

VOL. VIII. { WILLIAM WELD, Editor and Proprietor }

LONDON, ONT., MARCH, 1873.

{ \$1 Per Annum, Postage Prepaid. } NO. 3.  
{ Office—Dundas St., Opp. City Hotel. }

**CONTENTS OF MARCH NUMBER.**

EDITORIAL:	Page
Seed Report.....	33
Digest of Essays on the Cultivation of the Turnip.....	34
Talks with Farmers.....	34
To the President and Directors of the Provincial Boards of Agriculture.....	34
Cereals.....	34
Commendable.....	34
Horace Greeley.....	35
Obituary.....	35
Prize.....	35
Purdy's Small Fruit Instructor.....	35
The Canadian Victor Tomato.....	35
AGRICULTURAL:	
Land Drainage.....	35
Drying Pumpkins.....	35
Manufacture of Linseed Oil and Cake.....	35
Farming in England.....	36
Value of Turnips as Food for Stock.....	36
Our Farm Waste.....	36
Agricultural Education Necessary.....	36
Value of Scientific Knowledge to Farmers.....	36
Is Farming in the West Remunerative?.....	37
Systematic Farming.....	37
Tillage of the Soil.....	37
Potatoes for Seed.....	37
STOCK AND DAIRY:	
Annual Meeting of the Canadian Dairy-men's Association.....	37
Stock.....	38
The Soiling System.....	38
Dairy Properties of the Short-horns.....	38
Did not Like Sheep.....	38
Fattening Sheep in Winter.....	39
Judging Animals.....	39
Soiling Milch Cows.....	39
Fattening and Feeding Sheep.....	39
Sheep Raising.....	39
Effects of Old Pastures on the Flavor of Cheese.....	39
Butter Making.....	39
Living Stoves, &c.....	40
POULTRY YARD:	
The Fowl Account.....	40
Unusual for Turkeys.....	40
The Health of Poultry.....	40
Gothic Cottage (illustrated).....	40
HORTICULTURAL:	
Season for Planting Evergreens, &c.....	40
Uncle Tom's Column.....	41
Minale May's Department.....	41
Household Hints.....	41
GOOD HEALTH:	
Blood Circulation and Heart Disease.....	41
Fever caused by Milk.....	41
THE HORSE:	
Training Colts.....	42
Importance of Exercise for Horses.....	42
A National Stud, &c.....	42
THE APIARY:	
A Bee Sting, &c.....	42
RECIPIES, &c.....	42
CORRESPONDENCE:	
Turnip Culture.....	43
Seed Report.....	43
Knitting Machine.....	43
Dont's—for Farmers and Others.....	43
Manure.....	43
A Farmer's View of Politics, &c.....	44
MISCELLANEOUS.....	44
MARKETS, R. R. TIME TABLE, &c.....	45
ADVERTISEMENTS.....	46, 47, 48

**Seed Report.**

The McCarling wheat put out last summer appears to have given general satisfaction. In most instances the yield has been good. In a few instances it has not succeeded better than other spring wheat. Some believe it to be nothing but the Rio Grande, but we gave the origination of it, and the corroboration of Mr. Wright, J. M. Seabrook and many others, show it to be different; in fact we have seen no Rio Grande wheat equal to it. It is in demand in many localities. As it is yet scarce, or at least anything like pure, clean or good samples are scarce, and those having it are asking and obtaining high figures for it.

The Farrow wheat, which we introduced last year has, given general satisfaction to the few that procured it. Although it was rather late, the yield was satisfactory; and although the grain is rather more shrunken than the McCarling or Fife wheat, it bids fair to be a good yielding variety.

The Baltic wheat in this section is not quite as good as the McCarling, Fife or Farrow wheat. In some sections this wheat also is in vogue. We have not been able to procure any other new varieties this season that we have considered deserving of attention.

Peas—the Crown Peas have given satisfaction to good farmers that have sown them on good, clean, rich, well-drained land, but dissatisfaction is the result if sown on poor, hard, damp, foul land. In such soil, and with such treatment, they would soon ruin the farmer, but with first class farming they will pay.

The Excelsior peas have given good satisfaction as far as we have heard. They are adapted to light soils, and are long in the stem and pod, having often ten and eleven peas in a pod.

The Marrow-fat and Prussia Blues are not much in vogue in this locality. In fact the pea bug is becoming so destructive to the pea crop, that farmers here are desiring a substitute; but it is hard to find any cereal that answers so well for the rotations and for the stock, as the pea straw is quite a consideration on the sheep farm. The Chevalier barley does not appear to gain favor. Persons that have tried it are substituting other varieties.

Oats—the Norway and New Brunswick oat made a good change. They will be sown more extensively. The difference in the yield does not appear to be so great after being sown in a locality two or three years. New varieties and good changes are wanted.

We have good reports of the California oats. They are reported to us by one of our most reliable aids as being a very valuable variety. A short, plump, white oat; not so long in the straw as Surprise

oats are. We regret that the stock of leading cereals are not as good as we should wish. We can do no more than supply the best we can raise or procure. If farmers would aid us, in keeping their stocks pure, and would send us samples or really good varieties, we would feel obliged.

Corn for soiling is found most beneficial. The select western corn is preferable. Our reports from all who have tried it are highly satisfactory. We commend a more general use of it. We think it as profitable as any crop grown on the farm.

Potatoes—the Colorado potato bug shortened our crop materially last year, and the prospects are that it will be much worse this year in this vicinity and to the south and west of us. It will be very little use in attempting to raise them this year unless you are determined to kill the bugs with Paris green. That is the only effectual and practical remedy. The Early Rose must be the best variety to plant, as the earlier they mature the less danger from the bug. To the north and east other varieties may be planted. There are some new varieties in the market at about as high figures as ever. We have tried the King of the Earlies two seasons, but we give the preference to the Rose. Despite the great price of them we do not intend to advertise them in our list. We shall discard several and retain the most valuable, or such as we believe to be most suitable for our requirements.

Grasses—we are not prepared to say as much to you on this important seed as we would wish, as none of our reports on the imported grasses here as yet reached us.

There appear, in the catalogues of our great foreign seedsmen, a few new varieties of seeds that may be advantageous. These large and extensive dealers know it is to their advantage to put forth any new and really good seed. It also tends greatly to their injury to send out any that does not prove to be as commended, and as those gentlemen are well known as reliable, we quote descriptions from them.

Silver-Hulled Buckwheat—This extraordinary variety, originated abroad and carefully tested here for three years, is now offered as a very great improvement upon the ordinary black and grey buckwheat. Sown at the same time as the common buckwheat, it continues in bloom longer, matures a few days sooner, and yields nearly or quite double under the same conditions. The grain is of a beautiful light grey color, varying slightly in shade, and the corners are much less prominent than in the ordinary variety, while the husk is thinner, thereby saving from 15 to 20 per cent. waste in the process of manufacturing into flour, which flour is whiter and more nutritious.

A white skinned top or set onion is now introduced. The advantages set forth for it are, that it has a milder and more delicate flavor; that it yields and keeps quite as well as any variety; in appearance it is far preferable to others, being extremely delicate and fine, making it a great acquisition for the table, both in a pickled or unpickled state.

Late Rose Potatoes—This valuable variety, first offered by us in the fall of 1871, has been largely cultivated the past season in various parts of the country, and has given universal satisfaction. It is not a seedling, but a sprout of the Early Rose which has maintained its distinctive characteristics for four years. It ripens two or three weeks later than the Early Rose, and has proved to be much more productive, yielding the past season 250 to 300 bushels per acre—is also hardier, healthier and a better keeper, retaining its good quality till new potatoes come in. In the eating quality, color, shape and other external characteristics there is but little, if any, difference between the two varieties, except when first dug the seed end of the Late Rose is of a deeper red, enough so to easily recognize the variety. It also grows to a larger size, and thus far has not been affected by rot, while Early Rose grown in the same field were more or less affected. We do not claim that it will supersede the Early Rose, but it is the variety that is destined to fill the great desideratum of a first-class winter potato, of the eating quality of the Early Rose, combined with the keeping qualities of the Peachblow, and at the same time not requiring a much longer season to mature its crop than the early varieties.

The Marblehead Squash—This variety was originally introduced by an old sea captain, who brought the seed from a foreign port. It has a shell of more flinty hardness than the Hubbard, thicker and flatter at the top. It has a greater specific gravity. Its flesh is of a lighter color than the Hubbard, while its combination of sweetness, dryness and delicious flavor is something really remarkable. It yields equal to the Hubbard, while its keeping properties are declared to surpass that famous variety.

Our extra selected white-fleshed Swede is of excellent quality. It grows to a prodigious size, but it is well-shaped. It also keeps well. We anticipate this variety will carry off more prizes at the exhibitions this season than any other variety. To those wishing to procure new varieties we refer them to our price list for March.

We hope in our next issue to attend more particularly to the Ladies' Department, as it will then be time to talk about flowers and plants.

yrshires, and Pigs.  
choice animals of the and female, from almost approved strains. M. H. COCHRANE,  
PREPARED TO Churches, and Priest, Tapestry, Brussels Carpets, Floor Oil short notice and very MURRAY. July  
BOR SAVED  
PLATING MACHINE  
of July, 1870, by  
THEWSON,  
IN, ONT.  
any other Washing compete against his, for The Machine has been by nearly all the printers in the County, who use. It will wash from tie to a bed-quilt. A to its merits.  
es for sale.  
I. MATHEWSON,  
Brooklin, Ont.  
and procured at the room, London. 3-17  
LIOTT,  
OUNDRY.  
of Stoves, Ploughs, Threshing Machines, Cultivators, and Guage nt.  
GTON,  
ville,) London, Ont.  
by Joseph Harris, Esq. N. Y., (author of the "The Pig" and "Walks in Agriculture.")  
Adam"  
known imported Boar, the noted English improver on the old "x—his mother is owned the stock of the late Col. took the prize at the is pronounced by all hog of his class in Canada, vide "Harris on the  
nd Suffolk Boar,  
Jinks,"  
g, of Port Dover, Ont. sire, "Snow Ball," im- "Grand Dam," "Ida," "ose." These pigs have Fair, either in the United sh they have been ex- and refused for "Storm k's" cost his present 0.  
d Sows sent for servio at the smallest possible  
D. Hotel," Kensington, near London, On  
ys for Sale.  
TURKEYS bred from George Van Deever, Mont- For size, style and color Warranted pure, and all sales apply to JOHN W. BUSSELL, Hornby O.  
SALE.  
LL, 4 years old, Dark of the Dale;" Sire, apply to JOHN M- 3in-c  
FOR SALE.  
ESTICATED WILD imported from the Hon. is.  
\$7 PER TRIO.  
WANDER, Mongolia. 11-3in

### Digest of Essays on the Cultivation of the Turnip.

WRITTEN FOR THE FARMERS' ADVOCATE.

In the February number of the FARMERS' ADVOCATE we gave two of the essays on turnip cultivation, written by practical farmers for this paper. That the subject may be brought more systematically before our readers, we have prepared a digest of the whole, arranged under the several heads. They will thus be enabled to see at a glance what is the method pursued by men who are, not mere theorists, but working farmers. At the time of awarding the prizes we had received sixteen essays written on the subject for the ADVOCATE, and we have since had four more sent to us, some of which possessed considerable merit. They were too late for award, but we may refer to them at a future time.

Turnip culture, as treated of in those essays, we have placed under the following heads, viz. :—1. Soil best adapted for growing turnips, and its preparations. 2. Manure and its application. 3. Best kind of turnips to be sown for feeding stock, and the quantity per acre. 4. Distance of drills apart, and of plants in the drills. 5. Subsequent culture. 6. Taking up and storing the crop.

1. The soil best adapted for the growth of turnips is a light soil—one in which sand predominates. One of the essayists (T. Hornor) demonstrates this by a chemical analysis of the turnip crop; but we write not for men of science, but for the practical farmer. A sandy loam has been found to produce the largest crops of turnips with the least labor. A well-prepared, mellow seed bed is requisite, and this is obtained most easily on such a soil. While admitting this to be correct we must bear in mind that we cannot limit the growth of turnips to light soils. Such is not to be met with on every farm; and even if it were, every part of the farm needs the renovating, fertilizing benefits of turnip culture in its turn. Heavy soils require to be made as dry as possible, thoroughly drained, or at least the water prevented, by water cuts, from lodging in or on it. On this point all agreed—the ground should be dry, if not naturally, made so. All recommend early fall ploughing as the first preparatory step. Turn up the ground early that the seeds of weeds may all grow for their destruction. Plough it deep and strong that it may have the full benefit of the frost. In this the essayists almost all agree. T. Jordan's advice in selecting the foulest, poorest ground for turnips is good when farms are in the ordinary condition, cropped without any system of rotation. He says, "I take for a turnip crop the land that is most foul, and most run down; by well ploughing, harrowing, &c., my turnips are generally a good crop, and the ground is well prepared for a crop of spring wheat or barley."

2. Good farm yard manure, well-prepared, it is admitted, contains all the requisite elements for the supply of food to the turnip as to other crops. As to the proper time of its application there is a great diversity of opinion—some maintaining that it should be applied in the fall, others when sowing the seed. On this question the writers of the essays are pretty equally divided. Among the advocates of fall manuring is J. Savage, whose method of fall preparation was greatly commended by the judges. McCallum and Alexander are among those who advocate manuring in the spring. The manure, if applied in the spring, must be well rotted before being applied. This was not so indispensable in Ireland and Scotland where McC. and A. learned and first practised agriculture, as these climates were wet, so different from the climate of Canada. T. Hornor recommends, after having manured in the fall, to apply from 100 to 150 bushels of leached ashes, 3 to 6 bushels land salt, and 2 to 3 bushels land plaster. Ashes or plaster sprinkled on the young plaster are recommended.

3. The turnips recommended to be sown are swedes, but of what kind only one writer speaks. He recommends Skerving's Improved. We, in our farming, sowed the purple-topped and Skerving's; the former we found the more productive, the latter of better quality. It is better to sow thick than sparingly—sow about two pounds per acre.

4. Though there is a difference of opinion as to what distance the drills should be apart, and the distance between the plants in the drill, the difference is not great. The essayists generally recommend that the drills be 28 to 30 inches apart, though one considers the proper width to be 24 inches, and another, allowing a great latitude, says the distance apart of the drills may be from 18 to 23 inches. Our own experience is in favor of 30 inches. This keeps the ground sufficiently covered, while at the same time it leaves room for thorough tillage. Ten or twelve inches we always considered the best distance between the plants—any more is waste of ground.

5. The subsequent culture is known to every farmer. As soon as the plants are nearly strong enough to be thinned commence with the cultivator; cultivate as near to the plants as you can without disturbing them; spare not the labor; keep the horse-hoe and cultivator going; let no weeds have an opportunity of taking root; keep the earth mellow and exposed to the atmosphere. A turnip crop, when properly attended to, confers on the soil much of the advantages of a summer fallow, in addition to the profits of the crop itself for feeding.

6. Some of the writers take up the turnips with the hoe (see McCallum's essay); some take them out with the plough; others with the harrow. In our correspondence of this month will be found a method of taking them up, which is highly recommended. To preserve them for feeding they are to be stored in the root-house, the cellar or pits. The last mentioned we practised in the old country. One season we stored in pits 600 tons of turnips, the produce of 14 acres, and they were entirely free from damage till they were used. In Canada we prefer a good root house to any other way of storing them. In it they are always safe and easy of access. The method of storing we give from the essay of Mr. Hay, of Wyandott. In this the judges approved highly of his essay. "Storing—Run the turnips from the wagon into the cellar (or root-house) over a riddle made of fine slats nailed crosswise, and held up by two legs close to the end of the wagon. It is imperative that the turnips be all lifted from where they drop into the cellar, and thrown back, or else they are sure to heat and rot. This operation can be performed very quick with a six-pronged fork, and then, with even a very imperfect ventilation, they will keep good and fresh until May, or longer if necessary."

These essays we think will be of great service to the writers themselves, as well as to many of our readers. The subject will receive more careful consideration, and the value of science combined with practice made apparent. The value of the turnip crop itself will be more fully inquired into and more generally known. Farmers will soon be convinced that the profits of turnip cultivation are two-fold. It not only gives them a very profitable crop in the turnip, but it also brings into the best condition for future crops the poorest and foulest land.—Ass't Ed.

#### Talks with Farmers.

Mr. K. I have come to see the November number of the ADVOCATE. When we want any directions of seed or stock, or how to prepare a field or put in a crop, we turn to the ADVOCATE.

Don't you get it regularly by the post office?

Yes, it is always to time, but I cannot get the November number; the females mislaid it, and when I went to get it, it was not to be had.

Here is the number you want. We always endeavor to keep a few copies of each number on hand, as they always are being sent for. Now our impression for January is almost entirely gone, and for this month (February) we have printed 7,500.

Here is what I wanted; my calves, I find, are becoming troubled with cattle lice, and I knew I had seen the remedy in the November number.

You saw in the Nov. number the remarks on the fall wheat. Do you agree in the general opinion that it is likely to be seriously injured by the severe frost of the season?

I hope not. When I read your article on it I examined my own. The frozen snow and ice were very strong, but when I broke through them there was between the ice and the ground an empty space, and the ground itself was not much frozen. The snow under the ice saved the wheat, and the snow is now thawing away while the ice is still remaining. The ground is not much frozen, and the thawed snow is sinking into it instead of running over the frozen surface and off into the river, as is often the case.

I am well pleased with your remarks and hope your expectations may be fulfilled.

It is impossible yet to say how the crop may get on. It may escape any injury for the present, and I hope it has done so, but the month of March is the most trying time for the fall wheat. The freezing and thawing often kill it—heaving up the roots and killing them.

How have your peas done this year?

The Excelsior peas that I got from you did well. I sowed them in the sod, and it was difficult to cover them well. They were a little thin, but for all the yield will be from 30 to 36 bushels to the acre. They are the best I know of. A neighbor complains that the wire worm has been very injurious to his crops. I have advised him to sow salt on the field, a remedy I saw recommended in the ADVOCATE.

#### To the President and Directors of the Provincial Boards of Agriculture.

GENTLEMEN—We address you, with no desire to censure or condemn, but believing that however good your present system of managing the agricultural affairs of this Dominion, there is much room for improvement. We know it is your desire to advance and do more good, and believe you will condescend with us and endeavor to carry out some of our suggestions. One of the most, perhaps the most, important subjects is seed, to which we would wish to draw your attention. The present mode for awarding prizes for grain is for two bushels. Your printed regulations may be good in restricting the prize to the growth of the year the exhibition is held, but we must regret that our best judges are not always able to decide if grain has been grown but a few months or a few years. We have reason to believe that imported grain has often taken prizes as Canadian grown grain. Who could detect it? We know grain is often kept from year to year to exhibit; also some of the prize grain is prepared by an immense amount of labor. After the fanning mill may have done its work, throwing and hand picking are resorted to to procure one bag of grain; that bag is often not procurable at any price—it has to do its work as a prize taker at many exhibitions. Perhaps for many seasons we do not wish to see this prize taken away, but a little more vigilance on the part of the judges might be advantageous. We hope to see the cleaning process kept up at any cost, but we would like to see a fairer representation of our cereals. We think an additional prize might be given to those that raise a general sample of good, clean, pure seed. Two bushels might be sufficient to enter, or even one, but growers on exhibition should be able to supply 25, 50, or 100 bushels, just as clean and pure, and a price should be put on the grain so that purchasers might procure one or more bags if they desired it. If the sample

supplied by the exhibitor to the purchaser was not quite equal to the sample exhibited, the exhibitor's name should be published and his prize money forfeited, and he should be precluded from exhibiting for five years. There is no necessity for every exhibitor being at the expense of taking 25, 50, or 100 bushels of grain to exhibit. One or two bushels would be given in the classes of wheat, oats, peas and barley that are most in demand. The grain of our country is about as important as our stock. Compare the amount paid in prizes for stock with that of grain. We believe out of fairness to the grain growers, and for the benefit of those wishing to procure good seed, and for the increase of wealth in our Dominion some such plan as the above might most advantageously be introduced.

#### Cereals.

The seed business is a disgrace to us. To Canada. And to the United States, as nearly all cereals imported from the United States by us have been foul. Eight years have we toiled and expended the price of several farms, to bring before the farmers of Canada the actual necessity of having some establishment in our country where seeds can be tested and procured. We have imported from the States, from Europe, and have procured the best we could hear of from any Canadian seedsmen or farmer. We have had samples hand picked to send out the result of our anticipation, very slowly. During the past month we had an application from England for 200 bushels of good, clean, plump, white oats. We applied for samples through our paper, which is taken by all the leading farmers—the last issue of our paper being 7,500, which on the full computation of the average readers of each paper being eight, thus the paper should be read by 60,000 persons, and among them all we do not know, nor do we believe, that 200 bushels of really plump, pure, white oats are to be found. We say it is a disgrace to you, to me, to our Agricultural Societies, and to our Government, that we are compelled to turn a British order away unfulfilled, simply because we cannot find 200 bushels of oats in Canada fit to ship as clean, pure, plump seed, as we cannot procure really clean, pure and good samples of wheat or oats in Canada or the States. We hope yet to live long enough to see that we shall be able to ship 200, or 2000, bushels of clean, pure, plump oats when required. We think it is better not to fill this order at all than to fill it badly. Our petition is now before the Legislature for a charter to allow farmers to join their capital together and establish the Canadian Emporium on a proper foundation. We will labor to remedy this evil of being obliged to send out mixed seed, if we can, and now we will strike a blow at the root of the evil.

#### Commendable.

In open Council 1st February, 1873. The following Report of the Committee on Agriculture of the County of Middlesex was unanimously adopted:—

"Your Committee beg leave to report that they would recommend this Council to recommend William Weld to the Legislature of Ontario, for his valuable services in the advancement of the agricultural interest of Ontario by the establishment of his Agricultural Emporium and FARMERS' ADVOCATE, and by the introduction, testing and disseminating of seeds and grain; and whereas, he has invested a large amount of capital in the same, this Council would recommend that he receive some substantial remuneration, and would also recommend the patronage of the public generally for his arduous and unflinching labors in this most worthy enterprise."

(Signed), LIONEL E. SHIPLEY,  
Chairman.  
I hereby certify that the above is a true copy.  
JAMES KEEFER,  
Clerk of the County of Middlesex.

It is an investigation daughters have, at a stop to the will, there torial drag lic matter There is m to make th most gifted terest the Beginning and indom steadily in position in within his sidency by into the c his sangu feated, a s sequent o cherished him. Eve have abdic ment and believed, w he had be balm of k loved, he e earnest p insane. A our stren the mind o ad, overth sad circum the gifted and the n And there by strange corpse from distinguish who die i platform ing snow ing paused there, in t mained on been cand United S To him and rare t head of th this slight has been a

We regre an esteem valuable p terests of the vetera man, died seventy-one, Ma trade of a ness at J Sleight. he commen of a news his life, h his death vertiser, p In Januar ing, at th mer. Th position i afterward Finally h and Cou ceived by pleasure. riculture, in the mi of his edi for some y was the o United S

We agr essay on t including question who has sheep. T before the

**Horace Greeley.**

It is announced that after a litigious investigation by the legal fraternity, the daughters of the lamented Horace Greeley have, at a great pecuniary sacrifice, put a stop to the law suit contesting his last will, thereby putting a stop to the inquisitorial dragging before the eyes of the public matters held sacred by the family. There is much in the latter days of Greeley to make the heart sad. No fiction of the most gifted author can excel in romantic interest the history of his strange, eventful life. Beginning life with only his own talents and indomitable perseverance, he rose steadily in social standing till the highest position in the United States seemed fairly within his grasp. Nominated for the Presidency by a powerful party, he entered into the contest with all the intensity of his sanguine temperament. When defeated, a sad depression, the reaction consequent on the overthrow of his dearly cherished expectation, took possession of him. Even reason seemed for a time to have abdicated her seat. Gentle treatment and the kindness of friends, it is believed, would have made him again what he had been; but instead of the soothing balm of kindness from friends whom he loved, he was hurried away, in spite of his earnest protest, to an asylum for the insane. Alas! what weakness is there in our strength! How unaccountably do the mind and body strengthen, or it may be, overthrow each other. Under these sad circumstances the mind of the orator, the gifted author, the statesman, sank, and the naturally strong body gave way. And there, in the insane asylum, attended by strangers, he died. The removal of his corpse from the Asylum was in no ways distinguishable from that of the many who die in such a place. On the open platform it lay, unattended, while the falling snow rested upon it, and the passers-by paused in reverence as they saw that there, in that rude box, lay all that remained on earth of him who had so lately been candidate for the Presidency of the United States.

To him whose perseverance, industry and rare talents had placed him at the head of the journalists, we in sadness pay this slight tribute in memory of what he has been and accomplished.—Ass't Ed.

