford the necessary time, but will make the labour one of the highest pleasure. My husband never has had, nor never shall have, occasion to twit me or the girls in relation to a matter which every woman's pride and self-respect ought to provide against.

Will not then my sister housekeepers give this question of domestic propriety and respectability their serious consideration? They should remember that it not only concerns themselves, but especially their daughters, and in no small degree their sons also. The bible tells us that "cleanliness is next to godliness," and I believe in the bible.—MARTHA, *in Germantown Telegraph.*

How Sweetmeats are Made.

WE extract the following from a very interesting article on this subject, in a recent number of *Once a Week*:—"What an atmosphere of dust meets us as we enter the manufactory! The shop we are in is powdered from rafter to floor with a fine impalpable powder, that reminds us of the interior of a flour mill, and the workmen are moving ghosts, even the fringes of their eyelashes are whitened to their tips, just as the hoar frost whitens every tiny filament it can lay hold of. The dust is that of fine starch, the substance used as a matrix for a certain class of cast sugar goods. We are in that part of the factory now where those "sweets" are made which are demi-opaque—like snow-water frozen. The sugar is not boiled to a great heat, but is allowed gently to simmer on the fire, whilst the moulds in which it is to be cast are being prepared. This is done by spreading the fine starch over boards, quite evenly, and then inverting another board over it, studded with the forms it is intended to cast. The man we are looking at is about to make annulets, or sugar rings, and as he lifts the inverted board from the smooth starch, we see that it is covered with moulds of these indented rings placed at regular intervals, and as close together as they can go. Another workman now approaches with a tin receptacle filled with sugar, fitted with six spouts. With great skill and knack he pours out the sugar, and fills ring after ring indented in the starch, as fast as his arm can conveniently travel from left to right. Not a drop is spilt, the sugar standing in each ring with a slightly curved surface, just as a drop of water would do that had fallen upon dust. These starch moulds are used for all those sweetmeats which contain fluid or liquor in the interior. The liquor is mixed with the melted sugar indiscriminately, and both enter the mould together, but, curiously enough, the latter instantly crystallizes on the outside of the former, and thus, by a natural law, the liquid flavouring-essence becomes imprisoned. It was thought very foolish of George III. to ask how the apples got into the dumplings, but we have little doubt that the manner in which these liquors get inside the sugar plums has puzzled many a head wiser than his. The casting of these liquor sweets employs a large number of persons, and the most extraordinary moulds are obliged to be invented to meet the requirements of the trade. Balmoral boots, Tyrolese hats, scissors, knives, fish, and all kind of things, animate and inanimate, are thus produced, the only limit to the design being the size and weight of each article."

CORN PANCAKES.—Boil eight or ten ears of corn—pass a sharp knife down each row, and with the back of the knife or a spoon scrape off all the corn, but be particular to leave the hull on the cob. One gill new milk, two teaspoonfuls salt, two eggs well beaten, and as much flour as will make a batter as thick as griddle-cakes. Then add the corn. Have the lard boiling hot, and drop a tablespoonful at a time. When brown, serve hot for dinner.—*Ex.*

TO PRESERVE TOMATOES.—Prof. Mapes says:—"If tomatoes are slightly scalded and skinned, and put into bottles, and those set in boiling water for a few minutes, and corked and sealed, the fruit will keep as long as desired, and if eaten when first opened will have the same taste as when just picked from the vines." Probably a better way is to peel the tomatoes and boil slightly so as to expel the air, then put in heated bottles and cork at once. All depends on the exclusion of the air. The more perfectly this is done the longer fruit may be preserved.

TO STEW PEARS.—To every pound of pears when pealed put half a pound of loaf sugar. Put the fruit into a stew-pan, and cover it with cold water, and shut the lid quite close. Stew the fruit gently till tender, and then add a few lumps of sugar. After stewing the pears two or three hours, put in the cloves—twenty cloves to six or eight pounds of fruit and the peal of two lemons. Keep adding the sugar by degrees. If the syrup is much wasted add a little more hot water. They require stewing about two hours, very gently. When they are nearly done, add the juice of both lemons—it will add to their flavour and brighten the syrup.—*Rural New Yorker.*

WATER-PROOF BOOT SOLES.—If hot tar is applied to boot soles, it will make them waterproof. Let it be as hot as the leather will bear without injuring it, applying it with a swab, and drying it in by the fire. The operation may be repeated two or three times during the winter, if necessary. It makes the surface of the leather quite hard, so that it wears longer, as well as keeps out the water. Oil or grease softens the sole, and does not do much in keeping the water out. It is a good plan to provide boots for winter during summer, and prepare the soles by tarring, as they will then become, before they are wanted to wear, almost as firm as horn, and will wear twice as long as those unprepared.

A PREPARATION FOR PRESERVING LEATHER.—We translate from the *Gerber Courier* a receipt for a preparation which is said to insure great durability to leather, and to make it very pliable and soft. It consists of four articles, tallow, soap, rosin and water. These ingredients are prepared as follows: Twenty-one parts of tallow are melted in a vessel, three parts of rosin added, and the two when melted mixed well together. In another vessel seven parts of good washing soap are dissolved in seventy parts of pure rain water. After it is dissolved and the mass heated to the boiling point, we add the part prepared before, let it boil once more gently, and the preparation is ready for use. It is especially adapted to boots, harness leather and belting.—*Shoe and Leather Reporter.*

SORE EYES.—Almost every person, during some period of his life, has been annoyed more or less with inflamed, diseased, or weak eyes. Many of them are made worse by the haphazard application of severe remedies. There are certain simple applications, however, which can scarcely injure, and are nearly always relieving or beneficial. Among these, simple cold water takes a prominent rank. It is, however, often applied by washing or rubbing—the friction of which sometimes overbalances the remedy. A good way to apply it, when the apparatus is at hand, is by means of a fine jet of water, driven from a pipe through a finely perforated rose, so made as not to spread the water, but to throw the jets nearly parallel. In the absence of this a good way is to place two or three thicknesses of fine linen cloth a little larger than the eye, dipped in cold water, on the closed lids. If pain is felt in the ball, the addition of a tenth or a twentieth part of laudanum is relieving. But we have found no better way of applying any liquid to the eye, than to take it in a good sized teaspoon, and hold it in a level position up against the closed lid, the bowl of the spoon very nearly fitting the outside of the eye. In this way the eye may be washed without any friction or chafing whatever. If fine dust has passed into the eye, it may be easily washed in this way, by opening and shutting the lid a few times, while within the spoon. Sometimes water containing a small portion of salt is found good for strengthening weak eyes, and this may be readily and comfortably applied to the open eye by means of the spoon just described.—*Country Gentleman.*

LADIES' DRESSES.—Ask a man and a women to tell you who is the best dressed girl at a ball, and you will hardly ever find them agreeing in their answers. Go a step further, and compare the costumes which have been selected, and you will discover almost to a certainty, that the woman has singled out the most expensive dress in the room, whereas the man has only asked himself which is the most becoming. The one has suffered herself to be so impressed by the richness of the material, the elaborateness of the embroidery, the costliness of the trimmings, that in the end she has found it simply impossible to leave these things out of the calculation. The other, happy in his ignorance, has looked only at the general effect and has probably given the preference to a young lady whose gown has no other merits than those of being scrupulously neat, becomingly cut, and perfectly well made.—*Saturday Review.*