**Obituary.**

We regret to have to record the death of an esteemed co-laborer in editing a most valuable periodical devoted to the best interests of the country. Luther Tucker, the veteran Editor of the *Country Gentleman*, died at Albany, at the age of nearly seventy-one years. He was born in Vermont, May 7, 1802. Having learned the trade of a printer, he first went into business at Jamaica, Long Island, with H. C. Sleight. At the early age of twenty-five he commenced the publishing and editing of a newspaper. In this, the business of his life, he was engaged till the time of his death. His first paper was the *Advertiser*, published at Rochester, N. Y. In January, 1831, he commenced publishing, at the same place, the *Genesee Farmer*. This paper soon obtained a high position in agricultural literature. It was afterwards merged in the *Cultivator*. Finally he published the *Cultivator and Country Gentleman*, a paper received by its many readers with great pleasure. He was greatly attached to agriculture, and was no mere theorist, having, in the midst of the pressing engagements of his editorial life, owned and cultivated for some years a farm near Rochester. He was the oldest agricultural editor in the United States.

**Prize.**

We again offer a chromo for the best essay on the cultivation of the white bean, including its use as food for sheep. The question is to be answered by a farmer who has raised the bean and fed it to sheep. The essays for competition to be in before the 20th day of March.

**Purdy's Small Fruit Instructor.**

This work has been advertised in our columns heretofore, the value of which may be judged from the following subjects which it contains:—Small Fruits for the Family; the Homes of the Farmer; Advice to New Beginners; What we Would do with 10 Acres; Profits of Small Fruits; Secrets in Making Small Fruits Profitable; Marketing Fruit; Gathering Fruit; Wagons for Drawing Fruit; Shipping Fruit that Perishes Quickly; Size of Shipping Crates; Plan for Laying-out and Planting a 20 acre lot with Fruit and Vegetables; Plan for a Kitchen Garden for Fruit and Vegetables; Stands for Gathering the Fruit; Protection from Winds; Rising New Soils; Manures; Liquid Manures; Strawberries—their profit, time to set, preparation of the soil, to grow large fruit, to produce fruit late in the season, mulching material, winter protection, taking up plants for setting, large and small plants, growing plants for re-setting, directions for setting, care after setting, crooked vs. straight rows, different mode of culture and varieties. The same of raspberries, blackberries, currants, gooseberries and grapes. Fig Culture; Plan for a Drying House; Propagating Plants from Root Cuttings, &c. The work is finely illustrated with plans, easily understood drawings, and is of such a practical character that it should be in the hands of every man who owns even a rod of ground. Mr. Purdy's address is Palmyra, N. Y. The price of the pamphlet is 25 cents. It is not large, nor are the illustrations numerous, but the matter is useful. We shall give the pamphlet to any old subscriber that will send us one new name during this month. Mr. Purdy publishes a very useful little paper, the *Small Fruit Recorder*, at \$1 per annum.

**The Canadian Victor Tomato.**

This is the name given to a tomato raised by Mr. S. H. Mitchell, of St. Marys. We called attention to it last year. Mr. Mitchell offered a few seeds to reliable parties to test previous to purchasing the right. Mr. J. Vick, of Rochester, Mr. J. J. H. Gregory and a Canadian gentleman procured a few seeds to try it. On trial it proved itself to be as Mr. Mitchell represented. The result has been that the enterprising seedsman, Mr. J. J. H. Gregory, of Marblehead, Mass., purchased it. He paid Mr. Mitchell the snug little sum of \$800 per pound for all the seed he could spare, taking with it the whole right of disposing of the seed in the United States. Mr. Mitchell retains the right to sell it in Canada, and Mr. Mitchell has kindly offered us the sole agency. Mr. Mitchell has long been known as a most enterprising gardener in St. Marys; tomatoes have been a hobby of his—in fact he has long been known as a producer of earliest kinds. St. Marys, although only a small town, has reason to be proud of the honor gained for it by Mr. Mitchell, as that is the birth-place of the Canadian Victor, a seed that is being more talked of and more sought after than any seed that ever before originated in Canada. It will soon be spread over the whole world. Mr. Mitchell sent us a branch of this tomato last year, with the fruit very evenly and well set on it, and having ripe on it before we had seen any half formed on our own vines. Gentlemen saw and admired them, seedsman and market-men were also admirers of them and were anxious to procure a tomato. We quote below Mr. Gregory's statement regarding it:—

"Last season a gentleman residing in Canada sent me a glowing description of a new tomato. I wrote asking for a pinch of seed that I might test it in my experimental garden—a tract of land of about three-quarters of an acre, which is pretty well filled every season with varieties of new vegetables my numerous correspondents kindly send me for trial. I planted these on my ground, anticipating the usual result, a tomato with some very good characteristics, but on the whole not superior to some kinds already before the public. About the time the plants were put

out, left for Europe; when I returned my foreman called my special attention to this new tomato, which had ripened its fruit several days earlier than any other kind of the twenty-five varieties I was growing scattered over my different farms. On examining the new sort I saw at a glance that here was a decided acquisition. The fruit was not only the earliest of all, but of large size and exceedingly symmetrical and handsome, while in ripening it had no green left around the stem, a great fault with many kinds otherwise good. The fruit was heavy, full meated and rich, and between round and oval in shape, and red in color; it was distributed very evenly on the vines. A correspondence developed the fact that the gentleman who sent it had for the past three seasons been testing it side by side with other standard varieties, and found that it ripened six to ten days earlier. This fact may be in part accounted for by its having been grown for years in a northern latitude, while the utmost care had always been used in the selecting of seed stock. As fair a test as I can present of its merits is this: a market gardener came over forty miles specially to examine my varieties of tomatoes on the ground as they grew, that he might select the very best for his own planting. After carefully examining every sort, he emphatically declared his preference for this new kind, though he knew nothing of its history."

**Agricultural.**

**LAND DRAINAGE.**

We extract the following, on the benefits of draining land, from an address delivered by Dr. G. Emerson, of Phila. —

"Water, so indispensable an element in the life of animals and plants, often proves inimical to both. Grass grown on wet land contains comparatively little nutriment for live stock. The refined cereals generally refuse to grow or to develop themselves fairly on such land, yielding it up to rushes and other aquatic plants. Manures show little efficacy wherever the ground contains too much water, a condition which offers nothing but discouragement to the efforts of the farmer. Water, when stagnant, generates malaria in warm weather, rendering the atmosphere unhealthy for man and beast. Thus, all warm-blooded animals and the more refined plants suffer from the noxious effects of redundant water. To get rid of this recourse must be had to drainage, which, when no rocks or other serious impediments are in the way, can generally be effected at small cost, compared with the advantages gained. In England and Germany, land drainage, where needed, is now regarded as so certain to produce profitable results, that it is considered quite as necessary as the ordinary preparation of land for cultivation. Wet land, worth little or nothing for farming purposes, when properly drained generally becomes more than double the value of the surrounding and more elevated land. Sands, gravels, light loams and moulds, allow water to pass freely through them, and are generally sufficiently drained by nature provided they are open at the bottom. Much land however is found which thorough draining alone can render profitable for cultivation or healthful for residence. Some described as "ordinarily dry land" would be greatly improved, both in productive value and salubrity, by drainage. Underdraining also contributes greatly to improve the roads in a country. Open ditches do good service, but they are liable to be often obstructed and rendered useless. Even a cow path or clod of earth may accomplish this effectually. They require watching, and are attended with considerable expense. But when hollow tiles are once laid down, all this trouble and expense is ended, the ground previously occupied and disfigured by these open ditches is gained, and the plough passes through it, whilst the surplus water flows beneath at a safe distance. Indeed, so many advantages are derived from substituting subterranean drains for open ditches, that it cannot be long before the latter will disappear in all neighbourhoods where good farming is the order of the day.

Many surface indications of the necessity for draining have been noted. Those of actual swamps need no description. Where a ploughed field shows a constant appearance of dampness, indicating that as water is dried from the surface more is forced up from below so that after rains it is much longer than other lands in assuming the light color of dry earth, it unmistakably needs draining.

A pit three or four feet deep that collects and retains water shortly after a rain is a sure sign of the need of draining. If the water of heavy rains stands for some time (more than twenty-four hours) on the surface, or if it collects in the furrow while ploughing, draining is necessary to bring the land to its full productiveness.

Among other indications of want of drainage are cracks in the soil, caused by the dryness of clay which previous soaking has pacted together, and the curling of corn, showing that its growth has been checked by a wet subsoil from sending down its roots deep enough to escape the effects of drouth. A certain wiriness of the grass, with a mossy or mouldy appearance of the ground, also indicate excessive moisture. Thorough drainage is the great protector of the farmer against the frequent losses to which all are subjected who attempt to cultivate wet and cold land. Whilst in this condition, ploughing, instead of pulverizing the soil and rendering it porous and favorable for vegetable growth, leaves it hard, dry, and incapable of affording proper subsistence to plants. On the contrary, a well drained soil has its temperature raised so as to bring earlier harvests, with increased crops in quantity and quality, thus leading to the improvement of all domestic animals and man himself.

Mr. Johnston, an extensive and successful farmer in the wheat region of Western New York, who has laid fifty miles of pipes within the last thirty years, says that he never saw one hundred acres on any farm but a portion of it would pay for draining, and that tile draining will frequently pay for itself in two years. In 1847 he bought a lot of ten acres to get an outlet for his drains. It was a perfect quagmire, covered with coarse aquatic grasses, and so unfruitful that it would not give back the seed thrown upon it. It was thoroughly drained, and the next year a crop of corn was taken from it which measured 80 bushels per acre.

Another wet piece of twenty acres which had never produced more than ten bushels of corn per acre, was drained at an expense of \$30. The first crop after this was 83 bushels and some odd pounds per acre. M. Johnston also gives satisfactory reasons for asserting that on drained land half the usual quantity of manure suffices to give maximum crops.

**DRYING PUMPKINS.**

Take the ripe pumpkins, pare, cut into small pieces, stew soft, mash and strain through a cullender, as if for making pies. Spread this pulp on plates in layers not quite an inch thick; dry it down in the stove oven, keep at so low a temperature as not to scorch it. In about a day it will become dry and crisp. The sheets thus made can be stored away in a dry place, and they are always ready for use for pies or sauce. Soak the pieces over night in a little milk, and they will return to a nice pulp, as delicious as the fresh pumpkin—we think much more so. The quick drying after cooking prevents any portion from slightly souring, as is always the case when the uncooked pieces are dried; the flavor is much better preserved, and after cooking is saved. This plan is quite as little trouble as the old mode, to say nothing of the superiority in the quality of the material obtained. Try it and you will not return to the old method, we are sure, and you will also become a great lover of pumpkin pie all the year round.—Ex.

**MANUFACTURE OF LINSEED OIL AND CAKE.**

The importance of linseed cake as an article of food for cattle is not so well recognised in Canada as in Britain, notwithstanding the great quantities of flax that are raised in the two Provinces. Probably this is owing to the fact, that until lately no completely successful attempt has been made to economise the refuse flax seed of Canada, by way of reducing it to a marketable commodity, either in the shape of painter's oil, or portable feeding cake.

Linseed and rape cake enter so largely into the "bill of fare" of the successful high class farmer, both in England and Scotland, that it is now no exaggeration to say, that but for artificial manure (guano, bone dust, &c.) and artificial food (linseed and rape cake) the present high value of farms could neither have been attained or maintained; and as a consequence, the agricultural prosperity of the old country advanced in a ratio that throws all antecedents into the shade, and keeps the farmer proudly ahead, or at least alongside, of the mechanical progress of the nineteenth century.

the purchaser... sample... forfeited... from exhibit... necessity for... expense of... of grain to... would be... prize might be... eat, oats, peas... demand. The... as important... amount paid... that of grain... to the grain... of those wish... for the in-... dominion some... most advan-

grace to us. To... ited States, as... ed from the... and expended... to bring before... actual necessity... ment in our... be tested and... rted from the... have procured... of from any... mer. We have... l to send out... ear to approach... ion, very slowly... had an applica-... bushels of good... We applied for... which is taken... the last issue... which on the... average readers... thus the paper... 00 persons, and... not know, nor do... bushels of really... are to be found... to you, to me, to... es, and to our... re compelled to... unfulfilled, simply... 00 bushels of oats... lean, pure, plump... ure really clean... wheat or oats in... We hope yet... that we shall... 2000, bushels of... s when requir-... etter not to fill... it badly. Our... the Legislature... mers to join their... ablish the Cana-... proper foundation... this evil of being... ed seed, if we can... blow at the root

able. February, 1873. of the Committee... nty of Middlesex... :— g leave to report... end this Council... Weld to the Legis-... s valuable services... the agricultural... e establishment of... um and FARMERS'... the introduction... ing of seeds and... e has invested a... l in the same, this... end that he receive... ration, and would... onage of the pub-... and unfinch-... worthy enterprise." L. E. SHIPLEY, Chairman. the above is a true... M. S. KEEFER, nty of Middlesex.

It is gratifying to our Colonial industry, and a sign of how this country is rapidly adapting itself to its own and the general wants of the times, to find that the vast quantities of flax-seed raised in the middle and west of Ontario, are not thrown aside as waste, after the textile fabric has been secured. The village of Baden, centre of Wilnot Township, situated on the line of the Grand Trunk Railway, nine miles west of Berlin. That of a linseed oil mill, which enjoys the proud pre-eminence of being at present the only establishment of the kind in Ontario, or indeed in the Dominion of Canada, if we except a small affair in Quebec.

Four cords of wood are consumed every twenty-four hours, and the regular supply used up per diem is 300 bushels of seed, producing an average of fourteen barrels of oil, which is mostly shipped to Montreal, either in the raw or boiled state. From the above raw material six tons of cake are produced per day, which has hitherto chiefly found a market in England. The process is chiefly as follows: The seed is first run through four heavy rollers of 1,200 lbs. weight each, and is thus reduced to meal. The "meal" is then elevated to the "chasers" two enormous upright grindstones of four tons each, where it is still further ground down, while at the same time it is heated by steam. From these the now comparatively moistened material goes into the moulds, where it is fashioned into square flat cakes of the weight of 10 lbs. each. These are finally put up into a powerful hydraulic press, capable of being raised to no less a strain than 400 tons, by which the remaining oil is effectually squeezed out, and the cake turned out in marketable shape. Two presses are constantly in use, each weighing eight tons. The oil is run from the presses into a great tank in the cellar or basement, where it is allowed to settle for two weeks. It is then drawn off, either raw, or taken to the kettle-house, and boiled ready for market. During the whole process, it is of imperative importance that the temperature should be kept equally at 70.

Hitherto the whole of the cake used for home consumption in Canada is ground up into meal, which is retailed at \$2 per 100 lbs. It is to be hoped, now that this excellent feeding material both for cattle and sheep, can be procured in quantity at such a reasonable price, it will be more and more extensively used by our enterprising cattle-feeders and breeders. Oil cake is known to possess double the feeding and fattening qualities of any other substance employed as food for farm stock; and we trust when it is known it is a "home product," our farmers will see it to be for their own and the country's benefit to encourage native manufactures.—A. F. Blenheim.

#### FARMING IN ENGLAND.

At a late meeting of the Grand Clute Farmers' Club, Mr. Goodland gave the following description of what he saw during a recent visit to England:—

I visited my friends in England last fall. When I left Wisconsin, about the middle of August, the grain was all harvested and the grass on the pastures was dry and parched. As we came in sight of the lands off the west coast of Ireland I saw the wheat fields were not harvested, the straw just beginning to turn, and the pastures looked as green as yours here in Wisconsin in the month of June. I thought it might well be called the Emerald Isle.

Farming is done mostly in England by tenants; and lands in that section of the country where I visited, rent from \$15 to \$28 per acre. With such enormous rents the American farmer would ask, How can the tenant do it? If you visit a farmer he takes you out to see his farm and stock. I saw a herd of cows in pasture, and asked if he could breed from them. He replied, "Yes." I think they are too fat. "How can I prevent it, unless I shut them up to keep them from eating?" The grass was just as thick as it could stand; green fresh and succulent. I asked the farmer what he seeded to. He replied, "I always use a half dozen kinds of seed and always have green feed." They have as large an acreage there of roots as you do here of corn; 60 tons of mangels per acre, 40 tons of common turnips. I would recommend a more thorough cultivation of roots here. Bullocks were formerly five years old when they are ready for market; now they breed to bring them to maturity earlier. This farmer with whom I was visiting, had 6 two and a half year old pure blooded Devon steers that would dress off 800 lbs. of beef

per head, which would sell for \$150 each. Our swine is far superior to theirs, though it be a fact it is hard to make them believe it.

I visited a farm of 240 acres. The tenant keeps five hands to the farm. They expend a much larger amount of labor to the acre than you do here. Almost all of their lands are underdrained at the cost of about \$25 per acre. These drains are usually 5 feet deep and 25 feet apart. They use tile (a member asks—"How long will tile last?")—tile is everlasting. There are many farmers that keep Cotswold sheep. I saw Southdowns that the carcass would weigh, when dressed, 300 lbs. Store sheep were worth \$15 per head. This high price for store sheep is owing to the fact that there is a large amount of fodder, and they practice feeding all they can on the farm.

I will call your attention to their manner of keeping up the fertility of the soil. Almost every nation is laid under contribution to England for fertilizers. The Superphosphates of South Carolina; guano from Peru; bones and oil cake from the west which ought to be used here at home. They are now trying to utilize the sewerage. As yet they have not been very successful.

#### VALUE OF TURNIPS AS FOOD FOR STOCK

In a little Pamphlet on "Turnips," recently published by David Londreth & Son, Philadelphia, the above subject is discussed as follows:—"The value of succulent food, in a hygienic or sanitary view, to man, and also to the animals which minister to his wants, need not be commented on. All who have paid attention to the subject agree in opinion as to its advantage, indeed absolute necessity, if the preservation of health be properly studied. The long winters of our country which arrest vegetation, and oblige us to provide green food to be stored up in anticipation of the severer season, has necessarily induced inquiry and examination as to the class of vegetables which can be produced in greatest abundance, at least cost, with least exertion, in the shortest space of time, and least liability to failure under unfavorable atmospheric conditions, and also, as of primary importance, with a capacity for preservation for months with slight danger of decay. These qualities appear to be united in a remarkable degree in the turnip—hence its very general culture; and, as naturally follows, the importance of selecting the varieties which experience has pointed out as better adapted to geographical divisions and special purposes. In Great Britain the culture of bulbs, more especially the turnip (in which we here include the *rutabaga*, or Swede, though not so classed in England) at assumed really gigantic importance; and it has been estimated by writers on political economy, years ago, when the turnip product was much below the present, and its annual value was equivalent to the sum represented by the interest on the national debt—no inconsiderable amount, as everybody knows. Until the culture of roots, as they are termed, was extended and enlarged in England, animal food was a luxury seldom within the reach of the operative classes, with whom vegetables and farinaceous compounds, not resources for sustenance. Now, meats in some shape are within reach of all, the poor factory operative, the industrious mechanic, and the wealthy landowner, alike participate; and this change has grown of—not national prosperity or increased wages, though both are indirectly affected, but the greater breadth of land in root culture, which has so largely, immensely, it may be said, augmented the productive capacity of the acreage under plow, thus practically bringing food to every workingman's door. Indian corn—with us the great meat producer, which has played so important a part in the civilization of our country, enabling the hardy emigrant from the older settlements to wrest the wilderness from the savage, had overcome the forest—is not a product of Great Britain or any portion of the north of Europe; there only being known as an import from our country. In this particular, we have an advantage impossible to estimate; but, great as it is, it should not lessen our exertion to produce succulent food, which augments the value of the farinaceous. We have given expression to our conception of the value of roots as stock food. Our own working stock, at present numbering fifty-six head, and a small herd of Albnays kept for the family dairy, we aim as regularly to supply with food of that character; whether it be turnips, mangolds, carrots, or beets, as with hay; and we should consider it most unfortunate if untoward

events should deprive us of the ability thus to contribute to the wealth and vigor of our working force, or the secretion of rich milk, or corresponding rich butter, as high colored in winter as that from grass, and almost as well flavoured. That turnips singly and alone will secure health and strength, and rich milk, we are far from maintaining; but we do contend, that, in proper proportion, in suitable condition, at proper times, mixed with corn meal, shorts, oil cake, or other farinaceous food, they will produce invaluable results. To feed roots of any kind in cold stables, or what may sometimes be seen, in the open air in inclement weather—the roots, perhaps, partially frozen—and expect favorable results, argues, to say the least, want of reflection; and where we find people say, and we sometimes do, "they can see no good in roots," we are sure to find, on inquiry, that some of the obviously rational and necessary rules of procedure in feeding had been neglected or disregarded."

#### OUR FARM WASTE.

It has been a serious question among many farmers whether there is actually any economy in buying reapers, mowers, threshing machines, and other costly farm implements—that is whether the same amount of money expended in the purchase of manual labor (where it can be had) to do the work with cradle, scythe, flails, &c., that these machines do, would not go farther than it does as now expended. Of course all recognize the fact that these machines supply what is difficult now to obtain—good laborers. But if the laborers could be obtained, would they not be the cheaper investment? We say this is a question about which there has always been controversy.

The foregoing is introductory to saying that the largest per cent of work that can be charged to any department of farm economy as at present practiced—must be charged to agricultural implements—or rather to the improvidence of farmers in purchasing and taking care of them. As a rule too many of these machines are around in a neighborhood—that is, for profit. In other words, an unnecessary number are purchased in proportion to the work there is for them to do. We speak of reapers and mowers especially. There is no reason why one reaper or mower may not do the work which, especially in districts where farms are small, five are now employed to do. We are not sure that we might not double the number and say that one reaper and mower might do the work that ten now do. Of course this remark would not apply to the large grain farmers of the west; but even there the number might be diminished if those purchases were employed all of the time during harvest—or run for a whole neighborhood, as threshing machines are run.

Here, then, would be a most important saving. If we say that one machine can do the work that five now do, and fix the price of the combined reaper and mower as low as \$125, there is \$500 saved on the original investment in a single neighborhood of five farmers, besides the interest on the money and the deterioration of the property. Thus if four-fifths of the investment in these machines were saved annually to the farmers of the United States the sum with interest and deterioration of property thus saved would be enormous. We are sorry we have not at hand the figures which show how many of this class of machines are annually made, so as to give this view of the case the emphasis of figures. But each farmer in a neighborhood may do a little figuring for himself, if he thinks our statement extravagant let him show us wherein.

But this surplus machinery thus purchased and lying idle and unproductive ten months out of twelve is not the only waste; for in addition to the wear from use and depreciation in value in consequence, is that resulting from want of care. Farmers can not afford to pay ten per cent. interest on capital that lies unproductive ten months in the year, unless they make enormous profits on it during the two months it is in use. But that is just what they are doing, it seems to us safe to say, on this class of farm implements; indeed we may include employments of all kinds, for we regard it a very modest estimate to say that the depreciation in the value of farm implements annually, from wear and want of shelter and proper care, is 10 per cent. of their cost. See what this amounts to! The census report of 1870 shows the value of agricultural implements made in this country, in that year to have been \$52,000,000. Sup-

posing these implements to have been sold that season and the deterioration in value during 1871 to have amounted to ten per cent. (which we do not think extravagant), they cost the farmers of the county \$5,200,000; add the interest on the money thus invested, at 7 per cent.—\$3,640,000—and we have the handsome sum of \$8,840,000 which agricultural implements are costing the farmers of the country, besides the \$52,000,000 of unproductive capital ten months in the year.

Of course some people will think this extravagant calculation; but we fear it is too near the truth.—*Iowa Homestead.*

#### AGRICULTURAL EDUCATION NECESSARY.

All kinds of education are desirable, but farmers require special instruction. There was a prejudice against agricultural colleges, because it was feared that the attention of boys would be called away from the farm. The like had been observed from attendance at other schools. There was a prejudice also against scientific treatises because the authors were investigators, seeking to show causes and effects, and not how to make money. We need to keep alive what has been learned as well as to find out new things. In 1585 a report on agriculture was submitted to the Senate of Venice, which, if republished today, would astonish people by informing them how much those people knew of farming. Knowledge moves in circles, and one age forgets what the previous one knew. By and by some of these things are re-discovered and old practices are revived. Men need to know how others have succeeded or failed. Many a man spends years of time and the larger part of his property to bring out an invention that had been in use for years, or discarded as of no value. Farmers are constantly doing the same thing.

We must take into consideration the circumstances of a farmer before we can give him correct advice. Underdraining may pay on land worth \$500 per acre, but not on land worth \$5. It is generally admitted that improvement is needed in Western farming, but exactly how there was doubt. The great defect in American farming is lack of system. We simply raise a crop because it promises to command a good price; we should do everything on a farm in relation to how it will influence other things. An English farmer makes his calculations not for one year, but for a series of years. He is looking out for the farm as well as for his pocket. There is a better return for food fed to swine, than for that fed to sheep or cattle, but it would be bad policy to keep only hogs on a farm. Mixed farming is best for a farm and best for a community, though a speciality might pay better for a single year, or be more likely to enrich an individual.