THE MAN WHO IS IN DEBT.—Of course, it is ridiculously simple in me, but how can a man eat, drink, sleep, and be jolly under the pressure of debt? How on earth can he walk forth well-apparelled and appointed, and face the man whose unpaid-for trousers he is wearing? How dare he smile at his butcher, or his grocer, who are at that minute ten or twenty guineas a-piece poorer for his past dinners and teas? How dare he pat his children on the head when he knows that if he should die that night their future is wholly uncared for? How on earth can he enjoy any luxury, trusting only to his dodging instincts, if the day of pecuniary reckoning should suddenly come? How can he face the rascally reflection of himself in the looking-glass long enough to tie the cravat which ought to be choking him? How can he have the impudence to go among honest, upright people, and expect cordial recognition, or any recognition at all? How dare the brazen thief, in his fine clothes, look into the frank, honest face of the swarthy mechanic, who has proved himself a man by that day's hard labour? I can't see. How can he pass a station-house or a policeman without asking that summary justice may be meted out to him, rather than to the poor, friendless, ragged wretches, whom adverse circumstances seem sometimes to have so hedged about that nothing can help them? I look upon such men with a wonder that never abates.—*Fanny Fern.*

Poultry Yard.

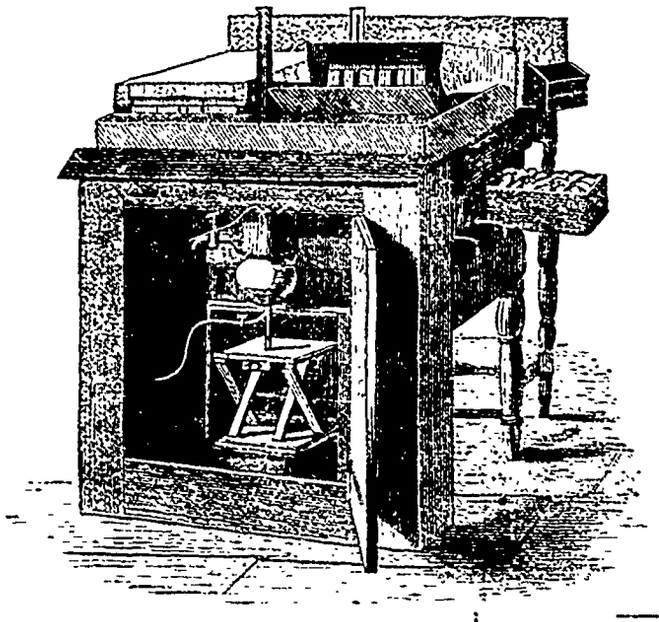
Egg Packing.

WE have received from Messrs. Morrison, Taylor & Co., of this city, the following useful directions for packing eggs. When this operation is carelessly or imperfectly performed, a considerable proportion of the eggs is sure to be smashed, and the cream of the profit, so to speak, is lost. We therefore commend the timely instructions, which we quote below, to the careful perusal of our poultry rearers:—

Pack in old, dry, sweet oats, and in flour barrels, or strong boxes. Better to pack in new barrels and charge for them, than to run the risk of breakage, by using old hoopless barrels and worn chimes. Commence by driving the hoops towards the centre of the barrel, the lower ones upward, and the upper ones downward, nailing fast to keep their places. Put in oats to the depth of 2½ inches, and let the first layer of eggs consist of 4½ dozens, or 9 hand, cover with oats, rubbing them well in with the hand, and pressing the sides of the barrel with the finger ends. Have a lid—of a cheese box or butter firkin—a little less than the interior of the barrels, press on with one foot and shake the barrel with long, heavy shakes; this done, take out the lid and put on another layer of eggs, increasing the number to the centre of the barrel, and afterwards decreasing it, follow with covering of oats and the pressing of the hand and lid as before, until the barrel is full, which when properly done, and, providing it is an ordinary flour barrel, should contain 13 layers, or between 75 and 80 dozen. Care should be taken to keep the ends of the eggs about half an inch from the barrel. When the eggs are within two inches of the chime, the usual quantity of oats should be put on, afterwards some soft straw—must be sweet—sufficient to render it a difficult matter to head the barrel. The neglect of this latter particular is the cause of three-fourths of the breakage in the package of eggs. See that the hoops are properly nailed at both ends of the barrel. Our shipments to New York of eggs packed on the above plan have carried in comparative safety; and country dealers and packers by adopting this method would be well repaid for their trouble, in the advance of one or two cents per dozen on their consignments, to this or any other market.

A New Incubator.

SEVERAL of our correspondents have addressed to us enquiries respecting the construction and mode of action of an apparatus for hatching the eggs of poultry, by means of artificial heat. Not having any practical knowledge of incubators, we have hitherto been unable to furnish our readers with any reliable information on the subject. A recent issue of the London *Field*—a very high authority—contains the following description and illustration of such a contrivance, which we gladly lay before our readers unabridged, in order that they may judge of its construction and its merits for themselves:—



"The apparatus, which is the subject of a new patent by Mr. Minasi, is a great improvement on his original invention, and appears in its present state to be as complete and as successful in its working as it is possible for any instrument of the kind to be.

"The heat necessary for the incubation and rearing of the young chickens in the earlier stages of their growth is derived from gas, or from the combustion of naphtha in a lamp so constructed as not to require attention for many days. The heat so generated warms a reservoir of water, the underside of which is corrugated in a very ingenious manner, so as to support, by the aid of wires, a series of small narrow sandbags, against which the eggs are pressed. The close contact of the whole of the eggs (whatever may be their variation of size) with the warm sand is insured by their resting on cushions of spiral springs; these are contained in drawers or sliding trays, which can be easily drawn out from under the incubator for the purpose of examination. As the eggs hatch they are removed to a part of the apparatus above the reservoir. This is most ingeniously constructed; there is a small tray for the chickens until such time as they are thoroughly dried and strong, when they are passed under a kind of artificial mother, which is peculiarly constructed in imitation of the plumage of the hen; it consists of a number of woollen wicks, each about four inches in length; these hang down loosely between the legs of low stools placed over the warm reservoir. The chickens nestle between the pendant locks of wool, which thus form an admirable imitation of the warm feathery plumage of the parent hen. Connected with this part of the apparatus is a large feeding-cage, into which the chickens run for food, water, and exercise.

"We have recently seen one of these machines in active operation, and examined and handled many of the chickens hatched by it, some of which had been reared by the machine itself and others under hens. The chickens were of all ages, and were strong, healthy, and vigorous. The same may be said of the ducks, guinea-fowls, and pheasants which had been hatched in the machine. We did not see one sickly or diseased chicken of any age in the large poultry yard attached to the establishment, and can therefore conscientiously recommend the apparatus as well adapted for hatching, where numbers of fowls or pheasants are required.

"Mr. Upham, of 5, Houghton-place, Harrington-square, N.W., the proprietor of the patent, is about to exhibit the machine in action in town; in the meantime, our readers may form an accurate idea of its general character and structure from the engraving, representing a 200-egg machine, with four drawers each capable of containing fifty hens' or seventy pheasants' eggs. In the woodcut one of the drawers is shown partly pulled out and under the nearer drawer the ingenious but simple lifts by which it is raised to the required height are shown. In front are the two artificial mothers, one of which is raised up to show the depending locks of wool, these are both covered with flannel. In front is the hatching tray, and the feeding-cage is shown at the back. The stool by which the gas or lamp is raised to the required height is seen through the open door. the chimney to carry off the products of combustion from the lamp, and the thermometer by which the temperature is regulated, require no further description."

The Cock of the Walk.

You strut about by field and brook
And think your gait and plumage show you,
And yet, for all your lofty look,
Old Cock, I know you.

With breast so sleek and eye so bright,
As if you were the pink of honour,
You're stuffed as full of wrath and suite
As Bishop Bonner.

You stripling bird, you're son and heir,
And trim as you in limb and feather
You cuff and tumble everywhere
In every weather

To-day when he had done no harm,
But stretch his throat and mock your bawling,
You ruffled your neck as big's my arm
And knocked him sprawling—

Down in a twink as straight's a rail—
Astonished into being civil—
Then up and off with head and tail
Both on a level.

But though your prowess you may boast,
And though in dreary dumps so sad he
I know not which to play most,
The son or daddy.

You'll have your day to strut the floor
Cock-sure, with pluck and voice aspirant,
But time will reckon up your score,
You hen-roost tyrant!

It is not that the market-man
May tempt me for your tricks to sell you;
It is not of the dripping pan,—
But this, I tell you:

All times and climes and books record
The Scripture truth—we can't deny it—
They that unsheathe the oppressor's sword
Shall perish by it.

Beware the days when old and lame
You drows the eye and droop the pinion,
Your royal spirit level-tame
With time's dominion.

Think you this bantam, now so green,
Will then forget these deadly grudges?
He'll give your memory, I ween,
Some savage nudges.—*Boston Cultivator.*

The New Plant, Libonia Floribunda.

LIBONIA FLORIBUNDA is a South American plant, not unlike an enlarged *Cuphea*, but with the flowers more conspicious and the habit erect. It comes from Brazil, but it is also found on the elevated plateaux of the south, so that there is good reason to hope that it may, like the cupheas, serve as a bedding-out plant in summer.

It is a charming bushy semi-shrubby plant, with a tubular corolla, bright red at the base, passing into bright yellow at the mouth. It flowers abundantly, the whole plant being covered with its bright pendent corollas. Our figure represents one of its branchlets.

M. Lescuyer, in the *Horticulteur Francais*, mentions that it had passed the winter at Paris in a greenhouse without heat, but it requires during the winter as much light and air as possible. It propogates easily by cuttings.—*Scottish Farmer.*

LIBONIA FLORIBUNDA.

Effects of Destroying Small Birds.

THE phenomena of the present season are remarkable. If we go for shade into the woods in this leafy month of June, we stop short before thickets where the stout young oaks are as bare as in January, or show only the skeletons of leaves, where caterpillars are still searching for some remnant of moist green food. If we meet the country doctor in his rounds, he says that he cannot ride in shaded roads without his hat, in the hot noon, because he finds hat and coat-collar thickly strewn with caterpillars, which have dropped upon him as he passed. In the parson's garden, the gooseberry-bushes show some withering fruit, but no foliage; and instead, a show of caterpillars actually covering every twig. In the squire's pleasure-garden the ladies are mourning over their roses, almost every petal of which is pierced, or the very heart eaten out by some grub or fly. On any grassy bank where the wayfarer would like to rest there is such a coating of white grubs that he turns away in disgust. If we go out in the moonlight, a dozen cockchafers knock against our faces in five minutes; and we foresee the profusion of fat white worms which will, in consequence, be turned up by the plough next year. The wall fruit has already received the wound which will turn to decay before the autumn, and the canker is planted in the apples and pears, which will be deformed and seamed, and hard, and without flavour at croptime. There never was a finer agricultural prospect, but for this; but the farmer dreads seeing the mangel leaves blown and corrupted by the vast families of grubs hidden in their substance, and the collars of the roots infested by big caterpillars, fattening on the sweet juices which he intended for his cows.

It is well if he knows that the rooks can help him in this last case, and that they do not want to eat the root, as he once believed, but the destroyers of the root. These melancholy sights are not, however, all that is to be seen.—They present themselves in districts where there are sparrow-clubs, and men and boys who shoot a little bird whenever they have a chance. They are seen where a zealous and patriotic rural constable, or any lounger who has nothing else to do, presses his services on the residents, to net the ivy on house or wall, to rout out the spaces under the eaves, and make a clearance of every sparrow, finch, thrush, swallow, or other winged creatures. Where the pest is not found, it is where these bird destroyers are not allowed their will. When refused civilly or otherwise, they sneer or stare, and find something to do in calling the neighbours to witness that the silly proprietors will have no green peas, nor anything that grows in juicy shoots; that the cherry-trees and the roses will be disbudded; that only the hardest green currant or two will be left on each bunch; that the gooseberries will be found sucked hollow, and a full tithe of the cherries and strawberries gone.

Such is the spring prophecy; but when summer has come—this particular summer—strangers stop to wonder at a garden here and there where all is green and bright, amidst a series of damaged orchards and kitchen gardens, and bare copses; and the paradise is sure to be the place where the birds have been let alone. It is true, the rows of peas have had to be covered for a while with thorns; and some netting of bushes has been required, and some precautions in regard to the fruit trees. It is true, also, that the small birds have helped themselves to some of the food of the poultry, and to a certain share of the fruit; but there is the difference that where the birds are banished the precautions are of little or no avail, while they have a good chance with the birds for partners. This year, for instance, some proprietors have done everything they could think of. They have syringed their plum trees with nauseous decoctions to keep off the green fly; they are sprinkling road dust thickly over their gooseberries, and are dissolving the white grubs into froth over whole banks, or plots of grass; they are employing regiments of children to pick off the caterpillars, paying them by the pint or quart, but they cannot overtake the damage, and are almost ready to give up the contest. If they can find mischief going on in a garden or field where the birds have not been meddled with, they begin to triumph, unless they are aware of the true answer. That answer is given by some lover of rural life—some observer of the ways of birds and insects—who says that a single brood of nestlings in the ivy or the hedge has been seen to devour hundreds of grubs or other insects per day, showing that if Nature were let alone, there would be millions so got rid of in a mile, (as, indeed, we know before by the French report); and if, after the insects had been left to their natural enemies, there were still too many, what might not the infliction become if they were left without check? The check ought this year to have been very strong. The swallows came early; the sparrows burst out of the hedges in crowds; the blackbirds and finches have been whistling, and piping, and chirping, as if the world were all their own. But this is only where they are allowed to live; and there are too many parishes and districts where they are not.