It is also the safest, as if one crop fails, another may succeed. Society demands that farm laborers receive employment all the year, but raising special crops furnishes employment but a few months. The wheat raised in many parts of the country is now so large in amount that it could not be harvested but by the aid of machinery. Men on wheat farms were employed but a few months and were idle the rest of the time. We must pay more attention to rotation of crops.—*Prairie Farmer.*

#### VALUE OF SCIENTIFIC KNOWLEDGE TO FARMERS.

We have not the slightest doubt that millions of dollars might have been saved to this country if all farmers had known that their barnyard manure contained a material called ammonia, which rapidly disappeared when that manure was exposed to the air and weather, but that a little ground plaster or even earth mixed with the barnyard manure would stop waste. It does not require any great depth of study for a farmer to learn that soda or potash put in his soil make a combination with the sand (silica) that causes it to dissolve, and that unless this sand becomes soluble the stalks of grain will not be firm and strong to hold up the heads or ears.

It does not require any great amount of brain though for a farmer to remember that soda, potash and lime, when combined with sulphuric acid, are called sulphates, when with muriatic acid, are called nitrates; and when with carbonic acid carbonates; and that all are valuable to him, but that the first three with fix the ammonia in his barnyard manure, and the last will not. We simply believe that if more science was written for farmers in a practical and plain manner they would make better crops.—*N. Y. World*

IS FARM

Never season, had such it has t prairie h is privat there is a much du anxiety, as at th festival o a tenth great m understa years, h year; an arrest th arrive at years m pay our t and, as about rea and our privation ing money in order t our expc the vergo Of the countie, degree N counties, good as amount o nois. If 500 acre the cost resolution purchasin two year grows o cattle at taxed te his prop taken th it is dry, when it i 110° in the therm try *Gentle*

The mo are those this resp only to li season, l larger res With a chosen or field selec directed, unplough be.

There a applica quick in t operation, effects.

amount of into valu experience matters.

In Euro fertilizers, in the pro soil is hu would cur would ren and other

By the tion in th cheap met

The pra for the gro this turn sprinkled man's crop

If called oopend ing: For feel the pl made man over this February

If clay pi coat of li closely pa best stabl this time, tervene b stable an decompos matter in grass give and retain

IS FARMING IN THE WEST REMUNERATIVE.

Never has the old world greeting of the season, "I wish you a Merry Christmas," had such a sarcastic and bitter significance as it has to thousands to-day. On half the prairie homes of the West, I suppose there is privation; and in half of that half, I believe there is an actual want of the bare necessities of life. I have never seen so much gloom, so much duress, so much doubt and so much anxiety, among farmers and business men, as at the present time. The great winter festival of the year is passing by with scarce a tenth the recognition of former times. A great many of us are beginning to see and understand that we, for the last five or six years, have been growing poorer, year by year; and we begin to see too, if we do not arrest this downward tendency, we shall arrive at bankruptcy and poverty in a few years more. To liquidate our debts and to pay our taxes now is our great aim and object; and, as hard as the lesson may be, we are about ready to own and acknowledge that we and our families must submit to personal privation to succeed. We have been borrowing money privately and voting taxes publicly in order to get out of debt; and contrary to our expectations, we find ourselves nearly on the verge of ruin.

Of the 102 counties, about 40 are the best counties, and lie principally north of the 39th degree N. L. Into any one of these forty counties, (and any one is, on the whole, as good as any other,) he can go and get any amount of information about farming in Illinois. If he wishes to buy, he can purchase 500 acres, more or less, for a little more than the cost of the improvements. I applaud his resolution to come and stay a year before purchasing. It would not hurt him to stay two years, and learn how the Illinois farmer grows corn and oats at 20 cents a bushel, cattle at 2½ and hogs at 3 cents a pound, is taxed ten per cent. on the assessed value of his property, pays 5 cents a mile when he takes the train, hauls water two miles when it is dry, gets slaughtered in his own door-yard when it is wet, harvests with the mercury at 110° in the shade, and feeds his cattle with the thermometer at 34° below zero.—Country Gentleman.

SYSTEMATIC FARMING

The most successful farmers in the world are those who have been most systematic in this respect. With them the object is not only to reap an abundant harvest the present season, but to increase the probability of larger results in each of the years following.

With a view to this end, fertilizers are chosen or manufactured, the crop for each field selected, the kind and order of ploughing directed, and the years in which the lands lie unploughed. So it may be here and, should be.

There should be system in the choice and application of fertilizers. Some of these are quick in their results. Others slower in their operation, but much more durable in their effects. Every plantation affords a great amount of material, which may be converted into valuable fertilizers. Observation and experience must be relied on to guide in such matters.

In Europe lime is the sheet anchor among fertilizers, and would doubtless aid greatly in the production of most crops here. Our soil is hungry for alkalies. There application would cure many ailments, and in particular would render the turning under of green crops and other vegetable matter more effective.

By the way, the burying of a crop of vegetation in the soil on which it grew is one of the cheap methods of improving land.

The present season has been very favorable for the growth of vegetation on stubble-fields; this turned before Christmas; after being sprinkled with lime might help the young man's crop next year and years following.

If called on to suggest a system of rotations in crops and in fertilizers, I would state the following: For cotton take a field which did not feel the plough last summer. Whatever of home made manures you intend for cotton, spread over this field and plough it before the 1st of February. Let the land be well pulverized. If clay predominates, the field bear a heavy coat of litter from the woods, especially if closely pastured by stock last summer. The best stable manure will do no harm; put in at this time, even if fifteen minutes do not intervene between the time of digging up in the stable and the covering over in the field. The decomposition of manure or any vegetable matter in the soil desirable, inasmuch as the grass given out in the process are absorbed and retained by the hungry soil, and afford

nutriment for the first plants that rise on it. If guano is to be used it should not be applied till you are about ready to put in your seed, as its volatile nature causes its stimulating properties to rush rapidly through the whole bed rise to the surface and travel off to adjacent fields or forests.

TILLAGE OF THE SOIL.

Agriculture is both an art and a science. The primitive idea of cultivators has been that the tilling of the soil was confined wholly or chiefly to the domain of art; and that the only source of agricultural knowledge was to be found in the experience acquired in the practice of this art; ignoring the fact that its scientific basis embraces a knowledge of all the conditions of vegetable life, of the origin of the elements of plants, and of the sources whence they derive their nourishment.

A field upon which the farmer cultivates the same plants successively for a number of years, may become infertile for these plants in three years; whilst another field may last seven, another fifteen and another twenty, without losing its fertility. One field produces wheat, but not beans; another produces turnips, but not tobacco; and a third yields turnips, but does not bear clover.

The knowledge acquired by experience and practice does not give us the reason why a field gradually loses its fertility for the same plant; nor the reason why a certain kind of plant flourishes on it, and another fails; but science teaches us what means are necessary to enable a field to sustain its fertility for the same plant, and to make it fit for the cultivation of one, two, or for all plants. The methods of cultivating soils vary with their geological character. Wheat, clover, corn and potatoes require certain constituents from the soil; and hence they cannot flourish in a soil where these are absent. Science enables us to understand these necessary constituents, by the analysis of the ashes of the plants; and if we discover the absence of these ingredients from the soil, the cause of its sterility is obvious.

By thorough tillage we renew the surface of the soil, and as far as practicable, make every particle of it accessible to atmospheric action, or the action of carbonic acid and oxygen, and thus procure a new provision of soluble mineral substances, which are indispensable for the nourishment and luxuriance of a new generation of plants. All cultivated plants require alkalies and alkaline earths, although each of them may use different proportions of the one or the other; the cereals do not flourish in a soil deficient in silica in a soluble state. Silicates, as they occur in nature, differ very materially in their tendency to suffer disintegration, and in the resistance which they offer to the action of atmospheric agents. There are certain kinds of soil so rich in silicates prone to disintegration, that every year or every two years, a quantity of silicate of potash is rendered fit for assimilation sufficient for the formation of the leaves and stems of a whole crop of wheat.

The frequent plowing of land in the summer season, is beneficial by giving it a thorough disintegration, and exposing every particle to the action of the weather, for the purpose of enriching it in certain soluble ingredients. The food of plants is rendered available only in a soluble condition, and consequently, the more thoroughly the constituents of plant growth are pulverized, the more easily are they rendered soluble, and become plant food.—National Agriculturist.

The Ploughman says:—Mr. H. G. Abbot, of Vassalboro', Me., plowed a mowing lot of 40 acres, that was covered with white and yellow weed, and the grass badly killed out. He turned 10 acres of it to pasture for 50 sheep, and allowed them to feed it for two years. In the spring of the third year he moved it and got the heaviest crop of hay that he had ever grown with any amount of dressing. Timothy and red top came in, and in some places the clover was so heavy that it could not be cut with a mowing machine. It has been mown for several years, and yielded as heavy a crop as other fields which have been cultivated by the usual method of ploughing and manuring. He thinks that farmers that do not pasture sheep suffer a great loss. The sheep he pastured on the lot received no grain, but fed on the lot from spring to fall, and were in the best of condition.

POTATOES FOR SEED.

The following are the ideas of an old farmer in Maine on seed potatoes.—We use too ripe seed when we propagate from tubers that have lain in the ground till dead ripe. Plants that are propagated by tubers require different treatment from those propagated by seeds. Our corns and grains that we use for seed we like to have stand a little longer than the main crop, and become perfectly matured. On the same principal our corn is selected from the ripest, best developed ears and kernels. But potatoes for seed should be dug and placed in a cool dark cellar, just as soon as a majority of them will slightly crack open in boiling. This is most invariably while the tops are yet green and growing fast. The tubers are then in their most vigorous state. Disconnect them from the parent stalk at that time and they retain their vigor. Instead of deteriorating, as most all of us know the older sorts have, their vitality is increased and they yield better with less tendency to rot. As long ago as 1815, and subsequently, observations led him to make some experiments to test the theory, and he finds it the proper course to pursue. It is not often said that the late planted potatoes are better for seed than those planted early. The lateness of their planting, presumably, prevents perfect ripening, hence the principle of the above reasoning would be in force.

Stock and Dairy.

ANNUAL MEETING OF THE CANADIAN DAIRYMEN'S ASSOCIATION.

The Dairymen's Association held their meeting in the Town Hall, Ingersoll, on Tuesday, and Thursday, the 11th and 13th. Feb. The usual committees having been appointed at the morning service on the first day, the convention adjourned till 1:30 p. m. The afternoon was well attended, about 600 delegates being present. Mr. Ballantyne, President of the Association, delivered the usual annual address.

He congratulated the Association on the profitable results of their efforts, and success of the operators of the cheese interest in Ontario. The Minister of Agriculture had been conferred with, relative to the incorporation of the Association. As there was established at Belleville a similar Association, he was unwilling to grant any further assistance unless they were both united. The Belleville Association had received a grant of \$500 which they had appropriated in prizes at their cheese fair. A satisfactory arrangement would, he trusted, be come to between the two associations. A committee, appointed for that purpose, had prepared a basis of agreement. It was on the principle that two meetings of the convention would be held at Ingersoll for one at Belleville, and that the representation from Belleville should be one-third of the entire company.

Prof. Bell, of Belleville, delivered a lecture on the chemical composition of milk and cheese floating curds, pasture suitable for dairy stock, &c.

Milk, he said, was a binding body, whose ingredients were held together by chemical force. He described minutely the chemical composition of milk, showing that it possessed those ingredients which are liable to suffer decomposition, unless the utmost care be taken in the manipulations it goes through in being manufactured. He asserted that the utmost care and cleanliness was an absolute necessity in the manufacture of anything into which milk entered; and it could not be too much impressed upon those who, from ignorance or carelessness, refuse to exercise that scrupulousness and cleanliness which he spoke of. Such persons should have no connection with manufactories whatever. He dwelt with great force upon the necessity of washing, not with warm water, but with scalding water. He pointed out the injurious effects of using impure water for cattle, and insisted upon the necessity of providing shades in pasture fields to shield the animals from the scorching sun. He also gave directions in choosing grass seeds, in order to provide for cattle such food as was suitable for them. They required that the pasturages be long, the construction of their mouths being such that they were unable to take such a hold of grass as sheep or horses. Thus, sheep and horses would thrive upon pasture that would starve a cow. Of all the articles manufactured from milk, cheese was the most nutritious; in fact it was more nutritious than any other kind of food. He also remarked upon the various causes of impure milk. In addition to uncleanness on the part of those engaged in handling it, foul atmosphere and stagnant pools contributed greatly to the putrefaction of milk, as well as dead carrion in the vicinity where they feed. With regard to the best breeds of cattle, and those especially which are found most profitable for butter-making, he mentioned the Alderneys and the Ayrshires, which he thought superior to all others. He also referred to the

best style of cheese presses. He congratulated the Canadian dairymen on the success attending their efforts, and as a proof of the great progress that was being made, he referred to the statement of Professor Arnold, at the Convention of the American dairymen, to the effect that the Commercial interests of the American dairymen would be materially affected by the Canadians, who were progressing very rapidly, and manufacturing large quantities of cheese for export.

MARKETING CHEESE.

Mr. Casswell referred to the marketing of cheese. He found, from his own experience, that cheese should not be kept more than twenty or thirty days. It was a great mistake to hold cheese in anticipation of rising prices, as was too frequently done in Canada, and he quite approved of early and frequent sales. The character of the cheeses deteriorated by thus being kept, and became unfit for the English Market—the English demanding a mild cheese. Mr. Birrell, New York State, said that in his quarter and at Cincinnati sales were made monthly and semi-monthly. Buyers visited factories, examined the cheese, and one person was appointed to act as representative and salesman of the factory at the next fortnightly or monthly market.

Mr. Farrington would recommend manufacturers to make a cheese that would keep—that would be good in twenty days, or sixty days, or at six months. If it could be sold earlier, good and well but let it be of such a character as not to deteriorate with being kept.

Mr. Hopkins said, the Brown's, of Roundville, made great monthly sales, and found it invariably to their advantage. The prices for the year, he said, had varied from 9 cents up to 17 cents, the average being 11 cents. He was very positive in recommending early sales, especially for the reasons given by Mr. Birrell.

FLOATING CURDS.

The discussion then turned to floating curds and their causes. The meeting then adjourned until 7:30 p. m.

MR. WILLARDS ADDRESS.

In respect to dairy matters it was necessary, as well as in all others, that progress should be made, and it was encouraging that such progress was actually being made, even if it was slow. He referred to the power which the State of New York wields on the commercial interests of dairymen throughout the world. Certain great changes, however, were going on in it which were slowly but surely altering its position in this respect. Immense quantities of butter and cheese were presently being manufactured in that State and exported; but all the land around the city was being quickly absorbed for the growing of hay, and of course proportionally lessening the production of dairy articles. It had been found that three acres of land were required to support a cow, while the same number of acres under hay, selling at \$14, \$16, and sometimes \$18, per ton, yields a much larger return in cash, without the extra trouble of attending the cows. The demand for hay came principally from the large American cities, where a ready market was always found for it, in consequence of the number of horses employed about the railways and on the streets. The milk districts were thus continually receding from the cities and there was no fear of the dairy interests of Ontario suffering from want of demand for their staple. Indeed, the prospects would be that they would increase on account of the want of supply thus caused, as well as the increased demand which the growth of the American cities entailed upon it. He laid great stress upon the character and cleanliness of the food given to cattle, and reminded his hearers that whatever milk the cow gives is the production of this food, and partakes very largely and very directly of its character. It was impossible to expect a large product of good milk unless the food supplied was both healthy and abundant. It mattered little, in his opinion, and according to his personal experience, what the feed of the cow was as long as she was perfectly healthy and received the proper nutriment, the character and quantity of which materially affected both the quantity and quality of the milk.

SECOND DAY.

The following members were, on recommendation of the committee, elected officers for the present year: viz.—President, Thos. Ballantyne; Vice President, Benjamin Hopkins; Secretary, J. C. Hals; Treasurer, E. E. Chadwick; and Messrs. Nixon, Chadwick, Casswell, Hamilton, Yates, Osborn, Farrington and Vandewater, with the officers named, members of the executive committee.

Resolved, in accordance with the Committee on marketing cheese, that cheese markets be appointed in important dairy centres to be held on a certain day in each month or more frequently if necessary; and that their places be, Belleville, Stratford and Ingersoll.

REPORT ON INCORPORATION.

The Committee on Corporation reported, as the basis of incorporation, that the Association retain its present name, the Canadian Dairy

men's Association. That the management be vested in a Board of nine Directors, the officers to be a president, vice-president, secretary and treasurer to be elected annually by the directors, and the president, vice-president and treasurer to be from their own number; the directors to hold office for three years, three of them to retire in turn every year, and their places to be filled upon a vote at the regular meetings of the association. The provisional directors to be Messrs. R. Graham, M. P. P., B. Hopkins, J. Coxon, T. Ballantyne, E. Chadwick, and E. Caswell, who will hold office until their successors be appointed. The directors to retire in the order in which they are named. The Association to hold a general annual meeting in each year, said meetings to be held two years in succession at Ingersoll, and every third year at Belleville. The annual meeting of 1874 to be held at Belleville, and the two following ones at Ingersoll. The time of holding the annual meeting to be fixed by the by-law and rules and regulations, as may be expedient for the management of its affairs, they not being consistent with the Act of Parliament. Money granted by the Government to their practical and scientific knowledge relating to the products of the dairy. The president of the Association for the time being, to be a member of the Board of Agriculture.

#### TAINTED MILK.

Prof. Caldwell, of Cornwall, then delivered an address upon "Tainted Milk." He explained very fully the various causes, producing fermentation and putrefaction. It had been found on examination that both these conditions were the result of the presence of fungi. Having enumerated the names of the different fungi, as existing in different bodies, and the several developments of their existence, he remarked that it was a very difficult thing to destroy them. A certain degree of temperature—that is to say about that in a comfortable sitting room—was most favorable to their production. They were known to live at a very low temperature, and the only means that could be used with good results was scalding with boiling water and a plentiful use of disinfectants. The fungus was a great enemy of the dairyman, and was very difficult to get rid of. He would approve of thorough cleansing of the milk vessels with brushes. Milk turned sour much more readily in a close than an open atmosphere. Transferring milk in a warm state from one place to another was proof of this, because it was invariably found to have a tainted taste. He advocated keeping milk in shallow vessels, and if possible aerating it.

#### BEST PASTURE FOR DAIRY STOCK.

The observations he had to offer, Mr. Fairington said, were gathered from personal observation. He referred to the state of the pasture in Ohio, and the poor class of cheese it produced. The pasture was red and dry, and the cheese partook of the same feature. While clover, he thought, was very favorable to the production of good cheese, the best quality always being found in places where it abounded. The red clover was said, by some writers to contain the properties which were favorable to the production of cheese, but even if this were true, it contained medicinal properties, and cattle always preferred natural grass, feeding to a large extent upon the grass which grows at the sides of the fences when confined in a red clover park. He thought that in the absence of natural grass there was nothing better than white clover. Large bladed grasses are always best, of whatever kind.

Mr. Butler also believed that large bladed grass was sweetest, and richest, and produced the best milk, and the finest butter and cheese. All grasses that took root deeply were the most juicy. One thing that hindered this deep rooting, was the wet land, and he thought draining must be attended to before good grass can be expected. Wet land was invariably sour, and the grass it produced was also sour and stunted. He said white clover exterminated all other grasses and he believed in timothy. He also spoke highly in favor of Western corn as a food for dairy cows in winter.

Mr. Harris fully endorsed the sentiments of the first speaker as to white clover, as he had himself lost a great number of cattle from their eating natural Indian grass. According to a veterinary authority, this grass tended to thin the blood of the cattle; and the consequence was that seventeen of his stock, well housed and well-conditioned were frozen to death. He approved of a mixture of timothy and Alsike clover, and the white clover came after these.

Mr. Webb, in answer to a question explained the process of butter dealing on the continent of Europe, more particularly as to the manner of selling it. The farmers did not pack the butter themselves, but sold it to men who made a regular trade of packing. The principal opposition to the Canadian butter supply in the British market was from Russia and Finland. Kiel butter sold in the English market at about 130s., Normandy butter 140s., and Canadian at 80s.

Mr. Caswell said that in Canada we had the land to produce good butter, and the ladies to

make it, but was spoiled in the handling. He had sent Oxford butter to the old country in 1872, and sold it for 112s., but he questioned if it would now bring much more than the half. It was not the country that was to blame, it was the way in which the butter was handled. He did not see any reason why Oxford butter should not be sold at rates as high as Brockville butter. This it had done in some cases; he had himself sold it for an equal price with Brockville butter. He approved of a butter market, and considered that so long as dry-goods men handled the butter, and the same price paid for good and bad, as at present, and so long as they did not pay cash for it, so long would the butter be positively inferior. It was an actual fact that Canadian butter had come to be considered a nuisance in the British market. An inspector ought to be appointed, and he understood that the matter was likely to be arranged soon. The packing of Canadian butter was bad, but the salting was still worse. British merchants complained that the butter was spoiled, and the flavor completely destroyed by the amount of salt which Canadians put into it. This would always be the case so long as the salt used was the same as that with which they salted pork. (Laughter.) He was informed that a greater amount of Canadian salt had been used for this purpose during the last year than for any previous one.

Mr. Morrison said that many people of his acquaintance sold their milk to cheese factories and found it paid them better than to make butter. He accounted for the poor butter in the western portion of the country from the strong Scotch and German element pervading the inhabitants, not from the want of cleanliness on the part of the ladies. The Scotch got the credit of being the hardest on the ladies of any people in the world—the Indians excepted. Instead of the men helping the women in the manufacture of butter, the ladies are allowed to do the whole thing, and it was well known that they, when they get tired, are apt to heat the milk. For the last ten years, he said, butter averaged from ten to twelve cents per pound in the market.

The Chairman remarked that Brockville butter was looked upon as being better, more because butter making was there a specialty, and because the manufacture and sale were carried on upon a business principle, and not through dry goods men.

#### GODERICH SALT.

In answer to a question, Mr. Farrington said that Goderich salt, according to his experience, was good for curing purposes. He thought the question was one worth testing, and he further thought home products ought to be patronized if they were good.

Mr. Caswell said he could make more by importing Liverpool salt than by using Canadian salt, and he pointed out numerous instances in which cheese manufacturers had shown a decided preference for the Liverpool.

Mr. Rosse had not used any Goderich salt for two years, but he was of opinion that Liverpool salt was superior, though perhaps not any cheaper. When he used the Goderich salt there was such an amount of refuse that unless he had a large herd of cattle he would find it difficult to dispose of it.

The Chairman said he believed the Goderich salt was good, some of the samples which he had seen showing every sign of purity.

The Finance Committee then reported the state of the funds, showing the receipts of the year to have been \$518 18; expenditures, \$503 86; leaving a balance of \$14 32; in the hands of the Treasurer.

This summer my horses got badly run down. We fed them liberally, but they did not eat well. They had no appetite, no digestion, and no strength and spirit. They came home at noon and night fagged out, and their night's rest did not refresh them. I saw a barrel in two, and placed the ends on the platform of the pump. These are for watering the horses. Into one of them we put a pailful of corn-meal and mixed it with the water. The horses at first did not like it, and would only drink a little when very thirsty. After they had drunk what they would they were allowed pure water. In a very few days, however, they drank this corn-meal soup with a relish, and in less than a week there was a decided change for the better in the appearance of all the horses. We do not let them eat the meal, but merely let them drink the milky water. I have no doubt it is as good for them as a plate of good soup is for a tired and hungry man before dinner. It seems to stimulate the appetite and aid digestion.

It is a capital thing for cows as well as horses, but it is not so easy a matter to give it to the cows, as they soon learn to stick their heads in the water almost up to their horns to get the meal that settles at the bottom. It is necessary to have a large trough with a false bottom,

#### STOCK.

About the first of August of each year Mr. Mechi buys from 30 to 40 bullocks, at \$45 to \$60 a head. These are fed upon cut hay, cake, barley, and bean meal, always steamed before feeding. The cattle are fed at regular intervals three times a day, and given all they will eat. Late in the fall and during the winter, sliced turnips are mixed with the other food just before feeding time. These cattle are kept until the first of April, when they are fit for the butcher. Their market value is then from \$130 to 140 a head. Beside these, from 150 to 175 head of sheep are kept on the farm. The main object in keeping and feeding stock is to make manure. Mr. M. says there is no profit in making beef, but the advantage comes from the grain, and for full crops, manure in large doses must be applied, and fattening cattle is the cheapest way of securing a supply. From the number of cattle named, including six or eight farm horses, about 1,400 two-horse loads of manure are made annually.—N. Y. Tribune.