This is no trifle, and the present season ought to be a lesson for future years.—*Daily News*

Three Garden Crops in One Year.

A CORRESPONDENT of the St. Catharines *Constitutional* communicates the following for the purpose of showing the great results which may be obtained from a small piece of land, by timely and judicious management:—"Early in spring, immediately after the frost had thawed out of the ground, I dug up the driest part of my garden, without applying any manure, and on the 20th of March I sowed Early Dileston and Daniel O'Rourke Peas. At that date the snow still lay under the fences, and some of my neighbours laughed to see me planting anything so early. Well, the peas all grew nicely; were not at all injured by late frosts and occasional showers of snow, and produced a most abundant crop of delicious green peas, which were ready for the table very soon after other people had commenced *planting* their first crop. By the middle of June the peas were all cleared off. The ground was then heavily manured and dug up, without delay. Just then I had a lot of good, strong Early Paris Cauliflower plants, which had been previously transplanted or "picked out" from the seed bed. These I planted on the pea ground, in rows 30 inches apart, watering the plants three or four times afterwards. In about three weeks, when they were growing rapidly, I raised the earth around them by making a deep furrow between every two rows of cauliflowers; this greatly stimulated their growth. Finally, in the latter part of July, I planted celery in the furrows between the cauliflowers. The celery plants grew even without watering, being partly shaded by the cauliflower leaves. And now, as I write, many of the cauliflowers are fit for use, and are being daily removed—just in time to leave the celery in full possession of the ground. As fast as the cauliflowers are cut out, the earth is turned back on the celery, which process will be repeated at intervals until the celery is full grown and the blanching completed. If a crop of cabbage is preferred to cauliflowers, the same results can be obtained, with even greater ease, by planting an early variety—such as the Little Pixie, Ox Heart or Winningstadt—immediately after the first crop of peas is cleared off. Here, then, are three of the very best crops that can be grown in a garden, successfully raised on the same piece of land in one short Canadian season; and that, too, without any extra cultivation or manuring, and no greater degree of scientific skill than every intelligent man can readily understand and practice for himself."

Experiments in Protecting Fruit Trees the Past Winter.

BY DR. JAMES WEED, MUSCATINE, IOWA

In mild weather, the beginning of December last, we had three enclosures made, covering respectively Peaches, Apricots, and tender Cherries. Each consisted of two shutters, twenty feet long, about eight wide, with requisite gable ends, made of a single covering of inch boards, to be covered externally with a thatching of straw.

They were completed on the 6th of December, except the thatching, being well mulched about the base with leaves. The 7th was too cold to thatch. On the 8th the thermometer indicated 11° below zero: on the 9th 12°, and on the 11th a maximum of 16° was reached,—the severest cold of the winter.

The Apricot and Cherry trees were planted in the spring of last year. Hale's Early Peach covered were planted spring of '63, and were killed nearly down to the roots by the very extreme cold of January 1st, '64, which caused a vigorous growth of young wood last summer, unfavourable to fruitfulness, and but few fruit buds were formed.

In the absence of the straw covering, we had fears for the safety of the buds; but, except in the Apricot house, which was not as close as the others, they were not injured. A part of the Apricot buds were destroyed, but on some of the trees enough were saved, and they are now maturing three to five dozen of fruit each. We believe this is the method *par excellance* for growing the Apricot. The buds on the Hale's Early Peach set their fruits much more generally than other kinds in the house. We have a favourable opinion of this new variety, at least the tree appears to be better than any other early one we have tried, and we are anxiously waiting to see the fruit at maturity.

The trees in our old houses are producing well. No peach blossoms in the open air in this region, and Hale's Early, and other trees in the same rows, and precisely the same condition as those protected, in respect to growth, were killed nearly to the ground

Large Pansies.

A WRITER in one of our horticultural periodicals we do not remember which, gives his experience in growing large pansies, as follows:

"Last year we had a bed of very fine pansies, the seed of which was obtained of the most reliable florists. We gathered the first and earliest seed from this bed, and planted as soon as ripe. They came up and became strong and healtay plants before winter We transplanted them into a nicely prepared bed just before winter set in, then covered them with litter from the cow-yard; and finally spread over the whole a quantity of evergreen boughs. As soon as winter was fairly over, we took off the evergreens and raked off the litter, and we found them as fresh and green as when first set out. I do not think one of them died. We never had a bed of pansies keep better through the winter. We have between two and three thousand plants, many of them in bloom. They far exceed our expectations, being much superior every way to those of the previous year. We have thought they would not be pretty if they were any larger. One of them measures more than two inches in diameter, many of them two inches, and nearly all one inch and three-fourths. Cultivation has done much for this flower.

We have done a little in this way ourselves, within the last couple of years, and have had most excellent success. We did not transplant ours, but allowed them to remain where the seed was sown, only covering them in the winter with manure. To obtain large pansies the foregoing mode must be followed.—*Germantown Telegraph.*

BIRDS PREFER INSECTS TO FRUIT.—A correspondent writes the *Country Gentleman* from Newark, N.J., that he is well convinced of this fact. He says: "Those who are fond of shade or fruit trees should spare the birds. We have cherries for them, and raspberries and strawberries if they want. I noticed that many of the leaves on my apple and plum trees had been eaten by caterpillars, but could not find enough of those insects to account for the damage; a fact which was explained when I discovered the young cowbirds catching them, at about the rate of one a minute—coming for the purpose within ten feet of the door where we were passing in and out, as tame as so many chickens We have now no clatter from the robins that have their nest in the garden; they have dropped their song and are busy attending their brood The spotted thrush was as familiar, and as free with his song all the spring, but now is silent. I suppose they, too, are brooding."

When to Pick Apples and Pears.

THE *Prairie Farmer* says:—Most people let apples and pears become too ripe before they gather them. They want to see them fully ripe—ready to fall off the tree before they pick them. This is wrong. If picked a few days before maturity they will keep longer, colour more highly, and command a higher price in market. The precise time to pick is rather difficult to determine. The best criterion is to raise the fruit up and bend the stem over, and if the stem parts from the shoot without breaking, the fruit is ready to pick—whether apples or pears. Pears should be picked proportionally earlier than apples. The quality of fruit is also improved by early gathering. After being picked, it should be put in tight boxes or barrels, and kept a few days in the dark, if of summer or fall varieties. Here they undergo a sweating process, and when the barrel is opened, the fruit will be found of the brightest crimson and richest golden colours Half of the secret of success in orcharding, is in knowing how and when to pick fruit, and how to get it to market so as to command the highest price and readiest sales. Every one's experience must govern him, and the more he studies this matter, the more expert he will become. We are anxious all our readers should *think* while they work—that the mind should be exercised as well as the muscle in farm operations; and particularly should this be the case in fruit growing, where skill of the highest order will always be suitably rewarded.

Early Tomatoes without a Hot-bed.