#### THE SOILING SYSTEM.

A farmer thus writes to the *Practical Farmer*:

In the summer of '71, not having sufficient room for my soiling crops, I fenced off two and a half acres of three year old sod ground for this purpose. One and a half acres were ploughed and drilled three feet apart with corn. The rows being struck out, and deepened by going twice in the row, were filled about three inches deep with manure from the cow stables. The corn was drilled with one of Allen's Patent drills, and slightly covered. This was completed on the 1st of 8th mo., and immediately the remaining acre was ploughed and thoroughly harrowed. It was then treated with 400 lbs. of bone meal, and sown with one-half Yellow Aberdeen, and one-half Flat Dutch turnip seed. The corn rows were run north and south and were twice cultivated with a fluke-harrow. This corn we began cutting 9th mo. 1st, a month after planting, it being then about four feet high, and just shooting into tassels. This, with the additional four hours pasturage on aftermath in the middle of the day, kept 25 head of cows until after they were put into winter quarters about 11mo. 1st. On the acre devoted to turnips there was raised 800 bus. As soon as one half of the fodder corn had been cut, the ground was ploughed, and rye sowed without the addition of manure. Early in the 5th mo. of this year the ground occupied by turnips was sown with corn in the same manner that the other had been done in the previous fall, the seed being of the Stowell's Evergreen variety. This grew magnificently, and was begun to be cut just as the cars were forming; these matured so rapidly that table corn for a considerable family was supplied for two weeks by them. This fodder was highly relished by the cows, and supplied 35 head and a yoke of working oxen for a month. Two-thirds of the tract upon removal of the fodder had 200 lbs. of phosphate applied to it, and was sown with rye to be used as a soiling crop next spring. The other third was planted with White English mustard seed, which grew very rapidly, and was fed to the cows, and much relished by them this fall. Not having quite enough seed to furnish this out, I sowed an ounce or two of Flat Dutch turnips in the corner, and harvested 40 bus. of fine turnips from it. The piece occupied by fodder in the fall of '71, was about the middle of the 5th mo. ploughed, harrowed, and rows run out 4 feet apart. These were filled with cow manure, and backed up upon; the ridges were then dragged over by an old door, and sugar beet seed drilled in. This, with but little more labor than would be given to a corn crop, yielded 480 bushels of large roots, which I think will be appreciated by the cows next spring. The 3 acre piece sown with rye in '71 was soiled from one week in June, and the balance left to mature, as it was getting old for the cows, and straw was wanting for tying fodder. About middle of 8th mo., after my other turnips were all sowed, I concluded to try an experiment on this piece, by drilling in ruta bagas flat. The ground was well prepared, and rows run with the drill, sowing 500 lbs of bone meal to the acre, and directly after the bone another drill sowed and rolled the seed. The turnips were a good while coming up, and I began to think it would have paid much better, to have taken the time to have ridged the ground, but plant after plant appeared, and when real turnip growing weather arrived, I found there was a very good stand, indeed they had to be

thinned considerably; 250 bus. of fair-sized roots were taken from this ground. I do not narrate what was raised on these 2½ acres in little over a year at all boastfully, but only to show what with ordinary care and attention we caught from the soil. I am convinced if close culture was given, and no time was lost in planting after a crop was taken off, that 10 acres would keep as many animals as 25 do on an average. On this very lot I speak of, twice the amount of ruta bagas with the same manure might have been produced by planting immediately after the rye was cut off, but we were too busy to attend to it just then. Rye might have been sown after the mustard and sugar beets, had we been strong-handed enough to have gone right at it. I might mention that I had stored away at the 1st of this month from 2,000 to 2,500 bus. of stock roots, which will prove a valuable aid to the short hay crop. I fed away a large quantity of pumpkins early in the season, among them was one which weighed 126 lbs.

#### DAIRY PROPERTIES OF THE SHORT-HORN.

The proverb, "Booth for the butcher, Bate for the pail," with equal injustice cuts at the reputation of the two leading short-horn tribes. It falsely implies that Warlabey cattle are not cattle for dairy purposes and as falsely suggests that Kirklevington short-horns lack those properties which the grazier desires. The short-horn kind characterized by either of the defects supposed would not be the kind to take and to hold a leading position among the varieties of the race. If the short-horn is to maintain its ground in competition with other carefully cultivated and profitable breeds, its duplex qualification for usefulness as a milker which can cheaply make weight when required, must be steadfastly kept in view by its breeders. By practical value in comparison with other breeds, the short-horn must stand or fall, however much, granting its value, its success may be helped by fashion and fancy.

The question of the influence of the male parent with regard to dairy properties is one of much importance. The Ayrshire breeders considering stock to be of the utmost consequence and believe that the attention paid to the dairy antecedents of the bull's family, each time fresh blood is introduced, is the grand secret of the almost invariably great milking powers of Ayrshire cattle. It was the aim of the early short-horn breeders, and to their credit, it is the aim of not a few short-horn breeders in the present day, to propagate cows qualified to yield abundance of milk and butter, while retaining the broad cylindrical form and mellowness of touch which indicate, the first a capability of carrying beef, the second a propensity to grow it. The advantages of good dairy and grazing qualities have been combined, not in single animals, one here, one there, but in families and tribes; and by assiduous attention those qualities in union may be perpetuated. We should not hold the most perfect model farm, the prime beef, sufficient apology for absence of milking power in a short-horn. The cow, able only to maintain her calf, should be consigned, with her calf, to the butcher. We require supplies of human food—milk and butter, as well as beef and veal. The breeder who promotes the increase of all adds to the wealth of his country's agricultural produce, while he who neglects any of these desiderata is as truly responsible for national loss as the landowner who wastes the capabilities of the soil. It is unnecessary to transform the short-horn into wedgy weed. Cow of the Maynard, Charge, and Colling type could give milk in plentiful quantity; so can cows of Warlabey and Kirklevington varieties. To keep what their predecessors have gained must be the earnest purpose of present and future breeders. The successful practice of breeders for milk, not only of breeders for beef, is to look carefully on both sides of the pedigree; to make sure that the sire's progenitors contribute support not opposition to the desirable qualities owned by the ancestors of the dam.—From Bell's *London Messenger*.

#### DID NOT LIKE SHEEP.

A correspondent of the *Country Gentleman* says that in his boyhood he knew a wealthy farmer and drover, who persisted in saying that a sheep's foot was poison to the land. His hatred of the wool-bearers was more intense, if possible, than John Randolph's, who would go a mile out of his way to kick a sheep. He never permitted one sheep to step on his soil if he could help it. In other respects he was as good a farmer as any of his neighbors, and had more means to do as he would. After many years it came to be a common remark among his neighbors: "N.'s farms are running down; he will have to get some sheep." Subsequently, when his farms had passed out of his hands, and a system management in which the sheep played a prominent part came, it was often remarked, "See how the poison of the sheep's feet is bringing up N.'s old farms."

#### FATTE

Very many allowing them to cease grow stock intended flesh before t all wrong. the fall, it this loss, th from the sta ing them we and Novem along during them; for th as to fat, ea much waste for the simp fleshy, is no of cold.

The feeder and that is, flock through out in the f spring, and carcass. In pecially fee keeping them they may f shed their w to do if allow gain again wool buyers how many t the growth thereon.

Every fee that there i fattening s quarters in with those order. If s the latter p able effort weather co must be ha nutritious f have been period, it r the winter condition i

It is the yards, and fine, but th from the m much the be warm shelled, in should be f not become soft spells an abundan at hand, fo as much as by the one If this is ordinary p in health, commence feed until they will prove.

There is will not pe lieve they do not ad feeding of constant who would systems, v art, use p they will p and again

The pri few and s for the co cing kinds of the slo the tail full eye, t of the lo and the g These are mal of wh above poi ted, broa each bree upon the generally i obligate award no seen trav invariably see the g magic th judge of

FATTENING SHEEP IN WINTER.

Very many feeders lose time and money in allowing their stock cattle, hogs and sheep to cease growing in the fall. Nay, much stock intended for fattening, absolutely loses flesh before they begin to get grain. This is all wrong. If sheep have been losing flesh in the fall, it will be more difficult to regain this loss, than to have kept them gaining from the start. The money is made by feeding them well during the months of October and November, and then carrying them along during the rest of the time one keeps them; for the animal being in good condition as to fat, early in the season, there is not so much waste during the ensuing cold weather, for the simple reason that the animal being fleshy, is not so susceptible to the influence of cold.

The feeder has a simple problem to solve, and that is, how most cheaply to carry the flock through the winter and have them come out in the fattest possible condition in the spring, and make money both on wool and carcass. In doing so, he must, with sheep especially feed carefully and equally, always keeping them as high as possible, so that they may fatten right along, and yet not shed their wool, and this they are pretty sure to do if allowed to fall off in flesh and then gain again by injudicious feeding. Indeed wool buyers will often be enabled to tell just how many times a sheep has fallen off during the growth of the wool by the inequalities thereon.

Every feeder who has handled them knows that there is a great difference in the cost of fattening sheep, which are put in winter quarters in low condition, in comparison with those which go into the yards in good order. If sheep have been losing flesh during the latter part of the fall, it requires considerable effort to bring them back when cold weather comes. To do this, good shelter must be had, and an abundance of the most nutritious food. On the other hand, if they have been steadily gaining during the same period, it requires much less feeding through the winter to put them in good marketable condition in the spring.

It is the usual practice to feed in open yards, and properly so, when the weather is fine, but the sheep must at least have shelter from the wind and rain—if a good barn so much the better. At all events, they must be warm and dry. The corn may be feshelled, in troughs, and the feeding places should be frequently moved, so that they do not become muddy and dirty during the many soft spells usual in our country. Salt, and an abundance of pure water should be always at hand, for in this case the sheep take only as much as they need, and are neither purged by the one or chilled by too much of the other. If this is carefully attended to, and other ordinary precautions are taken to keep them in health, you should be successful. If you commence feeding carefully, and increase the feed until you have reached the maximum, they will eat all clean, and continue to improve.

There is no reason why this class of stock will not pay as well as any other. We believe they will pay better, but nevertheless do not advise every farmer to rush into the feeding of sheep at short notice. They require constant watching and care; but to those who would try, not yet knowing the best systems, we would say, try a few, study the art, use proper precautions against loss, and they will pay twice—once in their carcasses, and again in their wool.—*Colonial Farmer.*

JUDGING ANIMALS.

The principles of judging an animal are few and simple, and in the main, very similar for the cow, sheep and pig—the meat producing kinds. Common to all are the excellence of the sloping shoulder, the angular quarter, the tail well set on, the springing rib, the full eye, the well-proportioned, airy bearing of the loin, the mellow skin, the easy gait and the general mien of dignity and grace. These are all indicative of the first-class animal of whatever breed. In addition to the above points, to be low, lengthy, short-jointed, broad of beam, are attributes of value of each breed. In fact we place so much value upon the motions of the animal—a quality generally over-looked—that we would make it obligatory upon committee men at fairs to award no prizes to cattle that they had not seen travel. Do you not know that buyers invariably start a creature off that they may see the gait before purchasing? And what magic there is in the very touch of a skilful judge of neat stock.

SOILING MILCH COWS.

Mr. H. Sedgwick, of Cornwall, Conn., stated at a farmers' meeting at Lowell, Mass., in September, that farmers in his neighborhood were engaged in producing milk for the New York market. Referring to the short feed of the fall of 1871, he added:—"Our farmers all declare they will not go back to the old way of feeding stock. We cut up our straw and everything available. Many of us have adopted the plan of steaming the food for our cattle, and we are satisfied from the experiments we have made that we save a third of our provender by steaming it. As a sample of what this manner of feeding stock will do, I will relate an instance of a young man who, a year ago last spring, bought a farm of 80 acres of land for \$11,000. The farm kept 11 cows, four or five yearlings, and a horse or two. The young man took hold of that farm and immediately put in 14 acres of sowed corn. He increased the stock to 25 cows, and kept them on 12 acres, feeding them on sowed corn, and also cutting his oats green for food. His receipts the first year were over \$3,000. This year he summered on that same farm 27 cows, and he told me that his 27 cows would average him \$100 each from the profit on milk."—*Moore's Rural New-Yorker.*

FATTENING AND FEEDING SHEEP.

The food and the management of flocks of mature sheep, with a view of fitting them for the butcher with the greatest economy, is quite a different affair from raising early lambs for the market.

It has been quite settled, by repeated experiments that from two and a-half to three pounds of good hay, or its equivalent, is necessary to the support of life and condition, for one day, of 100 lbs. of live weight of sheep. To fatten sheep more than this quantity of food must be given, and it is only the excess that will appear in the growth of the animals. Suppose a feeder puts into his yards on the 1st of December 100 Merino wethers or dry ewes that are of proper age and in good condition, say three years old, and average in weight 100 lbs. each. Such a flock will require 300 lbs. of hay per day (including waste) to keep them in the same condition. But allowance should be made in weighing the sheep full of grass, or for some time they will not hold their first weight good. The change from green to dry food will be attended with some apparent loss in weight; and to make the trial fairly the weight of the sheep should not be taken until they have been some days on dry food. Having fairly determined the aggregate weight of the flock, three per cent of that weight of good hay or its equivalent will be required to make them hold their own. Now we enquire what is the cheapest food and the most profitable method of treating this flock of fattening sheep? The time has gone when we could purchase oilcake meal at prices that we can afford to pay for feeding grown up sheep, and we must now give grain, hay, and straw such as we raise.

Grain-raising farmers will have great stacks of straw that they wish to turn into manure, and to get as much for as they can by feeding it out to farm stock. Such farmers often purchase large flocks of sheep in the Fall, and feed them their straw with grain, and the greater price they will bring, per pound, over the price paid, amply pays for food and care of the flock. The straw is generally fed unsparingly—the grain with care, so that none of it is wasted, and so that each animal shall receive its due proportion.

Mr. John Johnston was for many years noted as a winter feeder for sheep for the butcher, and he continued to feed large flocks—sometimes 1,000 sheep at once—until he had made his 300 acre farm as rich, from their yards, as he desired.

The results arrived at by this noted farmer will be sufficiently understood by giving the figures for one flock, which he was so kind as to furnish me.

He put into his yards 300 sheep that weighed an average of 99 pounds each; he fed them 120 days, and they gained in that time 29 pounds each—in all 8,700 pounds for the flock. He fed them for 60 days all the straw they would eat, and one pound of corn each per day; for the next 60 days he fed them all the hay they would eat and the pound of corn each. This gives, in all, two bushels of corn (120 pounds) for each sheep, and probably 2 pounds, or 2½ pounds of hay for each sheep for 60 days—say 2½ pounds of hay each—in all 250 pounds per day—or 150 pounds for each sheep. Then we have,

corn at one cent per pound and hay at \$15 per ton, just eight cents per pound for the 29 pounds of mutton and wool produced. If, as Mr. Johnston calculates, the manure made paid for the trouble and straw consumed, then he had, in addition to his gain of 29 pounds each sheep (which, as has been stated, was paid for in hay and corn at eight cents per pound), the increasing price per pound that the sheep would bring on the first day of February, when fat, over their price on the first day of December, when they went into the yards—and generally this would be from 50 to 100 per cent advance.

In talking this subject over with this veteran farmer on one occasion, he said with emphasis, "I owe all I have to feeding sheep in the Winter." The direct profits he had found to be considerable, and the manure made had enabled him to raise immense crops of wheat, and to carry his land to the highest condition.—G. Geddes, in *New York Tribune.*

SHEEP RAISING.

Some time ago we tried to show farmers the folly of parting with lambs and the loss they sustained by doing so, yet notwithstanding the warnings of this and other journals a very large number of lambs have been disposed of in this county as well as in other parts of Canada. Few farmers calculate as much as they should do, and if they have any stock or produce which they can spare, and can get as much for it as their neighbor, they think it is all right. But will nothing induce them to look into the matter of sheep raising. The sale of lambs last year caused a loss to the agriculturists of this county of hundreds of thousands of dollars. This year fewer lambs have been sold, but still the loss will be severely felt next summer. The fleece of a lamb will more than pay for wintering. The feed in summer costs nothing, and in the fall the sheep will be worth five dollars, twice as much as can be had for it now. What would be thought of a farmer's wife who would sell her chickens for a cent a piece as soon as they are hatched, with the understanding that the old hen should take care of them as long as grasshoppers are in season and stubble fields are rich. Yet such a person is just as wise as the man who sells his sheep before they come to maturity. Often keeping them until it suits the buyer to remove them, and until the animals have increased in value. Again and again the attention of our readers has been called to the fact that this county is exceedingly well adapted for the raising of long-wooled sheep, and farmers have been urged to increase their flocks, securing the best breeds, and preparing their wool properly for market.

Mr. Hewitson of Arran, is known to have one of the finest flocks in this county, numbering nearly three hundred. This spring he had 250 fleeces, which averaged \$4 each, bringing in cash \$1000. From the increase of his flock he realized \$500 for what he sold, holding the remainder of the increase worth \$150. Thus from his sheep alone he has had the handsome income of \$1,650. Mr. Hewitson sells no lambs, but keeps the best breed of sheep. He has three hundred and thirty acres of land cleared, one hundred of which was in grain crop, the remainder in hay and pasture, and it will be easily understood in what excellent condition his farm will continue when so much of it is set aside for grazing. Why will our farmers not read more, think more, and cultivate more carefully than they do? Where is the sense of a man telling you that he cannot afford to pay for an agricultural paper, when he has lost in a single bargain, for want of information that paper would have given him, more than would have kept him in papers all the days of his life. Let every man who owns or occupies a lot or land get an agricultural paper and read it carefully, and if he does not grow rich and wiser in consequence he must have a most uncommon skull.—*Ex.*

EFFECTS OF OLD PASTURES ON THE FLAVOR OF CHEESE.

An English correspondent of the *Country Gentleman* says:—"Under no circumstances would an old established dairy farm, famed for fine flavoured cheese, suffer the peculiar rich and mellow taste imparted by the particular herbage grown in the dairy fields, to be tainted by the product of inferior grass, or, on the other hand, permit the cheese of other parties to be benefited at the expense of this sweet and most pleasant flavor. In parts of England where arable land prevails, and where the land in permanent grass has never produced any cheese of a quality beyond

mediocrity, it is possible factories may arise, for doubtless the management in making is superior by far to where only second-class cheese is manufactured. Good second-class cheese can not be made from clover pasture, or any of the temporary grass land under the usual style of manufacture there, for it will not keep to get old enough to suit the best customers, and cheese which requires eating while comparatively new, has to be consumed by the working classes, who will not and can not pay high prices.

The writer, after complimenting the American system of manufacture, and giving due credit to the excellent quality of our cheese, again goes on to say:

It is an utter impossibility to impart the flavor given by the old natural grasses growing in century-old dairy fields, to cheese made from clover or any artificial or temporary pastures. This is so well known in England, that the dairy cows on the best dairy farms are always, when in milk, confined to the old dairy land, and on most of these farms the rare fields which only a fence divides, which would spoil the uniformity of the cheese by giving the cows access thereto. It makes a difference in butter-making, too, for though not quite so quickly shown, yet there is land which will not do to graze with milch cows, from which a genuine good article is required; and though, of course, both butter and cheese must be manufactured in a cleanly and proper manner, yet much depends on the food the cows eat, as the best managers can not get rid of impurities which have been brought into the milk from rank, sour, or unsuitable forage.

BUTTER MAKING.

PAPER BY L. BOIES, MARENGO, ILL., AT NORTH-WESTERN DAIRYMEN'S ASSOCIATION MEETING.

When we began butter making we were determined to succeed if we knew enough. Our first sale was 25 cents per pound, less commission. Last week we were offered 40 cents per pound for all we could make for the next three months. The first thing to have is rich milk, and to get this we feed plenty of corn and oat meal, and one feed of shock corn each day; then good clover and timothy hay early cut. This feed has given us good, rich milk and a good supply of it. We think the milk should be strained as soon after being milked as possible.

We use the common tin pan, holding 10 lbs., 2½ inches in depth. Our milk room is entirely separate from the house. No odor from the kitchen can reach it; with a cellar under the whole, 8 feet deep in the clear. This winter when the thermometer stood 26° below zero outside, it stood 62° above in milk room.

Our milk stands 36 to 48 hours in winter and 12 to 14 in summer. We churn every other day in winter, every day, Sundays excepted, in summer. We churn with a horse, about 260 pounds at a time; using two box churns. When the butter is thoroughly gathered we wash it till it is clear of butter-milk, then put it on to the worker, salt with Ashton salt, 14-16 of an ounce to the pound; work just enough to mix the salt well through, then it is put in a cool place twenty-four hours; then it is put upon the butter worker again, and worked again until all the streaks are gone, and the brine well out, then pack in white ash tubs, pails or boxes, just as the customers want it.

Cream should never stand in cold weather over 48 hours; in summer 24, or it will become bitter. The same with milk, if it stands before skimming too long; 36 to 48 hours is the extreme.

When packed we cover the butter with clean, white cloth, then a layer of fine Ashton salt, say ½ inch thick, put on cover tight, put our brand on, cover and it is ready for market.

COOLING MILK SUDDENLY.

Nearly all dairymen now unite in the opinion that milk is injured by any purpose by being cooled too suddenly, as by the use of ice or the employment of patent appliances. They also agree that warm milk should not be mixed with that which is cold, as is frequently done by pouring milk into a can that already contains milk cooled by the use of ice.

About 7,000 acres are cleared of timber each week-day in the States. Of the annual crop, \$75,000,000 worth goes to fuel, and twice as much to fencing. The locomotives in the country consume no less than 700,000 cords a year, or 500 acres a year.

of fair-sized land. I do not use 2½ acres in all, but only attention is given to the time was lost taken off, that animals as 25 per cent of the lot I speak of was cut by the eye was cut to it just sown after the have been strong-right at it. I away at the of 2,500 bus. of a valuable aid away a large in the season, weighed 126 lbs.

SHORT-HORNS butcher, Bate. justice cuts at ding short-horn Warlaby cattle and as falsely short-horns lack grazer desires. rized by either not be the kind position among the short-horn is competition with profitable breeds, as a milker when required, w by its breed-erison with other and or fall, how-its success may

of the male properties is one yr-hire breeders rom a milk-prom consequence paid to the dairy each time fresh and secret of the king powers of aim of the early their credit, it is n breeders in the qualified to yield while retaining and mellowness of at a capability of ropensity to grow dairy and grazing not in single ani-at in families and those quali-ated. We should eld. The prime- absence of milk- the cow, able only be consigned, with require supplies of, as well as beef promotes the in- h of his country's e who neglects any ly responsible for er who wastes the is unnecessary to wedgy weed. Cow Colling type could y; so can cows of varieties. To keep gained must be the end future breeders. feeders for milk, not to look carefully on to make sure that tribute support not qualities owned by from Bell's London

SHEEP. Country Gentleman he knew a wealthy persisted in saying erson to the land, bearers was more John Randolph's, of his way to kick itted one sheep to help it. In other farmer as any of ore means to do as ears it came to be s neighbors: "N.'s he will have to get his farms and, and a system he sheep played a as often remarked, if the sheep's feet is

## INFLUENCE OF SIRE ON MILKING QUALITIES.

An interesting fact, says the *Massachusetts Ploughman*, has been established in the breeding of dairy stock, that the power of transmitting the milking qualities of the breed, which belong, more properly speaking, to the female, reside with the male, showing that he possesses the germs, so to speak, of the qualities belonging to the cow.

It was proved in the use of the Jersey bull, which transmitted the rich butter making qualities of the milk belonging to the breed, but it has often been shown since, and may be regarded as well settled. And it is a practical point of so much importance, that it is to be kept constantly in mind by the breeder of dairy stock. No doubt both animals should be good of their kind, but the bull should be derived from a milking stock, or come from a cow remarkable for her excellence as a milker.

The butchers and packers do not want large, coarse hogs. Provided they are fat enough, they will pay the most for a fine-boned, small pig that does not weigh over 350 or 400 lbs. There is a great demand for bacon to send to England, and for this purpose especially pigs should be fat, but not too large and coarse. If our pork and bacon commanded as high a price abroad as the English and Irish bacon, we should now be reaping a rich harvest. With our cheap corn, we ought to beat the world in the production of choice hams, bacon, pork, and lard—and we shall yet do it. But we must give up talking about "big" hogs, and aim to raise those of the finest and best quality.

The last number of the *Irish Farmers' Gazette*, in its report of the Dublin market, says: "There was a fair supply of bacon and hams; demand fair; old cleared out, Fritch bacon, new, 73s. to 76s.; Middles, new, 80s. to 82s.; American, 40s. to 46s." How do you like the figures? The Irish bacon, if I understand aright, is quoted at double the price of the American. The American sells for less than nine cents and the Irish for over seventeen cents per pound in gold. And you must recollect that if our bacon advanced eight cents per pound in Dublin it ought to advance eight cents per pound in Iowa or Kansas. This additional eight cents per pound is worth striving for. We talk and think a good deal about the demand in England for American wheat, but the demand for and price of our pork attract little attention from farmers. We have exported so far this season over 250,000,000 lbs. of bacon, pork, and lard.—From Walks and Talks in the Farm, in *American Agriculturist*.