A CORRESPONDENT of the *Genesee Farmer* gives the following as his wife's method of getting early tomatoes: The 1st of March she takes a box filled with light soil (which she has obtained in the fall) sows the seed, keeping the box in a room which is always warm from a stove in the adjoining room, and the plants have the morning sun. When the plants are about three inches high she transplants them into boxes made of thin boards wider at the bottom than the top (say six inches square, and five inches square, and seven inches high, without the under boards being fast, as by that means the plants can be moved from the boxes to the place in the garden better) keeping them in those until the spring frosts are over, then the ground being prepared, the holes dug, the boxes are slipped into the holes, tapping the side of the box so as to let the plant fall down, and the box be raised up over the plant, close the soil round the tomato, and the work is done. The plants will not know that they have been moved. They can be kept in the house if needed until fruit is set. My wife will have ripe tomatoes by the first of August—or may be the very last of July. She has the best success of any one in this vicinity. There is a small white worm that troubles the plants when they are getting the second leaves, but if some snuff or tobacco is shaken on will stop their work, for the tomato plants raised in the house are the best, for they are stronger than hot-bed plants.

THE EVERGREEN PRIVET.—The *Evergreen Privet*, when well grown as a shrub, is a most beautiful bush when in bloom, and is highly odoriferous; the flowers are greatly relished by bees. During a short visit to the residence of Mr. Henry D. Sherrad, near Haddonfield, N.J., last June, I noticed a large and handsome Privet shrub in bloom; every young twig was crowned with a cluster of rich and waxy white blooms; almost the entire foliage was hid by the flowers, and their fragrance was perceivable many yards off. From morning till night, swarms of bees were about the bush, both in clear and cloudy weather. Although the lawn was covered with white clover in bloom, and the adjoining fields contained the red, also in bloom, the bees choose the Privet.

As the Privet is most generally grown in hedges, on account of its compact growth and beautiful foliage, many persons may never have seen it when in bloom as a shrub The annual or biennial clippings of hedges prevent their blooming, as the flowers are produced upon the ends of the young shoots of the previous year's growth. The Privet flourishes on a great variety of soils; but it blooms most freely where the soil is not too rich. Very few shrubs have such a pretty foliage as the Privet, and very few are more deserving of a place in the pleasure ground.

[To the above well-merited praise of this beautiful shrub, we may add, that it will grow and do well on dry gravelly banks, where scarcely anything else will do.]—*Gardener's Monthly.*

☞ WHENEVER you see a caterpillar's cocoon in your orchard, get it off the tree and trample upon it.

SALT FOR CELERY.—All gardeners use salt freely for manuring asparagus, yet few within our observation ever use salt for celery. Celery being a marine plant, we have found a free use of salt in diluted form with water, one of the best manures. Salt mingled with compost manure, applied at the bottom of the trenches before planting out, is also good, but once a week watering in the trench with weak salt water, will produce a greater growth and more delicate celery than any other way of growing that we have tried.—*Cor. Ohio Farmer*

BLACK KNOT.—We have numerous enquirers respecting this, and have had the experience of only one person in treating it. Mr. A. D. Brown, of Mercer Co., N. J., states that he *knows* the following remedy to be effectual. A tablespoonful of chloride of Lime (Bleaching Powder) is mixed with a quart of water, and after it has stood, occasionally shaking, for a few hours it is ready for use. The knot is pared even with the healthy bark, and the solution applied to the wound. Mr. B. says: "I will guarantee that the Black-knot will not appear in that place again." A simple remedy and easily tried.—*Am. Ag.*

A HOME-MADE PORTABLE FENCE FOR THE GARDEN.—A correspondent of the *Boston Cultivator* says, that for several years he abandoned all attempts to cultivate strawberries, because his hens and turkeys run at large, and strawberries were favorite eating for young turkeys; they picked all the ripe ones in a bed much sooner than he could, and the hens, to say nothing of the chickens, did likewise. Some eight years since, he made an attempt to overcome the difficulty, which was so successful that quite a number of his friends adopted the plan, which he describes as follows:

"On a rainy day, I set the men to sharpening one end of several bundles of lathes, and when finished I took two strips of inch board, one and a half inch wide, spread them about two and a half feet apart, and nailed on the lathes, the width of a lath apart, the strips being about twelve feet long; that gave me a moveable fence, which I tied up to stakes driven into the ground. This fence I used to protect my vegetable beds when first planted in spring, and when the strawberries began to form, moved them to the strawberry beds. If the fowls were disposed to trouble the tomatoes after the strawberries were gone, I enclosed them with this portable fence; so that with a very small outlay at first, I furnished my family with strawberries, and sent many to market, having found the raising of this fruit a source of profit."

BLIND STRAWBERRY PLANTS.—A correspondent of the *Journal of Horticulture* says:—"Many of your correspondents are constantly complaining of their strawberries 'going blind,' and it has occurred to me that perhaps a little light may be thrown upon the cause of failure in so many instances. About thirty years ago, when I commenced housekeeping, I had a garden about 200 feet long, which I planted according to the best of my judgment. Among other things I made several beds of strawberries. In the month of May, an old gentleman called upon me, who was an amateur gardener, and famous for the cultivation of strawberries. Looking at my young beds, his first words were 'Now you must go over these beds, take every plant up which does not show bloom, and throw them all away.' Of course I reasoned with him that if they did not bloom that year they would next. 'Not at all,' said he. 'Throw them away, you will have plenty of runners from your blooming plants which will give you fruit, the others never will.' Well, I was a young man, and, what does not always occur, I took the advice of the old gentleman in part, and will now give you the result. All the plants not showing bloom were carefully removed and replanted on each side of the middle walk, about 200 feet long. They were taken great care of and grew to be splendid plants; but during three years I waited in vain for fruit—they never produced a teasaucerful, and not one perfect berry. To test the theory still further, I took some of the runners and found them entirely worthless. Of course I have followed this plan ever since, and have never failed to have a good crop. What I have said refers to strawberries in the garden; but may not this account for the failure sometimes in pots? I should like some one to test it and report progress. For my own part, I am always careful to take runners for pots from fruit-bearing plants."

British Gleanings.

A Good and Bad Harvest.—An English paper says that "the difference between a good harvest and a bad one in the United Kingdom is equal in money value to *some fifty or sixty millions sterling.*"

Singular Combat.—A British exchange states that "a cat belonging to Mr. George Macadie, Hillhead, Wick, was attacked by a male and female partridge while she was out in search of game in a neighbouring field. After several vain attempts to repel her *assailants, grimalkin had to give up the contest,* and to run for it."

The Potato Disease.—A correspondent of the *Scottish Farmer, writing from the south of England,* states that the potato disease is very bad in some districts, and that more than one-half of the crop is already lost. Many districts of Sussex smell offensively of the decayed haulm, which some farmers are cutting and taking off the fields, in hopes thereby to retard the progress of the disease.

Cats in Brussels. We learn from the London *Field* that there is quite a rage for cats of the Angora breed in Brussels at the present time. "The demand being large and the supply limited, the dealers have resorted to strong measures to satisfy the market The other night nearly all the Angora cats in one quarter of the city were stolen, to the astonishment and distress of their owners."

Beef for Great Britain.—A British exchange announces the purchase of six thousand barrels of beef in New York, for shipment to Great Britain. It says the dreadful cattle disease, which is now raging in Europe, will have an important influence upon American markets for cured meats, if they shall be so lucky as to escape the disease itself. A large advance in butter and cheese may be expected.

Otter Hunt.—The *Carlisle Examiner* relates the following curious circumstance: On Friday the Carlisle pack were hunting near Penrith, and they drove out and killed a fine bitch otter. More curious to relate, however, a nest of young ones was found in a crevice close at hand, containing three of the brood The pups, which were scarcely as large as new-born kittens, were carefully taken care of and brought to Carlisle. They may be seen any day in East Tower Street, where they are being suckled and tended by a cat. Pussy is a most considerate step-mother, and will no doubt rear them in more gentle ways than their unfortunate dam.

Replacing a Cow's Horn.—The following paragraph appears in an editorial column of Shorthorn intelligence, in a recent issue of *Bell's Messenger*:—"Did any of our readers ever try the experiment of replacing a horn which had been sloughed or cast? *We did so the other day, and with complete success.* On Saturday, the 22nd of July, a boy brought a horn to us which he had seen one of our cows lose by entangling it in a stile. A friend volunteered to put it carefully on again; and in the course of about twenty minutes from the time of the accident, the cow was once more in possession of a pair of horns. Twenty-three days have passed, and the horn seems as firm as any in the herd. No bandage or fastening was applied."

Fishing with the Electric Light.—A British exchange give the following interesting account of an experiment recently made at Belle-Isle, to fish at night by means of electric light:—"The light was produced by a powerful electro-magnetic machine constructed by M. Bazin, the well-known engineer. The experiment, which was conducted by M. Bazin on board the *Andalouse,* in the presence of 1500 persons assembled on the pier, was completely successful, and the quantity of fish taken very large. A person who was present states that nothing can be more exciting than fishing at sea by night with the aid of this light. As soon as the submarine lantern was immersed, shoals of fish of every description came to sport in the illuminated circle, while the fishermen outside it spread their nets from their boats. The light illuminating the deep sea, the fish arriving in shoals, attracted by the fictitious sun, the boats at the edge of the lighted circle, the deep silence, interrupted only by the grating of the electro-magnetic machine, is described as an imposing sight."

Plants and Flowers among the Poor.—Some of the English papers express pleasure, if not surprise, at the result of efforts which have recently been made to encourage the growth of plants and flowers by the lower classes of London. Exhibitions have been held, sometimes in the schoolrooms of the children, and small premiums awarded for the best display. One collection, brought down from the top of a house, comprised two hollyhocks, two dahlias, geraniums, &c. From another attic garden came a little box of *mignonette in bloom, in the centre,* with beans trained to sticks at the ends. A two-year old oak, grown from an acorn in a bottle, was the pride of one woman, while another, with a very humble display, said she had been trying to interest her husband in her window garden, with the hope that it might draw him away from the public house.

Enormous Price for Egg-Shells.—We learn from a correspondent of the London *Field,* that four empty egg-shells of the Great Auk were recently sold by public auction, realizing the large sum of one hundred and twenty-two pounds sterling. Such of our readers as are not professed naturalists may probably enquire what were the peculiar circumstances that could give to these egg-shells such an enormous value. The *Alca impennis* of Linnæus, and all subsequent naturalists, the great auk of the books of our boyhood is a species which no longer exists. The last living specimen known was that secured in 1831, for Dr. Barkett's collection. The great auk was a diving bird, closely related to the razor-bills and guillemots, although in size it considerably surpassed these species, its length being upwards of two feet. The egg specimens recently sold, were discovered with some others in one of the museums in London, when it was decided supernumerary ones should be parted with. They are about five inches in length by three in breadth, and of that peculiar pyriform or tapering shape characteristic of the eggs of so many sea-fowl. In colour they are very pale yellowish-white, blotched with irregular patches of dark and light brown.

Colour in Shorthorns.—A correspondent who has devoted considerable attention to this subject during many years breeding experience, writes to *Bell's Messenger,* as follows:—"I have known a roan cow breed to a white bull, and then to a red bull, and the calves were roans of very similar hue and shade, and both calves were pretty equal in amount of colouring. I think I could produce several instances of this *I have observed that when a roan cow and a* white bull have been put together, the calf has *very seldom* come a mixture between the two, but has been either white or of a roan colour as dark as the mother's, or darker than hers. If the roan cow be put to a red bull, the offspring comes either roan, red, or red and white—not white; but often, if roam, *lighter* than the dam. Sometimes, however, a red roan, or mixture between sire and dam. Red and roan seem to *mix* better than white and roan. If the two colours refuse to mingle, the result is a lighter roan, or else red with more or less of white. When two colours are put together which don't mix very readily, it seems as if they didn't know what to do, and so, by way of settling the difficulty, they both yield their claims, and one of the original colours (red or white) comes out; or if there has been any distinct peculiar marking among the nearer ancestors, that perhaps crops out again."

Making-up the Ayrshires.—The following amusing account of the manner in which those animals are prepared for exhibition is furnished by the *Mark Lane Express*:—"The show dodges of the Ayrshire men are inexhaustible, and not unattended with danger, as one man in his last twenty-four hours of a 'strong preparation' fairly burst his bull. A great deal depends upon the jockeying during that time. A cow is generally kept sharp set till four or five hours before the show. If she had been on too fine food, her paunch would be drawn up, and the vessel would lean forward, and the teats not in position; whereas if the paunch is gradually filled in these last few hours, first by giving her common food, and then by coaxing her into quantity by bettering it at every supply, she is filled to repletion, and the vessel hangs taut and square. She often gets her pound of salt at night, and between the two agencies she should be turned out quite the thing in the morning. Cows are also kept well up to 'tid' during the show season with gruel made of linseed-meal, oatmeal, and flour, diluted with their own milk, and sometimes as much as 3 lbs. of treacle in it. The shape of the vessel is also as carefully looked to and adjusted as the Spanish cock's comb, which was, while the fashion set that way, kept up in pasteboard splints, till just before going into Bingley Hall. A board is put below the vessel with holes for the teats, and tied with strings round the cow's back, so as to keep it in position, and the vessel is laved with cold water all night, to make it fat and contracted and give it consistency. *They are also washed over with* butter-milk, and the finer lights put in with soap and gum. Sometimes the cow barbers use butter-milk for the legs, and take to hair-oil, and the horns are rubbed with charcoal or hawthorn ashes, *in accordance with* an old superstition. In short, the day and night before the show are, in many instances, quite as important as an artist's glazing-day at the Royal Academy. *The judges* are all well up to 'the little game,' which extends to scraping rams' horns almost to the quick, and then japanning them, and is on all fours with that artistic clipping to hide weak points, *against which* old Val Barford, K.C.B. (Knight of the Clipping Board), struggled so long, till the Royal English Society issued its ukase."