## LIVING STOVES.

What sight more pleasant than a row of sleek, well cared for, healthy animals in winter? Outside, the thermometer stands close upon zero; inside, the temperature is so comfortable that we can well dispense with our overcoat. From whence comes this genial warmth? No coal or wood is consumed to raise temperature. The problem is easily solved. Here are fifteen stoves not constructed of iron or stone, but of flesh and blood, and in these stoves hay and grain are burned constantly, and hence the heat. It is the warmth radiated from the animals that we feel, and this comes from actual combustion, produced by the play of vital or chemical forces within the organisms. A large per cent. of the food supplied adds neither to our store of milk or flesh, but is burned to produce animal heat, and in winter the amount of food must be increased to compensate for the loss by direct radiation from the surface, and through the respiratory organs.

No greater mistake can be made by farmers than to house their animals in cold open sheds or barns. It is not only extremely cruel, but the worst possible policy, looking to material interest alone. A shivering cow can give no milk nor gain any flesh. Every function is disturbed and waste goes on rapidly. To feed a cow or other animal in the cold, open air is about as foolish and wasteful as to place a stove out of doors, fill it with fuel, and expect to receive benefit by warming the atmosphere generally. Animals need protection and warmth as well as human beings, and none but careless, unthrifty farmers will deny it to them.

Mr. James Ellis, of the township of Pakenham, has made during the past year over 3,000 pounds of butter, all of which he sold at 20 cents per pound, to customers in Pakenham, Perth, Ottawa, Toronto, and other places.

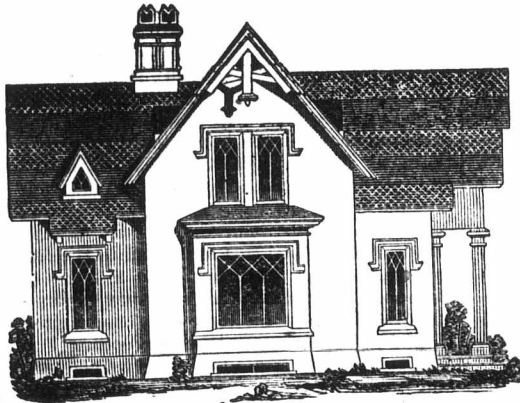
## Poultry Yard.

## THE FOWL ACCOUNT.

This being the time of year when all business men take an inventory of goods on hand, and make statements of the year's transactions, just past, I thought it might be of interest to let some of the farmers' boys and girls know how the hens have behaved during 1872, and so accompanying this you will find a debit and credit account as follows:

Debtor.		
January, 1872.	8 chickens valued at	\$.25 00
February, "	Expended for nest eggs and coops	2 00
February, 1872.	Feed to January, 1873.	10 70
Sept., "	Expenses at Fair	1 00
Dec., 31, "	Profit over all expenses	34 40
		\$50 10
Creditor.		
Dec. 31, 1872.	Eggs sold in the year	\$ 12 10
"	Chicks sold in year	21 00
"	Premiums at fair	5 00
"	40 chicks at 25c.	10 00
"	Coops on hand	2 00
		\$50 10

If, starting the beginning of the year with only eight fowls, and devoting no time to their care except a few moments at meal times, and after being obliged to buy all the feed at high city prices, one can make a clean profit of \$34 40, how much could the ordinary farmer's children make, if they devoted the proper attention to a goodly flock, especially where the feed on a farm costs virtually nothing.



GOTHIC COTTAGE.

In giving a crop of corn, potatoes, or other products of the farm, it is usual to state for further guidance the kind of seed, kind of ground, care, &c.

So I add, these were young fowls, of the pure light Brahma breed, and housed in cold and stormy weather, in a small, rough made hen house, which was kept well supplied with fresh water, lime, plaster and wood ashes, and in summer they were allowed the range of a lot 200 feet square. During the heavy rain storms of last spring and early summer, I lost a great many by hail and rain. But with the exception of a week of epizootic (in which I lost three) my chickens have been free from disease, while my neighbors have lost fearfully, especially lately, one farmer near me losing over 100 in two weeks.

I might say that though I have put in the chickens on hand, at an actual cash value, yet many of them will bring more than ten times that amount if sold to breeders.

The profit of raising poultry are beyond dispute, and I hope the future may see our farmers devoting more time and attention to it, and our markets better supplied with fine plump birds, and bright fresh eggs.—*W. in Prairie Farmer*.

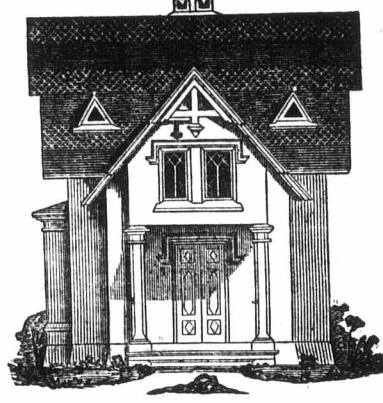
## CHARCOAL FOR TURKEYS.

A California paper highly recommends charcoal for fattening turkeys, and says that it should be pulverized and mixed with mashed potatoes and corn meal, as well as fed to them in small lumps. It mentions that in two lots of four each, treated alike, and one lot given this mixture and the other not, there was an average gain in the weight of the first of one pound and a half each. While we condemn the practice of mixing the pulverized charcoal with the other food of turkeys, compelling them to eat it whether they

want to or not, we have no doubt of the excellent effects of supplying them with charcoal broken into small bits, especially when fattening for market. We have had evidence of what we say, and for a number of years have recommended charcoal for this purpose.

## THE HEALTH OF POULTRY.

The essentials to the health and well-being of poultry—so far as accommodation is concerned—are very few and very simple; but it is essential to see that they are provided, in proper proportion to the size and number of the birds. Pure air and shelter from wind and weather, are all that is required, whether the establishment covers acres or is confined to a few square feet. Pure air, of course, implies both proper cleanliness, and proper ventilation; and good shelter implies a retreat dry under foot as well as above, which must also be open to the light, or the fowls will not resort to it. But unless the whole establishment be on a considerable scale, large and extensive houses are neither necessary nor desirable, and any amateur at all accustomed to the use of tools may do—as we and many others have done—the whole of the work of his fowl-house with his own hands. Indeed, we strongly advise this where possible, for it will not only benefit both the health and the pocket of the proprietor, but will give him a deep and lasting interest in the undertaking, which will of itself go a long way to command success.—*Illustrated Book of Poultry*.



Gothic Cottage.

As we know that many of our subscribers are building new houses for themselves, we intend from time to time to give views of buildings, such as would be suitable for farmers, and which, from their neat appearance, would add to the beauty and value of the farm. We are not in favor of the ginger bread ornament which many carpenters wish to stick on every building they have anything to do with, but we do like neat and tastily arranged houses. We also like to see variety. No matter how nice a house is, it does not look half so well if every second house we meet is like it. Let go-a-head farmers such as are subscribers to our magazine, display their taste when erecting their dwellings, by building something different from their neighbors.

Few persons in the western portion of the Dominion have any correct notion of the amount of ship property owned in the Lower Provinces. New Brunswick alone has 250,000 tons, worth seven and a half millions of dollars. This gives nearly one ton for every man, woman and child in the Province, or say \$25 apiece in vessel property alone. Hon. Peter Michell, in a recent speech, stated the net annual return from this property was \$2,250,000, or about 30 per cent on its value! Even banking cannot show such a handsome average result. Under the stimulus of so large profits, New Brunswick is adding 100,000 tons annually to her mercantile marine, already the largest in proportion to population of any country in the world.

The butter-buyers of Ontario and Durham counties are taking steps to provide for the appointment of a butter-inspector.

## Horticultural.

## SEASON FOR PLANTING EVERGREENS.

If moist, wet weather, plant evergreens from 15th of August to the 1st of November, but no later, unless quite warm and moist, but bury until spring. Spring planting should not be commenced until the ground has become warm in any case, and not until nearly the time the buds have begun to push. It is a very popular notion that trees should be planted very early in the spring; this depends much upon the locality where the trees have grown. In this latitude (Northern Wisconsin) trees do not usually begin to start until about June 1st, and as a rule are better planted June 1st than earlier. We have shipped trees as late as June 24 to Central Illinois, with as good success as those shipped earlier; but this as a rule is too late. If deferred until into June, the shipping had best be postponed until August or September, when the new growth has become sufficiently hardened, and the terminal bud well developed; in very early seasons this may be as early as July 20th.

Then in spring shipping the season of planting should be about the time the buds push in the locality where the trees grow; but when trees are shipped in the fall, they should be exhumed and planted about the time—as near as may be—the buds of the same varieties begin to push in the locality where buried.—*Piney & Co.'s Manual*.

## RULES AND REGULATIONS OF THE WEST ZORRA FARMERS' CLUB.

Several of our subscribers are desirous of information on the formation of Farmers' Clubs. We give for their guidance a notice from the *Woodstock Review*, telling how such a club is constituted:—

Article 1st.—The name of the organization shall be "The West Zorra Farmer's Club," 2nd.—The officers of the Club shall consist of President, Vice-President, Sec'y-Treas. and five Directors. 3rd.—The President, Vice-President, Sec. Treasurer, and Directors shall form the Executive Board of the Club—three of whom shall constitute a quorum for the transaction of business. 4th.—The officers of the Club shall be elected by open vote at each regular annual meeting, and shall retain their office until their successors are chosen. 5th.—The regular annual meeting shall be held on the first Monday in December, in each year, in the Village of Embro, Ont. 6th.—Each member shall pay the sum of 25c. annually into the funds of the Club, as membership fee. 7th.—The President shall preside at all meetings, or if he be not present, the Vice-President, or in his absence, the senior Director present, will occupy the chair. 8th.—Regulations for the government and order of business for the next ensuing meeting shall be left to the vote of the previous meeting. 9th.—The funds of the Club accruing from members fees, or from any other source, shall only be appropriated in promoting the object of the organization. 10th.—The President shall appoint a financial committee, composed of three members, whose duty it shall be to examine all accounts and expenditures, and submit a report at the annual meeting.

## BUSINESS LAW.

The following brief recapitulation of business law is worth a careful preservation, as it contains the essence of a large amount of legal verbiage:

It is not legally necessary to say on a note "for value received."  
A note made on Sunday is not void.  
Contracts made on Sunday cannot be enforced.  
A note made by a minor is void.  
A contract made with a lunatic is void.  
A contract made with a lunatic is void.  
A note obtained by fraud, or from a person in a state of intoxication, cannot be collected.  
If a note is lost or stolen, it does not release the maker; he must pay it, if the consideration for which it was given can be proven.  
An endorser of a note is exempt from liability if not served with a notice of dishonor within twenty-four hours of its nonpayment.  
Notes bear interest only when so stated.  
Principals are responsible for the acts of their agents.  
Each individual in a partnership is responsible for the whole amount of the debts of the firm.  
Ignorance of the law excuses no one.  
It is a fraud to conceal a fraud.  
The law compels no one to do impossibilities.  
An agreement without consideration is void.  
Signatures made with a lead pencil are good in law.  
A receipt for money is not always conclusive.  
The acts of one partner bind all the rest.

## Un

My dear community passed away at the Fair see by the month. H

DEAR U but I thou as you are nices and such a dea very much puzzles in sorry I dic offered, bu to offer so time.

Maple G

That is you all, an that so m One farmer but just as others are ren all rusi that enoug to please y Now boy will be Pa lots of goo every one issue of th what priz obicks for

DEAR U for the bea prize for p admiration for the ha flowers. I

Princeto

ANSWER

The num the person 6. R. J. Beckett, N Ottawa; G. H. Bedford, be'l, Lond Weaver, D 6. A. G., I 8. G. Hum nor, Princ Que.; 5. F. Glene'l; 3. 7. Edwiar Harper, S Hornby; 1 T. Handl Nellie V. small, Burf Samuel C.

19.-1, 3

20.-Taa

21.-Rea

22.-Ohr

23.-Tro

24.-Babylon

27.-A B with nothin

28.-To-r

I have re ing nephew William Murray, V R. J. Cur ham; J. A. Collfield, Q A. Nelson, by; Micha



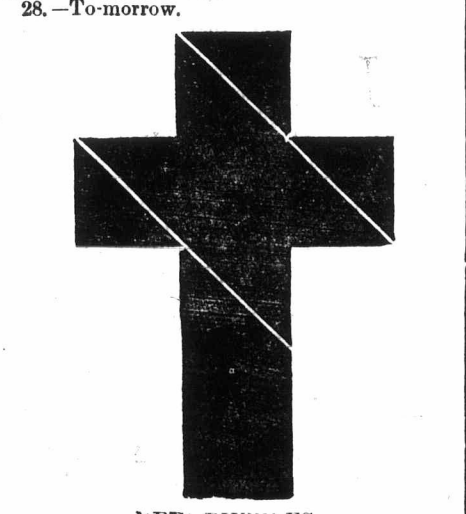
Uncle Tom's Column.

My dear children, another month of pleasant communion with my nephews and nieces has passed away...

DEAR UNCLE TOM.—I am only a little girl, but I thought you would like to hear from me, as you are always so pleased to hear from your nieces and nephews...

DEAR UNCLE TOM.—Please accept my thanks for the beautiful chromo you sent me, as first prize for puzzles...

- ANSWERS TO PUZZLES IN FEB. NO. The number before the names tell how many the person has answered correctly...



NEW PUZZLES. I have received new puzzles from the following nephews and nieces: William H. Bedford, Dawn Mills; Annie Murray, Whitby; Francis Nelson, Ottawa...

Pickering, Ellesmere; Edward W. Morrison, Newmarket; O. I. C., Glenelg; Hattie H. (Let Hattie write next time herself. Always send answers. Wrong about the cross); Nellie V. McGannon, Prescott; T. N. Parnall, Burford; Percy Gordon, Myrtle.

SQUARE WORDS. 29.—A tract of land, surface measure, to bring up, a girl's name. BELLA FINCH. 30.—Land, an imaginary monster, a metal, a time of fasting. EMMA McLEOD.

ENIGMA. 31.—My first in world so round; My next in horn and hound; My third in idiot, blind; My fourth in sky you'll find; My fifth in kill and kind; My sixth in paper signed; My seventh in pity yell; My whole a road to hell; E. P. McCOLLUM.

32.—A farmer was much puzzled upon receiving the following bill from an illiterate mechanic. The amount, \$40, is correct, but the difficulty is to find how it was obtained:—John Stone to C. Speedy. To 2 Iron ploughs, \$80 "1 Wooden do 40 "1 Wood do 40 \$40 MARTH A McKAY.

33.—Why is latitude like a clothes line? 34.—At what age are lies most happy? 35.—Where can the most miserable find sympathy? 36.—Why do we go to bed? SIDNEY POTTER.

37.—Place a snail at the base of a pole 20 feet high, and if he goes up five feet each day and comes down four feet each night, when will he get to the top. W. G.

38.—A captain went to sea with a crew of 30 sailors, fifteen white and fifteen black. They grew short of provisions and were compelled to throw half overboard. They all agreed to be placed in a row and every tenth man to be taken out. How would they have to be placed to save the whites? EVELINE WILKIN.

39.—There is something in Amsterdam that appears twice in a moment, once in a minute and not once in twenty years. WILLIE A. RUTHERFORD.

HIDDEN CANADIAN TOWNS. 40.—Why blows the wind so rashly by? 41.—While your sleigh is new, market your grain. 42.—Remember, "Line upon line." M

43.—There was a thing that was four weeks old when Adam was no more, before it was five weeks old Adam was four score. 44.—What is of no use to a carriage yet a carriage cannot go without it? JOHN BUNN.

45.—Within a wall as white as milk, Behind a curtain soft as silk, A golden apple doth appear, Bathed in a bath of crystal clear. MARTIN TERRYBERRY.

46.—What relation is your brother's wife's mother-in-law to you? NELLIE V. MCGANNON.

Some wonderfully wise men wish to make us believe we are all descended from monkeys. We could not object to this if they were the only people in the world, but as far as we are willing to go lower and trace up our descent from the tadpole, as you see here.



Minnie May's Department. Now, what do you think? Uncle Tom and Mr. Weld have between them come to the conclusion that I must have talks with the mothers and sisters who belong to the FARMER'S ADVOCATE family. However, as I said, Why? And John, that is my husband, you know, he said certainly; she's just the one to do it. Now John don't know anything about household troubles—for that matter neither does Uncle Tom, so their certificates to my abilities don't amount to much. But here I am going to do my best. John thinks all my knowledge comes to me by instinct. That's all a mistake. When I see anything new and particularly good I just ask for information and take a note of it. That's how to get along.

It was only yesterday that John said, "Why, what beautiful apple sauce that is; you just beat everything for cooking things up nice." Now, I'll tell you all about it (I didn't tell John mind you). I was over at the Johnsons the other day, and there was Mrs. Johns n peeling away at apples and putting them into a big crock. "Well now," said I, "What in the world are you doing that for? Why don't you put them in the stew-pan?" So she told me it was much nicer done this way. This is how she does it:—Peel and quarter the apples and put them in an earthen crock; when it is full put in a little brown sugar and a little molasses, say half a cup full, if the apples are not very sour; then put in a cup full of hot water; cover with a plate and set in the oven; bake for two or three hours. I think you will never want to stew apples again after baking them in this way. Now, as the time is coming on when apples will be scarce, I think it is well to fill the empty preserve cans or jars with them. Cut them in quarters and stew a few minutes the same as I am doing, but my way is to sweeten them when I want to use them. It comes in very handy when the stock of preserves are all gone, and when it is hard to tell what to have for sauce for tea before the new fruits come.

The other day I went to see my friend Mrs. Cook. She had just finished mopping up her kitchen floor. I noticed it looked very nice, and asked how she kept it so well. "Why," she said, "Don't you know I oil it about every six months? That is what makes it so easily kept clean." Oil! I said, how do you do that? So then she told me as follows:—I take a quantity of the cheapest and least offensive oil (linseed) I can secure, and I apply it with a common paint brush. I put it on smoothly, so that it will strike equally all over, and not yet stand in spots on the surface. I do this at night after the evening work is done, and find the place ready for use again next morning. Of course it would not injure the oiled surface if left to tread upon it at once, but grease is liable to be tracked from it, at first, to adjacent parts of the house. A new coat of oil applied once in six months, or even once a year, sometimes is sufficient to keep a floor in perfect order. One may in this way prepare to great advantage the floors of kitchens, pantries, summer dining-rooms, back-halls, stairways, porches, closets, bath-rooms and laborers' bed rooms.

I have of my friends about to wash new calico, especially black, will first soak it in salt and water, it will prevent the color from fading. The other day we had a pudding for dinner. I did not tell John what it was or an thing about it. I thought I would wait and let him ask for it. I always like to have him ask questions about anything I have made, as he always takes a great interest in whatever I am doing. Well John says, "Minnie, this is a very nice pudding, what do you call it?" There are some apples in it I know, but I cannot make out what else. After making him guess awhile I told him it was apple sage pudding. It is very simple and easily made. Take the dish you wish to make it in and fill about half-full of apples peeled and quartered. I generally bake mine in a two quart tin pan. Soon after breakfast take about two-thirds of a cup full of sage, cover it with cold water, put it on the stove hearth to swell. When you have your apples ready pour this sage over them, and fill up the dish with boiling water; add a small pinch of salt; bake about one hour. For the first half hour that it is in the oven stir it three or four times, that prevents the sage from sinking to the bottom. Eat with sugar.

And now my friends let me hear from you all. If you know anything particularly good write to me. Direct, Minnie May, care FARMER'S ADVOCATE, London, Ont. If I can only get you as much interested in this department as Uncle Tom has the children in his column, I shall be well satisfied, and I know we will be all benefited by circulating our knowledge. Below I give some useful hints. MINNIE MAY.

HOUSEHOLD HINTS. Do not buy dark or very white kerosene. The light yellow is the safest. Lamps with sun burners economize the light most. Bricks covered with carpeting are good to set behind doors to keep them from going back against the walls. A fold of cotton wadding laid across the shoulder blades, within the vest or dress, in a long cold ride. A newspaper is also good to keep out the wind. Old ribbons will look quite new well if washed in cold suds made of fine soap, and ironed damp. Cover the ribbon with a clean cloth, and pass the iron over that. If you wish to stiffen the ribbon dip it while drying into gum arabic water. White silk gloves wash well, and should be dried on the hands. Never dampen bonnet ribbon, and iron it wet, it makes them as stiff as horns.

Good Health.

THE BLOOD CIRCULATION AND HEART DISEASE.

Dr. Black, in the Popular Science Monthly, explains very clearly the nature and causes of heart disease, and refers it largely to the breathing of vitiated air. What he says about the relations between the blood and the disease of the heart is worth special attention.

The third great vital function which influences the degenerative tendency of the heart is that of the circulation of the blood. To preserve the health of the tissues, the blood must not only be pure and rich in the materials of growth, but it must flow with a certain speed through all the blood-vessels. If the speed with which the blood moves is on the side of either plus or minus of the standard of health, disease will shortly arise. If it is on the side of plus, active disease of the heart, where that organ is the one to suffer, will follow. If on the side of minus, tissue degeneration will ensue. Active disease will be the consequence before middle age; degeneration after that period.

These facts teach that all violent and long continued efforts of the body should be avoided. They hurry the heart's action to an inordinate degree; they cause it to throw the blood with great force into the extreme vessels; and, as there is almost always one organ of the body weaker than the others, the vessels of this organ become distended, and, remaining distended, the organ itself becomes diseased. Running, rowing, lifting, jumping, wrestling, severe horse exercise, cricket and football, are fruitful causes of heart disease. Those which require the breath to be suspended during their accomplishment are more fruitful causes in this respect than those which require no such suspension of breathing. Running, lifting heavy weights, wrestling and jumping do this, and, of these, rowing is the most powerful for evil. At every effort made with the hands and feet, the muscles are strained to their utmost; the chest is violently fixed; no air is admitted into the lungs; blood is thrown by the goaded heart with great force into the pulmonary vessels; they become distended, they at length cannot find space for more blood; the onward current is now driven back upon the right heart; its cavities and the blood-vessels of its walls become in a like manner distended; the foundation of disease is laid. Hypertrophy, hæmoptysis, inflammatory affections of the heart and lungs, are the consequences in the young; valvular incompetency, rupture of the valves of the muscular fibres of the heart, pulmonary apoplexy, and cerebral hæmorrhage, are too frequently the immediate consequences in those of more mature years.

FEVER CAUSED BY MILK.

A virulent outbreak of typhoid fever in several streets near the Leeds Town Hall, a few weeks ago, attracted the attention of the authorities. The epidemic, very fatal in its character, pursued a somewhat eccentric course. It attacked families in some parts of fashionable squares, and left others untouched. It raged in certain middle class houses in the same street, and passed over others. It was found that the drainage in some parts of the affected districts was slightly defective. This did not satisfactorily account for the attack. The authorities next turned their attention to the food supply of the infected houses, and it was then discovered that one milk dealer, living in the centre of the town, supplied the whole of the infected houses. It transpired that he received his daily quantity from a farm near Harewood. Thither the health officers of the town at once proceeded, and found that some six persons there suffered from the fever. The milk cans were generally kept in the kitchen, which closely adjoined the room where the fever patients were laid, and one woman attended both to the sick inmates and the dairy. The theory is that the germs of disease in the air settled down in the milk cans before they were daily sent out with their stock of milk. The Sanitary Committee of the Leeds Town Council at once stopped the sale of the milk from this infected quarter. To show the severity of the epidemic, we may state that some 80 people were thus secretly attacked, and twelve of the patients have since succumbed to the virulent disease.

## The Horse.

## TRAINING COLTS.

For the last six years I have been haltering my colts when about one week old, and when the mother is worked the colt is tied by her side. I find many advantages in beginning so soon with them, among which are: the colt is learned to lead in a very few minutes—seldom more than fifteen. Being thus early handled, they have no fear of being hurt when any one comes around them. They learn to travel on the road without fear of the vehicle behind them or meeting others. There is no danger of losing them or having them stop on the road to cause you to go back after them. Two or three times going back for a colt will break one to lead by the side of the mother.

When so trained, they are ready to work as soon as they are old enough. I have two now that were no trouble to break. All that they had to learn was to pull. They knew what was behind, and had no fear of being hurt. One I harnessed without assistance and drove seven miles and back the first afternoon. Neither of these colts has naturally the best of tempers, but they are now a very pleasant team to drive in any place or to any kind of carriage. Kindness in all cases is necessary in training (I do not say breaking) colts; and firmness is quite as necessary. In early training a young colt will very soon learn that man is his master, and that he will not be hurt if he is quiet. The colt learns little at a time, too, and learns that little well and he never forgets it. In beginning with colts old enough to work, they are expected to learn too much at once. A colt should not be expected to learn all he has to know at one time, any more that a boy should learn all that it is necessary for him to know at one term of school. Try the plan of leading the colt when the mother is at work next spring.—V. P. R., in the *Prairie Farmer*.