The Rival of Jerked Beef.—The trade reporter to the *Irish Times* says:—"A report gains ground that beef can be kept fresh in cask and sent anywhere; if so, from present advanced prices, there is no doubt large imports will take place and supersede the sale of jerked beef at probably 3d. or 4d. per pound." Thereupon a correspondent of the *Grocer* comments on the announcement as follows:—"This, I suppose, is in allusion to the operations of the Fresh Meat Preserving Company, whose loathsome-looking "preservations" sink and sweat under glass cases in one of the galleries of our Exhibition. I hear banquets are given by the company, who feast their guests upon the roast beef of old England, and then show them, *through glass,* preserved specimens of what they (the guests) have no opportunity of tasting. "Potatoes and point" is the title of a tale often told, but seldom illustrated; but here we have an instance of how the wise scientific friends of the poor man judge of the good things sealed and set before them by a new limited (too limited in its prospects, I fear) joint stock company. Another interesting fact connected with this important discovery is that the closed vessels containing the meat are sometimes too small to hold the gaseous products introduced for the preservation of the contents. The consequence is the usual and very natural one; I am informed that the innocent attendants of some adjacent cases at the Exhibition were a few weeks since frightened from their propriety by the explosion of a tin canister containing a joint of doubtful-looking mutton that preferred corruption to confinement."

Small Pox Among Sheep.—In a recent communication to the *Morning Post,* Professor Gamgee invites the careful attention of flockmasters to the following important points, which cannot be overlooked with impunity wherever the disease appears:—"1. The flocks must be carefully watched, and the slightest evidence of sickness in any single animal should lead to instant separation, and the examination of those parts uncovered with wool. The early symptoms are slight fever, drooping ears, clapped wool, and a flee-bitten appearance on the inside of the arms and thighs. The red spots increase in size, and about the eighth or tenth day after the earliest symptoms each red papula becomes elevated and transparent. A clear limpid liquid accumulates, and soon becomes turbid. The pustule has a white and then a yellowish or brownish opaque appearance; the skin around it is pale. Each pustule is flattened, and has been compared by the French to the head of a nail. A certain amount of transudation of lymph occurs, and the pustule dries, so that in a few days a yellowish grey or brown scat is perfectly formed. The scabs then fall off, and leave red depressions in the skin. It is most important to watch and separate the mildest case, as it is the overlooking slight instances of sickness which so often leads to the disease taking deep root and exterminating a flock. 2. Inoculation must be strictly and unconditionally avoided. In Germany, where sheep are much horned, the operation may, under certain circumstances, be admissible, but here it never is. I appeal to our Wiltshire experiences in proof of this. The losses in the inoculated flocks amounted to 19.89 per cent., whereas amongst the non-inoculated they only amounted to 1 6 per cent. The disease was very virulent, but readily suppressed by separation. 3. I should advise the Sussex farmers to do as, on my recommendation, was done in 1862. They should club together, and pay for the first, viz., the smallest loss, and bury the sick sheep below ground. I do not wish them wantonly to destroy a whole flock, but the malady may be limited to very few if the plan of early slaughtering is resorted to."

Miscellaneous.

Who shall Address our Agricultural Fairs?

A CORRESPONDENT of the *Country Gentleman* discusses this question as follows. It has long been the custom at the annual gatherings of Agricultural and other societies, to have an address delivered touching the object of the society or association. All the different societies for the advancement of knowledge, literature, mechanic arts, science, history, law, medicine, and divinity, select some one to give an address at their annual meeting, pertinent to the object of the society, on some subject of practical importance to its auditors. This is very benefitting, and generally develops something new or useful on whatever subject they may treat. All these organizations generally select one of their profession to deliver the annual address. This is as it should be, for one of their own profession is better qualified to interest them, than one of another profession or calling. He knows the history and objects of the society better than one whose thoughts have been trained to other intellectual developments. These annual meetings have been productive of an incalculable amount of good, and have awakened an interest that nothing else would. How is it with the agricultural societies? Are they addressed by one of their members? It is a lamentable fact that a majority of the addresses at Agricultural Fairs are given by those belonging to "the learned professions." This should not be so. There ought to be farmers within the bounds of every society capable of giving the annual addresses They may not be in command of elegant language, or able to make rhetorical flourish in beautifully turned periods; but they may do what is of more importance, give an address embodying sound practical views in all that pertains to progress in agriculture It would be looked upon with surprise to see a farmer addressing a society for promoting the interests of law, medicine, or divinity, but just as appropriate as it is for men who have never held a plough, or swung a scythe, or performed the simplest duties of agriculture, to attempt to instruct men who have grown grey in the pursuit of agriculture, as to the best method of cultivating our farms, what crops are adapted to our soil and climate, what leading staple is most profitable, or what breeds of stock are best adapted to the different branches of agriculture These are important questions, and none but those of large practical experience can answer them to our profit."

BE ALIVE.—This world is not made for a tomb, but a garden. You are to be a seed, not a death. Plant yourself and you will sprout. Bury yourself, and you can only decay. For a dead opportunity there is no resurrection. The only enjoyment, the only use to be attained in this world must be attained on the wing. Each day brings its own benefit, but it has none to spare. What escapes to day is escaped for ever. To-morrow has no overflow to atone for the lost yesterdays.

Markets.

Toronto Markets.

"CANADA FARMER" Office, Sept. 15, 1865.

The weather during the past week has been somewhat changeable, but the cold east wind and rain have again disappeared, and, at the time we write, it is bright and sultry Our street market has been well patronized lately. Every day brings a scene of cheerful activity as teams laden with barley come pouring to the common centr by every entrance to the city. About 15 000 bushels per day have thus been offered for sale in our market, and changed hands at remunerative prices. There is no material change in other grains, and the demand, more especially in Wheat, altogether exceeds the supply There is a brisk enquiry for flour, and the price of all brands has an upward tendency. Our quotations are as follows:

Flour—market nominal, no stocks and few transactions, inquiry good; No 1 superfine at $5 00 to $5 50; extra do. at $5 75 to $6 00; superior extra at $6 00 to $6 75, and higher.

Fall Wheat in fair demand and steady, at $1 20 to $1 30 on the street; smutty, $1 00 to $1 10.

Spring Wheat—quiet; selling on street, at $1 00 to $1 08, and higher.

Barley active, at 68c to 74c per bushel, 75,000 bushels in during past fortnight.

Peas steady, at 61c to 63c.

Oats in good demand, at 32c. to 35c.

Corn unchanged.

PROVISIONS—improving, *Butter* good supply at 20c. to 22c. per lb for rolls wholesale, dairy, in tubs, 16c to 19c per lb

Cheese—more plentiful; wholesale 10½c to 11½c per lb: retail 14c to 15c per lb.

Eggs—market steady, with fair supply; fresh 13c per dozen on the street.

Potatoes (new)—Plentiful, and of excellent quality, with fair demand, wholesale, 25c; retail, 30c.

Beef—In demand, but slightly higher; prime cuts 8c to 12c per lb, stew and corn pieces 6c to 9c per lb.

Mutton—Fair supply and in less demand: at 8c to 12c per lb, hind quarters 12c per lb, fore quarters 8c per lb.

Live Stock—dressed weight, 1st class $5 to $5 50; 2nd class $4 to $4 50, inferior, $3 to $3 50, *calves*, small supply, $4 to $7 each; fair quantity in the market, *sheep*, $3 50 to $4 00 each per car load, *lambs*, $2 to $3.

Hay—in good supply at from $8 to $11 per ton for new, old scarce and higher.

Hamilton Markets, Sept. 15th, 1865.—*Wheat*, White winter, $1 10 to $1 15 Red winter, $1 05 to $1 15. *Spring Wheat*, 95c to $1 03, *Barley*, 70c to 72c, *Peas*, 55c to 64c, *Oats*, 30c to 35c. *Potatoes*, plentiful at 60c. *Fresh Butter*, scarce, and selling at from 23c to 25c per lb *Eggs*, 13c to 15c per dozen. *Tomatoes*, 60c per bushel. *Pork*, very little offering Prices advanced Moss, $23 to $25 *Hams*, 13c to 15c per lb. *Hay*, per ton, $8 to $10. *Tallow*, Rough, $5 to $6 per cwt. *Hides*, Green, trimmed, $3. *Calfskins*, 7c to 8c per lb *Sheepskins and Lambskins*, 75c to $2

St. Catharines Markets, Sept. 15th, 1865.—*Fall Wheat*, per bushel, 90c to $1 *Spring Wheat*, 85c to 80c. *Cornmeal*, $1 50 to $1 70 *Oatmeal*, per cwt., $6 to $6 25 *Flour*, per 100 lbs., $4 25 to $4 50 *Oats*, per bushel, 30c to 38c. *Barley*, per bushel, 63c to 7 c. *Rye*, per bushel, 75c to 80c. *Peas*, per bushel, 60 to 75c. *Beef*, per l , 5c to 6c. *Mutton*, per lb., 5c to 6c. *Hams*, per lb, 14c to 16c. *Shoulders*, per lb 12c to 14c *Potatoes*, per bushel, 50c to 55c *Apples*, per bushel, 63c to 75c. *Butter*, per lb, 20c to 25c. *Cheese*, per lb., 9c to 10c. *Eggs*, per dozen, 12½c to 14c. *Lard*, per lb, 15c to 18c.

Pembroke Markets, Sept 14th, 1865.—*Flour*, per bbl, $5 to $5 50 *Wheat*, per bush l, 90c to $1 10 *Mess Pork*, per bbl, $21 to $22 *P M Pork*, per bbl., $18 to $19 *Beef*, per bbl, $9 50 to $10 *Oats*, per bushel 35c to 40c *Peas*, per bushel 75c to 90c. *White Beans*, per bushel, $1 50 to $2 *Potatoes*, per bushel, 30c to 35c. *Butter*, per lb, 12½c to 13c. *Hay*, per ton, $6 to $8.

Lindsay Markets, Sept. 12th, 1865.—*Fall Wheat*, per bushel, $1 05 to $1 10. *Fall Flour*, $5 50. *Spring Flour*, $5. *Barley*, 50c to 55c. *Oats*, 25c. *Hay*, per ton, $6 to $9. *Butter*, per lb., 15c. *Eggs*, per dozen, 10c. *Wool*, 37½c to 40c.

Belleville Markets, Sept. 15th, 1865.—*Fall Wheat*, per bushel red $1 05 to $1 20, do white, $1 15 to $1 30 *Spring Wheat*, per bushel, 90c to $1 *Barley*, per bushel, 60c to 67c. *Peas*, per bushel, 55c to 60c. *Oats*, per bushel, 25c to 35c. *Flour*, per bbl, wholesale, $4 20 to $4 40 *Corn*, 50c to 55c. *Rye*, 50c to 52c. *Buckwheat*, 45c *Hay*, per ton, $7 to $9. *Potash*, per 100 lbs., $4 75 *Potatoes*, per bushel, 37½c to 40c *Turnips*, per bushel, 16c to 25c *Pork* per 100 lbs., $6 to $7 *Beef* per 100 lbs., $5 to $6 *Mutton*, per lb., 5c to 6c. *Veal*, per lb., 4c to 5c, *Butter*, per lb., 17c to 20c *Eggs*, per doz., 10c to 11c. *Hides*, per cwt., $4. *Sheepskins*, 25c to 60c. *Wool*, 35c. *Calfskins*, 7c to 8c.

Kincardine Markets, Sept. 15th, 1865.—*Fall Wheat*, $1 to $1 10 *Spring Wheat*, 90c to 95c *Oats*, 20c to 25c. *Peas*, 50c. *Barley* 60c to 55c *Potatoes* 30c. *Butter* per lb, 16c. *Flour*, $5 *Hay* per ton. $6 *Eggs*, 8c. *Wood*, $1 to $1 50. *Green Hides*, $2 50. *Wool*, 40c.

Montreal Markets, Sept. 12.—*Flour*, Superior Extra, $7 75 to $7 35, Extra. $6 60 to $6 85, Fancy, $6 25 to $6 30, Welland Canal Superfine, $5 30 to $5 40, Superfine No. 1 Canada Wheat, $5 50 to $5 65, Superfine No 1 Western Wheat, $5 30 to $5 45 *Bag Flour*, $3 to $3 15 *Canada Wheat*, $1 14 to $1 15. *Western Wheat*, $1 14 to $1 15. *Oats*, per 32 lbs., 32c to 33c *Barley*, per 48 lbs., 63c to 65c. *Dairy Butter*, 21c to 22c. *Store Packed Butter*, 18c to 19c. *Ashes*, pots, $5 20 to $5 25 Pearls, $5 25 to $5 30 *Flour*, market quiet, extras still in fair request, but buyer and sellers are apart in their views and binder transactions *Peas*, inquired for, to arrive, at 85c to 90c per 66 lb. *Butter* still in fair request for all offering, receipt this morning all for consumers, private advices by the Hiberman report more reluctance on the part of buyers to come forward at present prices.

New York Markets, Sept. 12.—*Flour*,—Receipts, 11,429 brls., market dull and drooping, sales 7,200 barrels at $7 to $7 45 for superfine state, $7 80 to $7 85 for extra State, $7 90 to $8 40 for choice do, $7 to $7 65 for superfine Western, $7 90 to $8 40 for common to medium extra Western, and $8 80 to $9 10 for common to good shipping brands extra round hoop Ohio *Canadian Flour* dull, sales 300 barrels at $7 90 to $8 25 for common, and $8 30 to $11 for good to choice extra *Wheat*—Receipts 15,488 bush., market opened heavy and drooping, and closed 1c lower for spring, and 2c to 3c for winter; sales 52,000 bushels, at $1 60 to $1 64 for Chicago spring, and Milwaukee $1 65 to $1 66 for amber Milwaukee, $2 for winter red, and $2 5 to $2 8 for amber State *Rye*, quiet *Corn*—Receipts 80,834 bushels, market 2c lower for unsound, and 1c to 2c lower for sound, sales 80,000 bushels at 76c to 87c for unsound, and 88c to 89½c for sound mixed Western *Oats*, 1c to 2c lower, at 52c to 53c for State, and 5 c to 55c for Western *Pork* firmer, sales 35 brls at $32 37 to $32 75 for new mess, closing at $32 47½, cash $30 to $31 for 1863 and 1864 do., and $.4 25 to $25 for prime *Beef* firm

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