## IMPORTANCE OF EXERCISE FOR HORSES.

Dr. Withers, an eminent veterinarian of Chicago, says that exercise when a horse is convalescing, is medicine; that without it disease will be perpetuated and become complicated. Therefore he believes the only question to be, how much exercise do our horses demand? The answer to this of course, will be that the amount of exercise must be regulated according to the condition of the horse. Some are in such a state that they demand only a walk up and down the barn, while others are actually made frisky by a drive of two miles and more. Now, says Withers:—

If owners of horses will use judgment in the amount of exercise given to animals, the effect will be beneficial rather than hurtful. The result of long experience, and the present condition of the horses, sustain this theory. Dropsy has afflicted more animals which have been reharnessed and put in their old tracks. It is a disease which follows in the wake of every disease which tends to thin their blood, and can easily be avoided by judicious treatment. Horses must not be exercised too much—neither too little, so that if dropsy should prevail to any considerable extent, it will either be the natural result of the epizootic in those horses which have weak constitutions, or the result of defective judgement or abuse, in giving convalescing animals too much exercise.—From the *Carolina Farmer*.

## A NATIONAL STUD.

It has been determined by the Council of Agriculture to introduce a bill in the Quebec Legislature this session, for the establishment of a national stud, to assist in promoting and improving the breeding of horses in this Province, where there is a great demand for them for the American market. A well-known authority in England, writes to the papers there that Germany and Austria have large national studs comprising some of the best blood from England. From these studs the stallions are bred which are distributed over the country at the service of the farmers and breeders at a mere nominal price. In Austria the stallions number 4,000, the property of the government. The consequence is that when they want horses for the cavalry or for other purposes, they can always be found and bought at a reasonable price. It is stated that the breeding of horses has declined so much in England, that she is obliged to import them from the Continent to supply the demand, and the above writer urges the establishment of a national stud in order to promote home breeding.

## CALLOUS UPON HORSE'S KNEE.

Procure acetate cantharides; paint the callous, say a dozen times, with this. As soon as the last application is dried, anoint with strong iodine ointment. Repeat this several times, then wait a while and use neat's foot oil, or just as good, hogs lard, for a day or two. Then repeat the process, and I doubt not your callous will be gone, or rather will be lessening fast. One important point is, be careful not to allow the horse to bite or rub himself, or he may make bad worse. Sometimes a thing of this kind seems provoking from the fact that the lump does not disappear as soon or as fast as we expect. In such cases repeat a third time and have patience. No application, whatever it may be for, works the same in different patients, or very seldom. Keep well larded until hair grows out.

## CURE FOR A HORSE PULLING AT HALTER.

A year ago, I had a four year old horse which had contracted the habit of pulling back whenever she was fastened. She would be sure to break loose, if what held her could be broken by her drawing in such a backward way. She was cured of the habit by taking a rope two feet long, fastened one end around her body just back of her shoulders, and passing the other end through the ring of the halter and tying to the post. She lay back for her usual pull for a few times when fixed in this way, but soon found she was drawing from her body instead of her head, which she did not relish and soon gave it up entirely. She can now be left anywhere with perfect safety, as nothing will induce her to pull back when fastened.—*Country Gentleman*.

## The Apiary.

We extract the two following items from the editorial column of *Annals of Bee Culture*, edited by D. L. Adair, Hawesville, Kentucky:—

"Five pounds of sugar fed to a colony of bees in March and April, will secure the return of fifty pounds of honey in June. There are more bees lost by starvation in early spring than from all other causes during the winter. As soon as the first food is carried into the hive in spring, the queen commences to lay her eggs; an unfavorable change in the weather, cutting off the supply of food, endangers the life of the whole colony. They should be fed to prevent this, and also to stimulate the queen as much as possible, so that they may be strong when honey becomes plentiful enough to gather a surplus."

"The avarice of the queen bee contain the germs of about half a million of eggs, and when they are exhausted the queen dies. A prolific queen will lay them all in two years, while others take five or six years to accomplish it. The latter are unprofitable and should be destroyed. A queen that is stimulated to lay to her utmost capacity during the first month of her laying, will be prolific all her life; while one that is so situated or treated that she lays little or none during that time, will likely be unprolific as long as she lives, and will live a long time."

## A BEE STING.

The sting of a bee, says the *Country Gentleman*, is naturally more violent than that of a wasp, and with some people is attended with fatal effects. Two deaths from such a cause have recently occurred. The sting of the bee is barbed at the end like a fish-hook, and consequently is always left in the wound; that of a wasp is pointed, so that it can sting more than once, but a bee cannot. When a person is stung by a bee, let the sting be instantly pulled out, for the longer it remains in the flesh the deeper it will pierce and the more poisonous it will become. The sting is hollow, and the poison flows through it, which is the cause of the pain and inflammation. The extracting of the sting requires a steady hand for if it breaks in the wound the pain will continue for a long time. When the sting is extracted, suck the puncture, and thus prevent inflammation. Spirits of hartshorn, if applied to the affected part, will more fully complete the cure. The poison is acid, and the alkali will neutralize it. If hartshorn is not at hand, saleratus can be wet and laid upon the place; and soft soap will often ease the acute pain. On some people the sting of bees and wasps has little effect, but it greatly depends upon the state of the blood whether it will prove injurious, and these simple remedies, if applied at once, will soon effect a cure.

## Recipes.

**ST. JOHN LONG'S LINIMENT.**—Six tablespoonfuls of spirits of turpentine, 4 tablespoonfuls of water, 2 of vinegar, the yolk of an egg into a bottle with a little of the water, then slowly add the other ingredients, shaking it well until it is as thick as rich cream.

**SAGE PUDDING.**—1 lb. finely chopped suet, 1 lb. of flour, 2 eggs, 3 lbs. oatmeal, six onions boiled and chopped, 3 teaspoonful of powdered sage, 2 of mustard, one of chopped parsley, salt and pepper to taste, two tablespoonfuls of beer and sufficient milk to make the thickness of batter pudding. Bake in a well greased tin for an hour and a quarter. Generally eaten with pork.

I have learned something about the temperature of water which all young house-keepers may not know. If you put any kind of meat on to cook in hot water it toughens it and extracts all the nutriment, but it is well enough if you want the water for soup or gravy. If you put it on to cook in boiling water it softens it and does not bring out the nutritious juices into the water. Just so if washing a discolored tablecloth; drop it into cold water and it brings out the stains into hot water and it sets them. If cooking meat that is strong or salty, put it on to cook in cold water, and leave it in until the water begins to boil, then change it. And in churning, if the cream is cold, and you put in warm or hot water, the butter will be white and soft, when if you add enough briskly boiling water to bring the cream to the right temperature, the butter will not be similarly affected, but will be hard and yellow.—*Ez.*

## GRAHAM OR UNBOLTED FLOUR.

Few people realize the benefit to be derived from using this kind of flour as compared with superfine or white flour. It is, however, being used more and more each year. A certain writer makes the statement that raised or leavened white bread when compared with unleavened Graham bread or gems for nutrition or life sustaining properties is as 1 to 10. This seems a strong statement and very few persons at first thought will give it credence. My own experience tells me that I can work on Graham flour and no meat better than on white flour with meat. I quote at length from Baron Liebig, the far famed chemist of the old world:—"Of all substances used as food for man grain undergoes the greatest change in nutritional value when converted into flour. Wheat and rye and Indian corn contain more nutritive salts than flesh meats, but wheat or rye flour very much less than meat. The nutritive salts in flesh meats however are about the same as in Indian corn. In one thousand parts of pure meat are contained 13 parts of wheat or rye and Indian corn 21 parts or in a like quantity of wheaten bolted flour only 7 parts and of rye bolted flour only 12 parts. This difference is extraordinarily great and in the nutritive value the difference is also much greater than is generally believed."

"One of the most excellent French physiologists, Dr. Bourdons, informs us that during the Crimean war the Russian prisoners, so accustomed as they were to a very coarse brown bread, were not sufficiently nourished by the rations of bread which the French soldiers received, and that it was found necessary to increase their rations. It is a scientific fact which Magendie has proved by experiment, that a dog dies if fed on white bread alone while his health and energy do not suffer at all if his food consists of bread made of unbolted flour."

"The laws of nutrition are so simple that a child may understand them. It will be a long time however before the general public will turn to account the knowledge which science has obtained. The great mass of the civilized population in the world is on the whole better provided for than formerly. Wages are higher, dwellings and sanitary arrangements are improved, yet in spite of this the efficiency of the mail population for military service not only on the Continent but in other countries diminishes, and in the manufacturing districts of such countries to an extent that is alarming. The chief source of this can be sought only in a deficiency of nourishment, the ill effects of which are especially great in growth."

"By the correct choice in the mixture of food the nutritive salts wanting in one thing may be supplied by some other substance which we eat. Thus bread made out of unbolted wheat meal and eaten with milk furnishes perfect nourishment even for an adult. The nutritive value of flour may be considerably augmented by the addition of fruit, as in the north of Germany, where oatmeal porridge mixed with fruit is a favorite dish. Thus, too, soup made out of potatoes is rendered more nutritious by the addition of peas and the potatoes themselves by being eaten with cheese and curds."—*Western Farmer*.

**PRESERVING TOMATOES.**—Wash, bruise and put them in a boiler over a fire; boil half an hour and strain, boil the juice until reduced one-half and cool; put in jars and seal; then place the jars in a boiler of cold water, with straw or rags to prevent breakage; boil twenty minutes; when perfectly cold, place the jars in a cool, dark cellar. They will keep for years. Add seasoning when used for the table.

## TO FASTEN RUBBER TO WOOD AND METAL.

As rubber plates and rings are nowadays almost exclusively used for making connections between steam and other pipes and apparatus, much difficulty is often experienced in making an air-tight connection. This is obviated entirely by employing a cement which fastens alike well to the rubber and to the metal or wood. Such cement is prepared by a solution of shellac in ammonia. Soak pulverized shellac in ten times its weight of strong ammonia, when a slimy mass is obtained, which in three to four weeks will become liquid without the use of hot water. This softens the rubber, and becomes, after evaporation of ammonia, hard and impermeable to gases and fluids.

During this cold weather do not forget the chickens. Put all your scraps, crusts, cold potatoes, apple cores, little bits of meat, scrapings of the dough tray, old biscuits, mouldy pies, little dribs off the breakfast plates, and everything eatable in a kettle kept handy to the kitchen. Add a quart or so of water, warm all up together, and when soft and broken up, thicken with oatmeal, put in a good sprinkling of pepper, and feed your chickens well. Give them fresh water to drink. It seems to me if we give our chickens a warm feed once a day in cold weather, they may not die if the epidemic comes around next summer.—*Montreal Witness*.

## PLASTER AS A PROTECTION FROM FIRE.

After the conflagration in Paris, it was generally found that, with good plaster work over them, beams and columns of wood were entirely protected from the fire. In cases where limestone walls had been utterly ruined on the outside by the flames passing through the window openings, the same walls, internally, escaped almost unscathed, owing to their being coated with plaster. On many such plastered walls the distemper decorations were still to be made out. The iron roofs rendered good service, and the party walls of each house were carried up right through the roof—a most important precaution, for otherwise nothing could have prevented the disastrous conflagration from being more extensive than it was. It was also found that good wood work in beams and posts, good wood floors, well pugged, and good wooden staircases, landings and floors. Stone staircases well protected by plaster were fireproof although not so safe as wood in case of heavy debris falling upon them.—*Scientific American*

—Dr. Guthrie descants thus pleasantly on the virtues of oatmeal:—To say nothing of experience, Liebig, the great chemist, and greatest authority on such subjects, shows oatmeal to be almost as nutritious as the very best English beef, and that it contains a larger proportion than wheaten bread of the elements that go to form bone and muscle. This was proved by a course of experiments, carried on for a series of years by Forbes, an eminent philosopher, and the discoverer of the Glacier Theory. For twenty years or so he measured the breadth and height, and also tested the strength both of the arm and joints of his students, consisting of different nationalities, drawn to Edinburgh by his fame. In respect of height, breadth of chest and shoulders, and strength of both arms and joints, the bottom of the scale was occupied by the Belgians; above them and but very little higher, stood the French; very much above them stood the English; while the top of the scale was occupied by the Scotch, and the Scotch-Irish, from Ulster, who, like the natives of Scotland, are fed in their early years with at least one meal a day of good milk and good porridge. Nations have their prejudices, but the rod which measured the height, and the tape that went round the chests of these students, and the machine whereby Forbes tested the power of arms and joints, had none. So one might be pardoned when reading these results, for remembering the retort made to Dr. Johnson's sneer, when he defines oats in his dictionary as "food for horses in England, and men in Scotland," this, namely, "and where will you find such horses as in England, or men as in Scotland?"

Sir.—Hessays on the have found nip. I fr then I tak plough, ha long attach up one row steel cuts I d and it thro making it v No one w rived by tl seen it don of harvesti

The Ex spring di Peerless P Brown I r cause. I u there is an under for a of the succ I sowed on yielded well California 50 pounds "Sutton's store? I s to try even when you f at once on are good fe

Wolfe Is

In reply Knitting M it has given we took our spun, for w We then k a quarter socks. W at \$4 30 pe dozen pair \$1.10 per intend pu and makin quantity of one how to work with that requir socks or mi happy to orders the fident of g and the will and the pu in a minut Byron, K

Don't co worn-out and then work is not too many f it will not thing will handle, an rust, an o away year edge, &c. such treat experience bad tools boy who strength to

Don't fo earn some them have with the u be their o vats it wel ing someh one of th Many a fin simply be let him h Don't fr own somet some choi colt, a sw can be sp profits sh your direc be a watch put in the are of age. Don't fo pleasant to ful and at agricultur

Correspondence.

TURNIPI CULTURE.

SIR.—Having read with interest the prize essays on the turnip, I would suggest what I have found a better way of harvesting the turnip. I first cut off the tops with a sharp hoe, then I take one horse and hitch it to an old plough, having a piece of steel eight inches long attached to the wing of the share. I pass up one row and down the adjoining row. The steel cuts off the roots as well as if done by hand. It does not injure the turnip in the least, and it throws two rows of turnips in one drill, making it very convenient for picking them up. No one would credit the advantage to be derived by this method unless he tries it or has seen it done. I have tried numerous methods of harvesting them but this is the best.

ROBT. RIDDLE, Westminster.

SEED REPORT.

The Excelsior Peas I got from you last spring did remarkably well; so did the Peerless Potato and McCaring wheat but the Brown Provender Peas mildewed from some cause. I intend to try them on poorer land. If there is any pea that will pay to plough under for manure this is the one, as the growth of the succulent vines is something astonishing. I sowed one bushel of April wheat last year, it yielded well but the grain is rather small. My California Oats did remarkably well, weighing 50 pounds to the bushel. Have you got "Sutton's new Grant Hybrid Cow Clover" in store? I should like to try it. I think it pays to try every new seed on a small scale, and when you find any one succeed well, go in heavy at once on it. Can you tell me if white beans are good feed for sheep?

I am yours very truly,  
Wolfe Island, Feb. 3. S. GOING.

KNITTING MACHINE.

In reply to your enquiries about the Lamb Knitting Machine I got from you, I may say it has given me entire satisfaction. Last year we took our wool to the factory and we had it spun, for which we paid fifteen cents per pound. We then knit into socks. It took one pair of a quarter of a pound to make one pair of socks. We sold them to a wholesale merchant at \$4.30 per dozen. I can make and finish one dozen pair in a day, easily. I received by this \$1.10 per pound for our wool. Next season I intend purchasing wool from our neighbors and making it up also. I shall also make a quantity of mittens. I am willing to show any one how to use the machine or do any kind of work with it. If you know of any merchant that requires any first-class home-made woollen socks or mitts, and if you inform me, I shall be happy to send samples by mail, and to fill orders the same as sample sent. We feel confident of giving satisfaction to the purchaser and the wearer, and hope to build up a business that will be found of advantage to ourselves and the public. I have knitted 70,150 stitches in a minute with it. Yours &c.,  
Byron, Feb. 8. MARY JONES.

DON'TS—FOR FARMERS AND OTHERS.

Don't compel your boys to work with old worn-out tools that you cannot use yourself, and then find fault with them because their work is not well done. I am sorry to say that too many farmers do this. They seem to think it will not pay to give them good tools. Any thing will do for boys an old hoe with half a handle, an old battered spade covered with rust, an old scythe that the hired man threw away years ago because it would not hold an edge, &c. Don't discourage your boys with such treatment. It is impossible for the best experienced workmen to do good work with bad tools. How unreasonable then to expect a boy who has no experience and only has strength to do good work with such tools.

Don't forget to give your boys a chance to earn some pocket money for themselves. Let them have a small piece of land to cultivate, with the understanding that the returns shall be their own if they are industrious and cultivate it well.

Don't forget that boys are very fond of having something they can call their own. It is one of the first impulses of their nature. Many a fine boy has left home and been ruined, simply because a hard-fisted father would not let him have something to call his own.

Don't forget then fathers to let your boys own something. It may be a pair of fowls of some choice breed, or a small pig, a lamb, a colt, a swarm of bees, or any thing else that can be spared, with the understanding that the profits shall be spent for themselves under your direction, for something useful. It may be a watch, a gun, a boat, &c., or the money put in the savings bank to accumulate till they are of age.

Don't forget to make home attractive and pleasant to the boys. Furnish them with useful and attractive reading—books, magazines, agricultural papers, &c., and when night comes

on, instead of going from home for amusement, they will gather around the great lamp to read and learn.

Don't hoard up money for your boys and neglect to give them a good education. It is a fatal mistake to think that a good education is not necessary for farmers boys. It is worth a thousand times more than gold.  
St. Mary's, Ont. S. H. MITCHELL.

BARK AND WOOD KILLING ON HIGH-HEADED APPLE TREES.

SIR.—One of your contributors, Mr. John Bonham, of Howard, in an article on "Seeds and Fruit," refers to some discussion he had noticed on a subject which he terms, "Bark and Wood Killing on High-Headed Apple Trees." He thinks this effect is not produced by "frosty winter winds," and then gives reasons that lead him to conclude that the "sole cause of the trouble is the direct rays of the midsummer sun. Whatever is the cause of this trouble it is destroying thousands of the finest fruit trees in Canada. Twenty-seven years in orcharding and cultivating trees for market, have put me in possession of some facts that I now think important. In common with orchards all over the country, mine has suffered largely from the cause in question—my trees being what is termed high standards. I reasoned long on this subject, and now give you my conclusions as to the cause, viz., alternate heat and cold. The sun begins to gain power about the middle of February, and shows it most from, say, 11 a. m. to 3 p. m., softening or thawing the bark on the south and west of the trunk of the tree, and at night it is again acted upon by the frost. This process is repeated until the freezing season is over, the result being the destruction of the sap vessels in this part of the stock, and consequent injury and generally the ruin of the tree. If you think these items of my own experience on the subject of orcharding, or the trunk subject if you please, for I believe the securing of perfect trunks is the paramount thing to orchardists in Canada, would be interesting to the readers of the FARMER'S ADVOCATE, you may insert them, with just one word on prevention—cover just now the south-west side of young, thrifty trees from the thawing influence of the sun, using a poor quality of boards, straw or whatever is the most convenient. All are awake on the fruit selling subject. All are not skilled in fruit growing in Canada. L. CROSBY.  
Markham Nursery, Feb. 7.

A FARMER'S VIEW OF POLITICS.

Once in a great while while we hear some little murmuring at the way farmers are treated by the powers that be, and I have come to the conclusion that farmers are the most patient class that can be found. "Why?" says the politician, "what have they to complain of?" What indeed? Are they not cramped in every corner? When even an agricultural paper is charged extra postage? This is one thing that I cannot understand, why one paper cannot be carried as cheaply as another? But how can I wonder at such a state of things continuing to exist while so many farmers care so little about them, that they cannot be induced to subscribe for one. And such things will continue to be as long as one half of the farmers will allow themselves to be bamboozled into voting for any Tom, Dick and Harry who calls himself a Reformer, and the other half run mad to get a man into office who will never give himself the least trouble to serve their interest, simply because he says he is a Conservative, and if you ask them the difference between the two parties, perhaps one in ten could tell, but I don't believe they could. For my part they are like the boys where I first went to school. There was a certain cutaneous disorder got into the school and the boys got divided into two parties, each accusing the others of being infected, while they were entirely clear of it themselves. But I noticed considerable scratching on both sides.

I hope something will be done by our Government to put the farmers on something like equal terms with other classes. Let them leave the farmers to do their farming, and turn their own attention to legislating, rather than speculating in cattle, as I have heard some talk of their intentions to go into business as importers of thorough-bred stock. This I think would be very well if we had no good stock in the country and no person with the will and ability to import any. But under existing circumstances I think it is scarcely worth their while, or at the very least they might occupy their time and money in a way that would be of more general benefit. RUSTIC.

[Of all our correspondents, one only approved of the Government scheme of their becoming stockbrokers, and that one who advocated it gave us no name, so that, from all we learn, our course in opposing this scheme has met with the approval of that class of the community really interested in the matter—the farmers of Canada.—ASS'T ED.]

I send you the following account of how my hens paid me during the last year. You have expressed a wish that farmers would keep such an account of the returns of their profits. If

you think it of any interest give it an insertion in our ADVOCATE. I kept eighteen hens and kept an exact account of what return they gave me. I got from them 144 dozen of eggs, and besides, three of these hens raised chickens. The eggs I sold for 14 cents per dozen, amounting to \$20.23. The hens were Black Spanish and Poland.  
G. A. COOPER.  
Clinton, Jan. 31, 1873.

EXPERIMENTS IN RAISING DIFFERENT KINDS OF POTATOES.

I have great pleasure in stating that from variety of potato seeds I purchased from you last spring produced as follows:—From 7 1/2 lbs. Willard's Seedlings—produce, 5 bush. 1 peck; 1 1/2 lbs. Excelsior—2 bush; 1/2 peck Bresee's Peerless—6 1/2 bush; 5 1/2 lbs. Climax—3 bush. 1 1/2 pecks. I consider that the potatoes did well for the season. I have the seed from a mammoth squash that weighed 184 lbs., raised in the Township of Malahide, and a white pumpkin, weight 68 lbs. We find Bresee's Peerless and the Climax excellent table potatoes. Willard's is not so good for the table. Excelsior very good. If you wish to publish the produce of the potatoes you can. Yours truly,  
JAS. H. WRIGHT.

MANURE.

MR. EDITOR.—Farmers on small wheat farms often find it difficult to keep up the fertility of the soil, not being able to keep enough stock to make manure. These same farmers buy costly and sometimes useless artificial manures, little thinking that the muck of their swamps and river beds, if judiciously applied, would greatly add to the fertility of the soil.

I tried three experiments with it last season, on three different crops—clover, wheat and potatoes—on three different kinds of soil. The clover grew on a light sandy loam. The field was summer fallowed for wheat two seasons before, and received a heavy coat of barn-yard manure. Last spring I picked out the poorest strip in the field, and top-dressed it with muck at the rate of forty loads to the acre. The result was wonderful. That strip, in comparison to the rest of the field, yielded one ton more to the acre. The wheat grew on a gravelly loam. The field was prepared in a summer fallow the year before, and received a heavy dressing of barn-yard manure—all except half an acre, on which 20 loads of muck were spread. The straw on this spot grew stronger and healthier than on any other part of the field. I had no chance of comparing the grain. The potatoes we planted on a dry limestone shale. Those that received muck were large and dry, with very few small ones, while the potatoes on the rest of the field were of poor quality and too small for market purposes.

To prepare muck properly it should be hauled out of the swamp in the spring, piled on a dry knoll and mixed with a liberal supply of lime, ashes and common salt. During the summer it should be turned over three or four times, until thoroughly pulverized and the compost completely mixed. Leave it to the action of the frost during the winter, and apply to the land in the spring. Every intelligent farmer knows that the liquid manures are of more value than the solids. There is sometimes great difficulty in saving them, especially if the stables are built on a hill side. Now, muck is a powerful absorbent, and if used freely as bedding and in pits beside and under the stables, the liquid excrements would be absorbed and saved. I have found it to be of great value applied as a mulch to the roots of fruit trees. It seems to supply invigorating elements without the stimulating effects of manure. Don't sell your ashes to the soapmakers, but mix well with this muck and Grub & Co. will leave on suspicion. R. K. KERNIGHAN.  
Rockton, Rushdale Farm, Feb. 8, 1873.

MR. W. WELD, SIR.—I begin to find that I cannot do without the ADVOCATE. I subscribed this year for the Weekly Globe, thinking that as there was a large space devoted principally to agriculture I could dispense with the ADVOCATE for this year, but as you have sent me the two first numbers of this year, I find I am still interested in the reports of the different seeds procured from the Emporium by your subscribers, and I have made up my mind that both are best.

Although I have not been a large purchaser from the Emporium, yet I may say for your encouragement that the Scott wheat I procured from you gave me pretty good satisfaction. I sowed the 24 bushels on the 9th Sept., 1871, from which I reaped 35 bushels good clean wheat. I may say that on fully one quarter of the ground it was winter killed; as was also part of the Diehl that was sown in the same field. I reckoned that the Scott wheat yielded about seven bushels more per acre than the Diehl did with me last year. I sowed 9 acres of it last fall, as I intend to give it a good trial. I would like to know how the millers like it for flour. I have sown the Farrow spring wheat for two years past and I like it very well, and those who purchased seed from me last spring are also well satisfied with the result, so far as I have heard from. One party who thought the

price rather high told me since that he wished he had procured all his seed of the same kind, even at the price, as it would have more than paid him.  
Yours truly,  
Craigville, Feb. 12, 1873. D. HUNTER.

SIR.—The FARMER'S ADVOCATE, of 1873, has not only held its own, but improved in interest and value. I like your paper very much, and it is eagerly read and anxiously looked for in the family.  
Yours &c., BENJAMIN FAWCETT.  
Arran Sara, P. O., Co. Bruce, Ont., Feb. 3.

FENCING ON STONEY LAND.

DEAR EDITOR.—I was thinking of a new plan of building a fence, and it may be of some use to some of the readers of the ADVOCATE. Will you be kind enough to give it room in your valuable paper? As lumber is getting up in value, and timber getting too valuable to be split into rails, it is time that farmers would look to something else to make their fences; and when a farmer gets his farm all clear, and has to buy material to build his fences, he should build so that he wouldn't have to build every four or five years. My plan is to have it all stone and iron, with the exception of one board at the bottom. First get good size stones, and drill an inch and a quarter by three inches deep; then take and set them in the ground eight feet apart, and have the holes in the line where the fence is to be. This can be done by stretching a line on top of the ground after the hole for the stone is dug; then take an iron bar, three-eighths by an inch and a half, and cut to whatever height the fence is wanted, and hammer the end so that it will go in the hole in the stone. Next punch or drill two holes at the bottom to fasten a board on. This can be done best with carriage bolts. At the same time, make holes in a post to receive wires through. When the post has all the holes that are wanted, take and heat it where the upper edge of the board will be, and twist it half around. Thus you will have the flat side to the board, and have the holes above all right to receive the wire. Then set up stakes in a line with the holes in the stones, and stretch a line on them, and then set the post in the stone. Hold it plum with the line, and pour melted lead in the holes, and you will have a post that will never rot. My object in laying the stone in the ground before the post is fastened, is that it will be easier to plumb the post when it is a little loose in the stone than bevelling the stone for the post. If any of the readers of the ADVOCATE can make any improvement on my plan, please let us know of it. OLD COUNTRYMAN.

We think the plan a good one where stones and money and labor are plentiful, but it will not be generally adopted on account of the expense and loss of time.—ED. F. A.

DEAR SIR.—As I have had a little experience in farming, and am still anxious to learn more about it, I have taken the ADVOCATE over a year, and find that there is much information in it, and as you seem to court discussion, which brings out much information, if only in little, those mites, if properly used, soon make a muckle. Therefore I believe every farmer should take the ADVOCATE.

I see much in them about manure. Now about swamp muck—some say it is good; others, that it is scarcely good for anything, not paying the expense of putting it on the land, but I can hardly agree with the latter. I will therefore give my experience in the matter, though small. I have tried it various ways with potatoes, and find it equal, if not better, than any other manure that I have ever used on my land, which in part is a clay loam, some parts sandy loam mixed with a little gravel, and a few spots of red loam, such as usually is found in ridges where the white, scrubby beech generally grows. On the heaviest land I furrow middling deep; fill up the furrow with muck, drop the seed on top and plow in, not forgetting to make the furrows the way that will take the surface water off the quickest. On the sandy land, put the muck on the land after planting, spreading it well. On the red loam land, if sward, put the muck on after plowing, and give it a good harrowing; then plant in very shallow furrows, barely a mark, and then, if well tended, I never failed in having a good crop—a good, smooth, clean crop, with neither scab or rot. I have found it the easiest, cheapest and altogether the best way to get muck out of the swamps in dry weather, when the muck is thoroughly dry, heaping it in some convenient place, handy to get at at any time when convenient to use.

If you have much swamp there is no need of digging holes to get it out, but begin on the lowest part and dig a ditch. Three men with two wheelbarrows, and half a dozen plank, will make quite a heap in a day if the muck is dry, besides making eight or ten rods of ditch, which is similar to killing two birds with one stone, and not hard work at that.

It makes a good top dressing for meadows. Spread on late in the fall, but not in the spring after the ground is settled, especially in a dry season.

Now, can you tell me how it will do to spread it on in the spring, before all the snow is off, or in the winter, and will it do for corn?

AN OLD PIONEER.

Richmond Hill, Feb. 14, 1873.  
**DEAR SIR:**—How to have a warm hen house, and eggs always:—Build the house against the horse stable: throw the manure from the horse stable into it; let the ventilation between it and the horse stable be free; fill the walls overhead with sawdust; no openings outside except the door, which should be kept well closed on cold days and open on warm days. Have several good sized windows with glass, and if possible, on the south. Give plenty of drink, a variety of food and plenty of it, and you will have plenty of eggs all the year. J. L.

**DEAR SIR:**—By the time your next ADVOCATE will have come to hand, your subscribers will be thinking of selecting seeds for spring planting, and if my little experience will be of any service to them, they are welcome to it.

At spring, you sent me a small package of McCarling wheat. I don't know exactly how much, I think, perhaps, two or three ounces. I sowed it in drills very thin in a patch of Canada thistles, kept the thistles cut down by frequent hoeing, and at harvest, I had ten pounds. Notwithstanding this very large yield, I am not particularly prepossessed in its favor. It is a very long headed wheat, and in my opinion would be liable to "lodging" or "tangle," and some heads were blighted, having nothing in them. However, this may be more owing to the soil or other outward causes, than to any predisposition of the wheat. I would advise all to try a small quantity to begin with.

I have grown the excellent peas for two or three years, and believe them to be really a valuable sort. Nearly everyone has tried the early rose potatoes, so there is little need of saying anything in recommendation of them; but if anyone should see this who has not tried them, I say, do not let another year pass without planting a few at least. Last spring I sold a half bushel of them to a neighbor, and he says he had fifty bushels from them.

I purchased a potato last spring, called Patterson's Bovina, at twenty cents per pound, and from what I have seen of it, I would not advise anyone to invest in that variety, at least not at that price. The one I got weighed 6 oz., and I gave it every chance and it yielded eight and a half pounds.

I planted three tubers of the Peerless potatoes—say one pound yielded twenty-six pounds.

SAMUEL SUDDABY.

[We willingly give insertion to the communications of our agricultural friends, though their opinions may be different from our own experience. The communications we have already published on the McCarling wheat, are confirmed by the subjoined letters.]

**SIR:**—I received last spring, 1/2 of a pound the McCarling wheat, and the same of peas. Of the peas I did not get more than a pound, as I did not get them until late in the season. The wheat, considering the chance it had, did very well. I got seventeen pounds of clean wheat.  
 J. W. WARR.  
 Everton, Ont.

**SIR:**—The half bushel of Breesee's Peerless Potatoes, that I purchased from you yielded 20 bushels of the best potatoes I ever saw. From the 1/2 bushel McCarling wheat I got 15 bushels, and then we had to leave at least three bushels on the ground, it being badly laid. I have grown plums six and a half inches round.  
 R. RYAN.  
 Culloden, Feb. 18th., 1873.

**SIR:**—I got two pounds of McCarling wheat in 1871, and I got from the two pounds sixty-six pounds, and sowed it again in 1872, and it yielded 24 bushels, and the grain is good.  
 JAMES HENRY.  
 Warnoch, Feb. 17th., 1873.

**SIR:**—I now send you an account of the Farrow Wheat. I got three bushels of it and sowed it last spring on loamy ground. Part of it was turnip ground, and the rest where I had wheat sown the year before and I threshed sixty-five bushels from it, and the wheat is good. It weighs about sixty-two pounds to the bushel, and it has red chaff and very stiff in the straw. I think it surpasses all other kinds of spring wheat for yield. It is a coarser wheat than the Rifa. For my part I like it far better than the McCarling, and I would advise everybody to try it.  
 J. H. M.

**SIR:**—I send you a preventative of smut in wheat. I have been using it for ten years, and I have not known what smut is since. You can put it in your paper if you think proper to do so. What I have been using is blue stone; the proportion is 1 oz. dissolved in 1 quart of water, to 1 bushel of wheat. The wheat must be on the floor. Mode of putting it on:—Take a watering pot or sprinkle it on with an old broom, while another person keeps mixing it up all the time. The wheat must be mixed up well and it will be dry in two or three hours. You can keep the wheat until next year if you choose,

as the blue stone will not prevent it from keeping the same as before.

The 4 ounces of McCarling wheat which you sent me did very well. Off the 4 ounces I had a yield of twelve pounds there were a good many other kinds of grain in it but I picked them all out, so I will have it pure for next crop. I sent and got some of the April wheat, and sowed both the April and the McCarling on the same day, and the McCarling was ripe eight days before the April. I look upon the April wheat as a perfect humbug. I would not advise any person to sow it for it is as likely to lay down as to stand up. I send you a head of wheat and I think it is the same as the farrow wheat, of which the engraving was in last number, and if it is the same please let me know. The head of wheat is a small one. T. H.

[We have not such poor accounts about it, consequently left it out of our list. The head sent looks much like the Farrow wheat, but it is not much more than half the size of the heads we have. We have heard no complaints as yet about the lodging of the Farrow wheat.]

#### A GREAT AND NOBLE PRESENT.

[Mr. G. Morton has a larger number of Ayrshire cattle than any gentleman in Canada. We give his letter in reply to enquiries, as it shows a noble example, for which we think he is worthy. He deserves great credit for his noble and spirited example. This gentleman owns many large farms, farms himself, and makes cheese on a large scale:—]

Kingston, Feb. 19, 1873.

**W. WELD, ESQ.,** DEAR SIR: I am taking great pains with my stock, of which, after selling last fall, on the 15th Nov., at Morton, county of Leeds, upwards of 20 head, I have over 100 left, of all ages, and many are as fine animals as can be found in America.

Besides what I sold, I made presents to nine different townships in the South Riding of Leeds, of my thoroughbred Ayrshire bulls, all recorded animals, and worth \$150 each, aged varying from one to three years old, and in fine condition. Thus I expect to create a taste for this superior milking stock, and cause more heifer calves to be raised than otherwise, and indirectly benefit by enhancing the quality of cheese manufactured in our country.

At my sale, James Nimmo, of Camden East, got some of as nice animals as you could desire to look at, and of course he will do what I never have yet—feed them very much as show breeders do their stock, and you may be prepared to see at London next Provincial Show as nice a lot of Ayrshires from him as you ever saw, all my raising by one bull, now about seven years old.

It appears singular that the Western men do not go more into smaller cows that will give more milk than those they generally have, but they will get their eyes opened by and by.

You remember the cow "Dolly" I sold to John Miller, of Pickering. She was shown at the Markham show afterwards that same fall, and beat all the imported cows on the ground, and also took the first prize for the best milk-er of any breed or age, and all he paid at my auction sale, you will remember, was—very low.

I have been away so much lately from Morton that I have not noticed what you have said about price for the last ten months. Nimmo was saying you had said something about my stock in some way. You can never go wrong in saying I have a large stock and keep up the purity of blood by fresh animals of undoubted purity of blood.

Milk is a crop that never fails, and stock farms are sure to grow better. All well watered lands can, in Western Canada, do better to raise cows than grain. I have been pounding it into our Eastern farmers for two-five years, and have lived to see them quit ridiculing me and adopting it vigorously.  
 Yours truly, GEORGE MORTON.

#### Weather Prospects.

From the weather wise we hear that we are to have more snow and plenty of cold weather yet. A late, wet and cold spring is expected, and as this may happen we should take care of our feed. Waste not, want not!

#### Varieties of Seed Wheat.

We have two new varieties of wheat, neither of which can be recommended. One, the Futz wheat, from Pennsylvania, we believe to be the Chilian. The other is from Illinois, and is named the Ar-nautka. There is nothing requires more careful discrimination than the selecting of good seeds.

#### Who Sent the Money?

A letter was received last January containing money, post office Springfield, and no name. Also a registered letter from Chatham with no name. Another letter from Camden with no name.

### Miscellaneous.

#### COAL ASHES.

As an absorbent, dry coal ashes are equal to dry earth and much more convenient. Every family that has a patch of land should make it rich by having a hogshead where a bushel or two of coal ashes are thrown as a basis. Into it pour all the foul water of the family, and throw in the dry ashes of each day. Twice a year upset this receptacle and spread the contents over the garden, and spade it in before the ammonia escapes.

#### SHADE AS A FERTILIZER.

That shade is a fertilizer is a fact which has long been noticed, and much has been written to explain it. A few words will be sufficient for that purpose. Shade operates simply by preserving the ammonia which is in the soil and which is continually furnished by rain and snow water, and also by manures, and which is rapidly driven off from the naked surface of the soil by a scorching sun. To preserve the ammonia the skillful farmer ploughs his manure shortly after it is spread upon the soil; and spreads his manures upon his meadows late in the fall, or in the winter, or early in spring, so that the ammonia may be washed out of it into the soil, and prevent its evaporation by the sun. Ammonia is either food or a condiment for most plants, which is necessary to their rapid growth. It has been ascertained by repeated experiments in England that the largest crops of wheat can be raised by imparting to the soil an extra quantity of ammonia, either by directly spreading salts of ammonia or by guano. Hence the greatest fertility of the soil will be more surely preserved by an alternation of crops, rather than naked fallow, from which a scorching sun drives off the ammonia rapidly. We should ever bear in mind the eloquent words of an English writer that "mighty nature renews her strength, not by indolent repose, but in alternations in energy."—H. J. C., in *Ohio Farmer*.

#### ON A CUP OF COFFEE.

It has been truthfully said that even in these enlightened days, and in the lands most blessed by the influence of civilization, there are thousands upon thousands of persons born into the world who live long lives and then go down into their graves without ever having tasted a good cup of coffee. There are many reasons for this, and the principal one of course, must be that so few persons know how to make good coffee, and yet there have been thousands of recipes and directions published which teach us how to make good coffee by boiling it; by not boiling it; by confining the essence and aroma; by making it in an open vessel; by steeping it; by not steeping it; by clearing it; by not clearing it; by grinding it fine; by grinding it coarse, and by many other methods opposed to each other and to all these. Now we do not intend to try to tell anybody how to make good coffee, but we just wish to say a word about the treatment of the coffee after it is made. And on this treatment depends its excellence, brew it as you may. The rule is simple. Whatever else you do about it, bring it to the table in the vessel in which it was made. A handsome urn or gorgeous coffee-pot is the grave of good coffee. Of course, if it is considered more desirable to have the pot look well than to have the coffee taste well, we have nothing more to say. But when hot coffee is emptied from one vessel into another, the kitchen ceiling generally receives that essence-laden vapor which should have found its way into the cups on the breakfast table. And one word about these cups. When the coffee enters them it should find the milk or the cream already there. By observing these rules, ordinary coffee, made in almost any way, is often very palatable indeed.—*Scribner's*

#### LONGEVITY IN ONTARIO.

The report of the Register General of Ontario for 1871, gives the following instances of extreme old age:—

Five persons are returned as having attained the age of a hundred years—viz., Ellen Hodgins, born in Ireland, died in the Township of Biddulph, Middlesex, assigned cause, old age; David Downey, born in England, died in the Township of Bowmanville, Durham, assigned cause, old age; Robert Armstrong, born in Ireland, died in the Township of West Flamboro, Wentworth, cause of death not known; John Meagher, born in Ireland,

died in the Township of Cornwall, assigned cause, general decay; Bridget Fanning, born in Ireland, died in the Township of Guelph, Wellington, assigned cause, old age.

Four are returned as having attained the age of 101 years—viz., Ellen Benson, born in England, died in West Flamboro, cause of death not known; Elizabeth Newberry, born in Nova Scotia, died in Toronto, assigned cause, debility; Jane Duncan, born in Ireland, died in Stanley, Huron, assigned cause, old age; Duncean McKenzie, born in Scotland, died in Gloucester, Carleton, assigned cause, old age.

Two are returned as having attained the age of 102 years—viz., Elizabeth Calder Thomas, born in Ireland, died in Caledonia, Haldimand, assigned cause, cholera morbus; Walsingham Moore, born in Ireland, died in the County of Leeds, assigned cause, old age.

One is returned as having attained the age of 103—viz., Daniel Desmond, born in Ireland, died in Greenock, Bruce, assigned cause, old age.

One is returned as having attained the age of 104—viz., Elizabeth Fitzpatrick, born in Ireland, died in York, assigned cause, old age.

Two are returned as having attained the age of 105 years—viz., Sarah Kirk, born in Ireland, died in Minto, cause of death not known; John Barker, place of birth not known, died in Cornwall, assigned cause, disease, prostate gland and bladder.

#### ASSESSMENT FROM A FARMER'S POINT OF VIEW.

To the Editor of the Mail.

**SIR:**—I see that notice has been given in the Legislature now sitting of amendments to the Assessment Law. Now, with your permission, sir, I will give you a farmer's view of the question; and I may say, *en passant*, that the farmer's voice is rarely heard in your columns; not from any fault of yours, but because farmers, as a class, are more familiar with the plough than the pen, and their voice is not heard, nor their influence felt, in framing the laws of the commonwealth, to that extent which their number and solid wealth entitle them to. As a humble member of this ancient guild, and on their behalf, I object to the Assessment Act as it now stands, for the following reasons:—First,—that a farmer may have his farm mortgaged for half its value, yet that is not taken into account by the assessors, but he is assessed just the same as if there were not the least incumbrance on his land; is this just or honest, making a man pay tax for that which he does not own?—I trow not. Again, a farmer may have store debts, floating notes, for agricultural implements, &c., to the value of his personal property, and in some cases more; but this fact can not be taken into account by the assessor. No, everything on the place, horses, cows, sheep and hogs must all be valued, and the unfortunate nominal owner, (for if his debts were paid they would not be his,) is compelled by law to pay taxes on that property, which speaking strictly is not his own. The old law was much better in this latter respect than the present one, for under the former, if a man was in debt, deduction was made from his personal property to the extent of his debt. It was objected to the old law that men would say they were in debt to the amount of their personal property, while at the same time they were not, and thus escape assessment upon it. To meet this objection I would suggest that the assessor should have the power to put a man on his oath if he had the least suspicion that he was making an untrue statement. This course taken, with a few previous inquiries from judicious friends in the neighbourhood (who are generally pretty well posted on each other's affairs), would enable an honest assessor to come near to the right thing. But a still more crying injustice than these cases remains to be mentioned, which is this: While the farmer, with his land mortgaged, has to pay taxes on it just the same as if it were perfectly free from incumbrance, the capitalist, from whom he has borrowed the money, only pays tax on the interest of that money. To illustrate: Two men come into this Province of Ontario with \$10,000 each; one of them buys a farm for which he pays \$7,000 or \$8,000, the balance goes far stock, implements, &c. When the assessors make their annual visit he is assessed for \$8,000 or \$9,000, on which he has to pay tax. The other one lends his \$10,000 on mortgage at 8 per cent., which would amount to \$800 per year, which is all the

Law says he men are eq \$8,000 or Is this fair is an exam suit themse of the pub heard in t they speak themselves under the c have had acquainted important lature, list the burden are able to man for w paid. The as it now s to, but I h too much),

Walsingh

The Swit has this to but too sel handman : culture is few month facets tha in the same most usef robin redl hudi tested neighbor, y of innume in the neig A pair of n minutes an of wrens fl insects in considers t of these in caterpillars compensa pluck from small birds the feeling snails, spid destroys a eating a ch a service, b the crop of of worms. grubs have single bird wheat had orioles (par a day. Th French Gov accuracy ch It has been that of litt be kept dow to lay 2,000 found to cat A swallow year, eggs in the city pairs of th though of other kind The bluebir of the Engl insect dest bird. It especially th canker worm cription are arrive in th it ascends i deposit its e

Taking a and the hea both lean a mal; b ill t of water; c of water; c of the liquo turn to the half buckw so that it wi dian mush; then pour in its own fat. monly called

A newspap courging ac "digging" Here is the boots cost lodging, a l acrs of whe corn; the p year-old ste hogs.

... Cornwall, assigned ... Fanning, born ... Guelph, ... age.

... having attained the ... Elizabeth Calder ... died in Caledonia ... cholera morbus ... Ireland, died in ... assigned cause, old

... having attained the age ... Bruce, assigned

... having attained the age ... assigned cause, old

... has been given in ... Now, with your ... I may say, on pas- ... is rarely heard ... as a class, are ... than the pen, ... nor their in- ... of the common- ... which their number ... them to. As an ... guild, and on ... Assessment Act ... following reasons:— ... have his farm ... ue, yet that is not ... assessors, but he ... as if there were not ... on his land; is this ... a man pay tax for ... own?—I trow not ... re store debts, float- ... al implements, &c., ... al property, and in ... fact can not be ... the assessor. No, ... horses, cows, sheep ... and, and the unfor- ... if his debts were ... is compelled by ... at property, which ... his own. The old ... in this latter respect ... under the former, ... eduction was made ... to the extent of ... ed to the old law ... l property, while at ... e not, and thus es- ... To meet this ob- ... that the assessor ... to put a man on his ... sion that he was ... ment. This course ... vious inquiries from ... neighbourhood (who ... well posted on each ... enable an honest as- ... to the right thing ... injustice than these ... mentioned, which is ... mer, with his land ... taxes on it just the ... dly free from incum- ... from whom he has ... only pays tax on the ... To illustrate: Two ... of Ontario with ... them buys a farm for ... \$8,090, the balance ... cents, &c. When the ... annual visit he is as- ... 000, on which he has ... one lends his \$10,000 ... cent, which would ... year, which is all the

law says he shall be assessed for. Now these men are equally rich, yet one pays taxes on \$8,000 or \$9,000, the other only on \$800. Is this fair or just? Not by any means; it is an example of rich men making laws to suit themselves, and shirking their just share of the public burdens. If farmers are not heard in the public press of the country, they speak bitterly of these things among themselves. I have been an assessor both under the old law and the new one, and so I have had ample opportunities of becoming acquainted with their feelings on these very important topics. Gentleman of the Legislature, listen to the voice of justice. Place the burden on the shoulders of those that are able to bear it; and don't tax the poor man for what is not his own if his debts were paid. There are other anomalies in the law as it now stands which I should like to advert to, but I have said enough at present (perhaps too much), and will subscribe myself,

Yours, truly, A FARMER. Walsingham, Co. Norfolk, Jan. 25, 1873.

THE FARMERS ALLIES. The Swiss naturalist, Baron Von Tschudi, has this to say in behalf of birds, the efficient but too seldom appreciated allies of the husbandman:—Without birds, successful agriculture is impossible. They annihilate in a few months a greater number of destructive insects than human hands could accomplish in the same number of years. Among the most useful may be classed the swallow, wren, robin, redbreast, sparrow, and finch. Tschudi tested a titmouse upon a rosebush of his neighbor, which rid the same in a few hours of innumerable lice. A robin redbreast killed in the neighbourhood of 800 flies in an hour. A pair of night swallows destroyed in fifteen minutes an immense swarm of gnats. A pair of wrens flew thirty-six times an hour, with insects in their bills, to their nests. He considers the sparrow very important; a pair of these in a single day carry 300 worms or caterpillars to their nests—certainly a good compensation for the few cherries which they pluck from the trees. The generality of small birds carry to their young ones during the feeding period nothing but insects, worms, snails, spiders, etc. A farmer indignantly destroys a robin because he has caught him eating a cherry, thinks he has done mankind a service, but let him take a moment to open the crop of the bird, and he will find it full of worms. In some instances 200 worms and grubs have been found in the gizzard of a single bird. An oriole shot in a field of wheat had 300 weevils in its crop. A pair of orioles (parent birds) destroy 1000 caterpillars a day. The commissioners appointed by the French Government have reported with an accuracy characteristic of French Legislation. It has been decided that by no agency save that of little birds, can the ravages of insects be kept down. A certain insect was found to lay 2,000 eggs, but a certain titmouse was found to eat 200,000 of these eggs in a year. A swallow devours about 550 insects in a year, eggs and all. A house sparrow's nest in the city of Paris, was found to contain 700 pairs of the upper wings of cockchafers, though of course, in such a place; food of other kinds was procurable in abundance. The bluebird in some respects reminds one of the English robin redbreast, though as an insect destroyer, it surpasses the English bird. Its food consists of all kinds of insects especially the larvae of the colling moth, and canker worms and caterpillars of every description are quickly destroyed. The birds arrive in time to destroy the female moth as it ascends into the tree in early Spring to deposit its eggs.

SCRAPPL. Taking a hog's liver, lights, heart, tongue, and the head, except the jaws and offal pieces, both lean and fat, from other parts of the animal; boil them thoroughly in a small quantity of water; chop all pretty fine, after taking out of the liquor; season as for sausage; then return to the pot, thickening the whole with one-half buckwheat meal, and one-half corn meal, so that it will be about the consistency of Indian mush; let it boil gently for half an hour, then pour in pans to cool; slice it and fry it in its own fat. It is far better than what is commonly called "liver-pudding."

A newspaper of Iowa city gives rather a discouraging account of what the farmers in those "diggings" are doing, or rather not doing.—Here is the price current: A pair of winter boots costs two loads of potatoes; a night's lodging, a load of oats; the wife wears five acres of wheat; the children each ten acres of corn; the price of an overcoat is a cool four-year-old steer; of a Sunday suit, twenty fat hogs.

MAD DOGS.

The British Medical Journal calls attention to the measures recommended by the Council of Hygiene, of Bourdeaux, for protecting the people against the dangers of hydrophobia. It is well known that the madness of dogs has periods which one can call premonitory and harmless. If these periods were generally known the dogs could be put beyond the power of hurting before they became a public danger. On this subject the Council of Hygiene has issued the following instructions:—

A short time, sometimes two days after the madness has seized the dog, it creates disturbances in the usual condition of the animal which it is indispensable to know. 1. There is agitation and restlessness, the dog turns himself continually in his kennel. If he be at liberty he goes and comes and seems to be seeking something; then he remains motionless, as if waiting; he starts, bites the air, seems as if he would catch a fly, and dashes himself, barking and howling, against the wall. The voice of his master dissipates these hallucinations; the dog obeys but slowly, with hesitation, as if with regret. 2. He does not try to bite; he is gentle, even affectionate, and he eats and drinks, but he gnaws his litter, the ends of the curtains, the padding of cushions, the coverlets of beds, the carpets, &c. 3. By the movement of his paws about the sides of his open mouth, one might think he was wishing to free his throat of a bone. 4. His voice has undergone such a change that it is impossible not to be struck by it. The dog begins to fight with other dogs; this is decidedly a characteristic sign, if the dog be generally of a peaceful nature. The numbers 3, 4, 5 indicate an already very advanced period of the disease, and the time is at hand when man will be exposed to the dangerous fits of the animal if immediate measures be not taken.

These measures are to chain him up as dangerous, or better still, to destroy him. After having accepted this advice the council desired that it should be inserted at least once a year in a public paper, or at more frequent intervals of time in the *Monteur des Communes*. It is also desired, and which seems to us more particularly efficacious and practical, that it should be printed on the back of the notice for the dog tax, on the back of the receipt for this tax, and, finally, on the back of the permission for hunting. These excellent measures ought to become general.

STONE COLORED WASH.—I painted a board fence and a rough out-building two years ago, and it is nearly as good to-day as it was when finished, and it costs comparatively nothing. The fence is a common rough board fence, with a cap-board nailed at the top; and I've leaned on the fence a hundred times and it will not soil a black coat, or any garment by so doing, but appears slaty with no disposition to crumble. "Take two pounds of flax seed and boil for an hour or more, in four pails of water; after thoroughly boiling, strain it into an old tight barrel; put in one peck in bulk of common land plaster; one peck of nicely sifted wood ashes, one quart of wheat flour and one quart of salt. Put in your barrel a good stick as large as a hand like, and stir it until it is as thick as cream; let it stand in the sun for a week, and every time you go by the barrel, stir it thoroughly, and by the end of a week it won't settle, but will remain incorporated, and is fit for use." The above was made in quite warm weather, and worked up like sponge batter, two or three times, before putting it on; and a good stirring would, in a minute or two, reduce it again to its creamy consistency. It is now as hard as slate, and is certainly valuable in preserving the wood, and is a cheap luxury in good looks for fences or second class buildings, and I know is no humbug.—*Rural Home*.

Two gentlemen in Galt are exporting to the States about 100,000 pounds of hops a year. They are said to be making a good thing by it. Canadian soil and climate seem to be splendidly adapted to the culture of hops. The proprietors of the "yards" in Welland County are making handsome "piles" by the business of growing these pungent article.

CHARCOAL A GOOD FARM MEDICINE.

Nearly all sick horses and cows are made so in the first place by eating improper food, or too much of it. As soon as the owner finds any of his animals sick, it is the common custom to begin dosing medicine. "We must do something!" and in a manner of drugs and poisons are thrust down the throat—salt, ether, copperas turpentine, &c., quite sufficient to make any well animal sick, or kill a sick one. "You didn't give the poor animal enough—you should have given it often— you can't expect your beast to get well if you don't do more for it!"

Our rule has always been to give nothing unless we knew exactly what to do; and in the meantime attend to every exterior comfort practicable. If the weather is cold, place it in warm quarters, avoid all exposure and attend to pure air and strict cleanliness. But there is one medicine that can never do harm and is generally beneficial. This is pulverized charcoal. As we have just remarked, nearly all sick animals become so by improper eating, in the first place. Nine cases out of ten the digestion is wrong. Charcoal is the most efficient corrective. It will cure in a majority of cases if properly administered. An example of use: The hired man came in saying that one of the finest cows was very sick, and a kind neighbor proposed the usual drugs and poisons. The owner being ill, and unable to examine the cow, concluded that the trouble came from over-eating, and ordered a tea-cupful of pulverized charcoal given in water. It was mixed placed in a junk bottle, the head held upwards, and the water with its charcoal poured downwards. In five minutes improvement was visible, and in a few hours the animal was in the pasture quietly eating grass.

Another instance of equal success occurred with a young heifer which became badly bloated by eating green apples after a hard wind. The bloating was so bad that the sides were most as hard as a barrel. The old remedy saleratus, was tried for the purpose of checking the acidity. But the attempt to put it down, always caused coughing, and it did little good. Half a tea-cupful of fresh charcoal was next given. In six hours all appearance of bloating had gone, and the heifer was well.

We disapprove of quackery, where, without a precise knowledge of the disease, powerful remedies are given at random, indiscriminately. The objection of quackery cannot extend to the use of charcoal, for it can do no harm; and goes directly to the seat of the trouble in most sick animals, and if timely applied affects a cure.—*Live Stock Journal*.

USE OF RYE.—"Eye Graham."—Several weeks ago Mr. W. brought home along with other things, about, twenty pounds of rye Graham, recommended as very good. I did not know how to use it and felt some doubts whether we should like it. But now it is all gone, and it went pretty easy after all. First we tried *Rye Light Cakes*, baked in gem pans, and this is the recipe:—One pint of milk, three eggs, a tablespoonful of sugar, and a salt spoonful of salt. Rye flour enough for the thickness of griddle-take batter. Bake half an hour. *Rye Bread* we made in this fashion:—For mixing, take one quart of warm water and one quart of milk. Thicken this with a tea-cup of corn-meal, and rye-flour enough for a common bread sponge. Stir in about 3 tea-cupful good yeast. Let it rise in a warm place, and when it has risen knead it quite stiff with rye-flour. Let it rise again, and bake it well. *Rye Gems* we make like the Graham gems, mixing them a little stiffer, as rye is inclined to be sticky. I observed that these gems took better at our table when they were made one-third wheat Graham and two-thirds rye; and then they were best when the whole were sifted with a coarse sieve, which removed the coarsest part of the bran. *Rye Rolls* we made in two ways, mixing them with sweet milk. 1. Make dough with milk and flour stiff enough to roll an inch in thickness. Cut in strips an inch wide, and bake in a buttered tin. 2. Mix your batter of flour and milk stiff enough to take up a large spoonful in your hands, previously flouring them to prevent sticking, and roll the dough with your hands into straight rolls about an inch and a half in thickness. If these are floured the baking pan need not be buttered.—*Montreal Witness*.

SOFTENING OF THE BRAIN.

Softening of the brain is becoming a more common disease than formerly. As it is utterly incurable, attention should be given to its causes. The softening is caused from great mental excitement, as a result of study, of the use of spirituous liquors, or allowing the mind to dwell on one subject unpleasantly, especially when there is no real cause, as in fancied slights, conjectured injuries, and the like, moping over them. To ameliorate a malady arising from causes so diametrically opposite, antipodal means should be employed; less work to the eye worked, and more work for those who have nothing to do.

A NEW VERY EARLY PEACH.

Thomas Rivers, the well-reliable fruit grower of Sawbridgeworth, England, has, during a few years past, originated many new and early ripening peaches of good quality. Among them one called "Early Beatrice," we learn, has been fruited by S. G. Bilyeu, of North Carolina, who says that it does not rot, is of good size and color, and of superior quality, ripening two weeks' earlier than "Hale's Early."

An Illinois correspondent of the *Prairie Farmer*, on Sept. 10 commenced feeding 56 hogs, weighing 9,424 pounds, an average of a little over 168½ pounds. He fed them 1,200 bushels of corn in 87 days, and found their weight 15,570 pounds, a gain of 6,146 pounds an average of 109 5-7 pounds for each hog, and nearly 5 1-8 pounds of pork for each bushel.

The *Journal of Horticulture* says that a French farmer has discovered that the use of tan is an efficient preventive against potato disease. For three years he has introduced a small quantity of the residue of the bark used in tanning into each hole on planting his potato crop, and each time he has been completely successful in preserving his fields free from the annoying disease.

THE REV. W. F. CLARK, the former editor of the *Canada Farmer*, and late editor of the *Ontario Farmer*, is now editor and proprietor of the *American Bee Journal*, published in Chicago.

Alum and plaster of Paris, well mixed with water, and used in a liquid state, will form a very useful cement.

BREAKFAST.—EPPE'S COCOA.—GRATEFUL AND COMFORTING.—By a thorough knowledge of the natural laws, which govern the operations of digestion and nutrition, and by a careful application of the fine properties of well selected cocoa, Mr. Epps has provided our breakfast tables with a delicately flavored beverage which may save us many heavy doctor's bills. Civil Service Gazette. Made simply with Boiling Water or Milk. Each packet is labelled—"James Epps & Co. Homoeopathic Chemists, London." Also, makers of Epps's Milky Cocoa (Cocoa and Condensed Milk.) 72-1-12

THE FARMER'S ADVOCATE, edited in London Ont., D.C. Terms, 1 per annum, in advance \$1.25; if in arrears; postage prepaid. Advertisements 10c. per line, square space. Communications and advertisements should be in the office by the 15th of the month to ensure insertion in the following number. Postage and all other expenses charged on collection of accounts, if in arrears.

London Market—Feb. 26.

White Fall Wheat this past season has been uncommonly good in California, Michigan and Ontario. In other reputed good grain districts the crop has not, in point of quality, been at all equal to these. A first-class article always commands top rates. White Fall Wheat this week has ranged from \$1.20 to \$1.35, and best quality commands \$1.35. Red Winter Wheat light receipts, but pretty steady, at \$1.15 to \$1.22. Spring Wheat: small deliveries; bringing from \$1.20 to \$1.23.

Barley has been firm all the week, and found ready buyers at slightly advanced rates—from 55c to 65c; prevailing figures from 58c to 63c. Peas: meagre supply, and steady at former rates—50c to 60c; the latter figure only for good seed samples. Oats in good demand and stiff, at 37c to 37½c. Corn: unchanged at 50c to 55c. Clover Seed: some nice small lots, occasionally fetching from \$5.76 to \$5.55; the latter figure was paid for some good seed brought forward to-day.

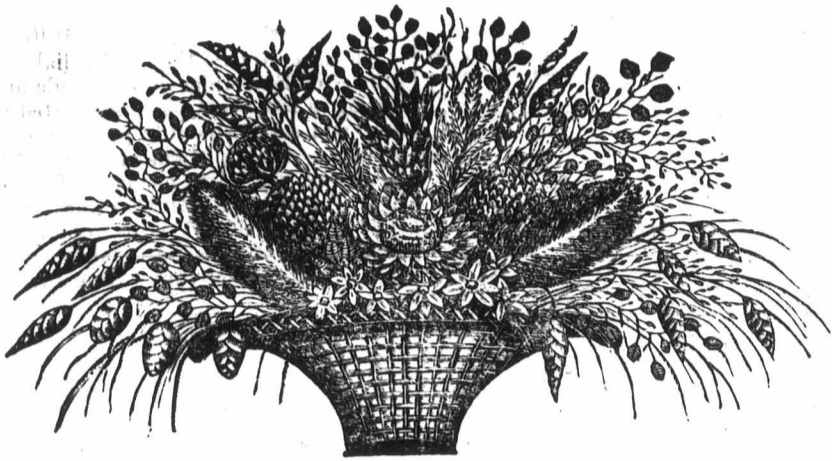
Timothy Seed: is selling at \$3 to \$4, according to quality. Dressed Hogs: few now offering; \$5.50 to \$6 are paid. Ke. Butter: in rather better demand for a fair quality; 15c to 15c paid. Eggs: scarce and high, 22c to \$25c. Red Butter: supply equal to demand at 20c to 24c. Hay: liberal supply, at \$14 to \$17.

Great Western Railway.

Trains leave London as follows:— Going West.—12.5 p. m.; 5.35 p. m.; 2.45 a. m.; and 5.45 a. m., and 6.45 a. m. Going East.—6 a. m.; 8.4 a. m.; 12.35 p. m.; 4.4 p. m.; 11.3 p. m.; and 1.15 a. m.

Grand Trunk Railway.

Mail Train for Toronto, &c., 7.3 a. m.; Day Express for Sarnia, Detroit and Toronto, 11.1 a. m.; For Stratford and Goderich, 2.55 p. m.



BASKET OF EVERLASTING FLOWERS AND ORNAMENTAL GRASSES.

C. & A. SHARPE, SEED MERCHANTS, GUELPH, ONT., Will forward, post-free, on application, their priced catalogue of seeds for farm and garden, for 1873.

NEW SEEDS FOR 1873.

WE have now received our NEW IMPORTATIONS of GARDEN & FIELD SEEDS, and shall be glad to receive a continuance of that patronage with which we have hitherto been favored.

- Cabbage.—Large Drumhead, Early and Large York, Flat and Red Dutch, Savoy, Winningstadt, &c. Carrot.—Early Horn, Long Orange, Altringham, Intermediate, White Belgian, &c. Turnip.—Early Stone, Skirving's Purple Top Swede, Yellow Aberdeen, White Globe, Orange Jelly, &c. Clover and Timothy, Tares, Flax Seed, Hungarian Grass, &c.

ROWLAND & JEWELL, Corner Dundas and Richmond Sts., 73-3-3 LONDON, ONT.

SOMETHING NEW AND DESIRABLE!

THE undersigned has for sale the latest improved style of Window Shade. Just the thing for public buildings, offices or dwellings, combining the three important points—beauty, cheapness and durability.

1873. SEEDS! SEEDS! SEEDS! 1873.

CHOICE SEED POTATOES! AGRICULTURAL SEEDS! FLOWER SEEDS! GARDEN SEEDS.

THE subscriber offers the largest and most complete STOCK OF SEEDS in the Dominion.

The Twenty-Second Annual Edition of our ILLUSTRATED AND DESCRIPTIVE CATALOGUE for 1873 is now ready, and will be mailed to all applicants who enclose a three cent stamp to pre-pay postage.

JOHN A. BRUCE & CO., Seed Merchants and Growers, Established 1850. HAMILTON, ONT.

SEE in another column advertisement about Iowa and Nebraska Lands.

White's Cultivator

Is made of the BEST WROUGHT IRON And is not only strongly made, but light in draft. Every improvement that experience can suggest has been effected.

See White's Cultivator Before purchasing. It may be examined at my workshop, King St., London; or at the Canadian Agricultural Emporium, Dundas St. Price \$35. White's Cultivator has taken FIRST PRIZE at every Exhibition where shown.

MILLIONS OF ACRES IOWA & NEBRASKA LANDS

FOR SALE BY THE Burlington & Mo. River R. R. Co., On Ten Years' Credit at 6 per cent. Interest.

Products will pay for the land and improvements much within the limit of this generous credit. Better terms are not offered, and probably never will be.

There are along the line of our road in Iowa, upwards of 18,000 British subjects, and the number in Nebraska is proportionately larger.

Multitudes are coming, and there are farms and a welcome for many more. Circulars giving full particulars, gratis; call for all that are wanted to read and circulate.

GEORGE S. HARRIS, Land Commissioner, Burlington, Iowa.

SEEDS! SEEDS!!

GEORGE J. GRIFFIN, LONDON SEED STORE, CITY HALL BUILDINGS, Begs to call the farmers' attention to his stock of selected SWEDISH TURNIPS, MANGLE WURZEL, CARROT SEEDS, AND GARDEN AND FLOWER SEEDS in great variety, and of the very best quality.

CATALOGUES GRATIS! 25 PAPERS CHOICE FLOWER SEEDS for \$1.

ESTABLISHED 1855 TO AGRICULTURAL SOCIETIES.

ANGLO SAXON may be engaged to travel the coming season in any County, in which the Society may offer the greatest inducement.

HODGINS & MORAN, Makers, Richmond St., I have now on hand, ready for Spring trade, a most desirable lot of well finished carriages and buggies.

SEE in another column advertisement about Iowa and Nebraska Lands.



PUBLIC NOTICE.

DEPARTMENT OF AGRICULTURE, Ottawa, 11th October, 1872. VIENNA EXHIBITION.

In pursuance of an Order in Council, dated 2nd October, 1872, notice is hereby given to Companies, Firms or Individuals who may desire to send on their own account articles to the forthcoming Vienna Exhibition, of the following abstracts of rules furnished, and the offer of services tendered by the Committee of Her Majesty's Commission entrusted with the management of the Exhibition of Colonial productions.

The Vienna Exhibition programme refers to objects coming under a classification comprising twenty-six groups, viz.:

- Group 1. Mining, Quarrying, and Metallurgy. Group 2. Agriculture, Horticulture, and Forestry. Group 3. Chemical Industry. Group 4. Substances of Food, as products of industry. Group 5. Textile Industry and Clothing. Group 6. Leather and India Rubber Industry. Group 7. Metal Industry. Group 8. Wood Industry. Group 9. Stone, Earthenware and Glass Industry. Group 10. Small Ware and Fancy Goods. Group 11. Paper Industry and Stationery. Group 12. Graphic Arts and Industrial Drawing. Group 13. Machinery and Means of Transport. Group 14. Philosophical and Surgical Instruments. Group 15. Musical Instruments. Group 16. The Art of War. Group 17. The Navy. Group 18. Civil Engineering, Public Works and Architecture. Group 19. The Private Dwelling House, its inner arrangement and decoration. Group 20. The Farm House, its arrangements, furniture and utensils. Group 21. National Domestic Industry. Group 22. Exhibition showing the organization and influence of Museums of Fine Art, as applied to Industry. Group 23. Art applied to Religion. Group 24. Objects of Fine Arts of the Past, exhibited by Amateurs and Owners of Collections (Exposition des Amateurs). Group 25. Fine Arts of the Present Time—Works produced since the Second London Exhibition of 1862. Group 26. Education, Teaching and Instruction.

To the Exhibition of articles coming under the above mentioned titles are added what is called ADDITIONAL EXHIBITIONS and TEMPORARY EXHIBITIONS, the former having reference to:

- 1. The History of Inventions. 2. The History of Industry. 3. Exhibition of Musical Instruments of Cremona. 4. Exhibition of the use of waste materials and their products. 5. The History of Prices. 6. The representation of the Commerce and Trade of the World, and the latter having reference to: 1. Live animals (horses, cattle, sheep, pigs, dogs, fowls, game, fish, &c.) 2. Butchers' meat, venison, poultry, pork, &c. 3. Dairy produce. 4. Garden produce (fresh fruits, fresh vegetables, flowers, plants, &c.) 5. Living plants injurious to agriculture and forestry.

The Managing Committee above mentioned of colonial productions is under the presidency of the Marquis of Ripon.

The Secretary of Her Majesty's Commissioners for the Vienna Exhibition is Phillip Cunliff Owen, Esq., who is to be addressed "Vienna Exhibition Offices, 41, Parliament Street, London, S. W."

The following is an abstract of the rules as far as it may concern private individuals, i. e. a. Her Majesty's Commission is appointed to represent British and Colonial Exhibitors. b. Exhibitors will have to defray all expenses, including transport of goods.

c. The Austrian Committee will communicate solely through Her Majesty's Commissioners. d. The Exhibition will open at Vienna on the 1st May, and close on the 31st October, 1873.

e. Exhibitors are responsible for the packing, forwarding, receiving and unpacking of their goods, both for the opening and after the close of the Exhibition.

f. The objects will be submitted to the judgment of an International Jury.

g. The objects for Exhibition will be received at Vienna from the 1st February until the 15th day of April, 1873.

h. The objects exhibited will be protected against piracy of invention or design.

1. Exhibitors and their Agents will receive the keys entitling them to free admission to the Exhibition. On account of the limited space of time remaining, intending exhibitors should lose no time in placing themselves in communication with Her Majesty's Commission Committee.

J. H. POPPE, Minister of Agriculture, London, Jan., 1873. 231

Farmers, Look Here!

NOW IS THE TIME TO SAVE YOUR MONEY by sending for a Right of

STROHM'S RACK & GRAIN LIFTER

IT RAISES THE WHOLE LOAD AT ONCE, and when elevated, it can be pitched off by hand, or thrown into the mow by a horse at one pull. It is the ONLY CHEAP and GENUINE Machine for the purpose yet invented.

Any handy farmer can erect one in three days. Satisfaction guaranteed, or the money refunded. Address—MARTIN & BROTHERS, Oneida P. O., Agents wanted. Township, County and Face Rights for sale.

STALLION FOR SALE—Dark Bay, 3 yrs. old, 17 hands high, girt 6 or 7 inches; good action. Sired by Anglo Saxon; Dam sired by Messenger. Apply at this office.

Thorough Bred Stock for Sale

FOUR BULL CALVES and a few COWS and HEIFERS with first-class pedigree. Also a PAIR OF MATCHED DRIVING MARES, three and four years old, good in single or double harness. Apply to—J. & W. WATT, Salem P. O., Co. o Wellington, Ont. 2-21

FOR SALE.

A GOOD DURHAM BULL, AGED FOUR years. A sure and good stock producer, quite gentle, and has never been injured in any way. Apply to G. LEACH, Delaware.

Short Horns, Ayrshires, and Berkshire Pigs.

THE subscriber offers a few choice animals of the BEST BREEDS, male and female, from IMPORTED STOCK, of the most approved strains. Catalogues on application. M. H. COCHRANE, Compton, P.Q. Canada.

SEE in another column advertisement about Iowa and Nebraska Lands.

Emporium Price List for Feb.

- No. 1 Straw Cutter, \$48. No. 1 Straw Cutter, geared for rod, \$48. No. 2 Straw Cutter, geared for rod, \$44. No. 3 Straw Cutter, geared for rod, \$40. Gardiner's Patent Root Cutter (double action), \$30. Victor Chopping Mill, \$30. Four Horse-power, with two rods, \$60. Six Horse-power, small "Pitt," with two rods, \$50. Ten Horse-power, "Pitt," extra heavy, \$120. Grain Drill, ten hoas, \$80. Grain Drill, nine hoas, \$75. Carter's Open Ditching Machine, \$160. Carter's Tile Ditching Machine, \$130. Dominion Stump Extractors, \$, \$75, \$100. Jones' Amalgam Bells, for schools, churches, farms, &c., from \$1 to \$120. Wood Sawing Machines, \$80, \$85, and \$100. Forfar's Root Cutter, \$6. Provincial Exhibition, 1872. Simpson's Cattle Spice, 25c. per packet. Yorkshire Cattle Feeder, 25c. Parties desiring to get bone dust should send their orders in early, as in many cases our customers have been disappointed. Address W. WELD, London.

"HEIKES TRIUMPHS

Over the Seasons." He offers from his extensive cellars a general assortment of Trees, Plants, Vines and Seedlings, IN LARGE QUANTITIES and in fine condition. Goods will be carefully packed, and can be shipped at any time. Address W. F. HEIKES, Dayton, Ohio. 3-1

OCEAN PASSAGE.—Persons intending to take a trip to the Old Country, will find it to their advantage to go by the Steamers of the National Line—large, safe and comfortable vessels. Fare low. Apply to F. S. CLARKE, next door to the Advertiser Office, London.

THE SHORT-HORNED BULL LONDON LAD

AGED 14 months; color, light roan; very handsome; well proportioned; dam Russia by Artemus. He took first prize at St. John's, and first at Lobo Exhibitions. Price \$150. Pedigree recorded. Apply to JOHN TUCKEY, Lot 23, cor. 4, London, Lobo P.O.

I was the Hubbard Marbled Sweet Corn many other

New &

This seed is valuable for fine melon for my customer. My bus farmer is table seed on my four eye, making importing pean grow home-grow in my Canada applicants.

As stated sold under sent shall shall be J.

1-4

CARRIAGE Wellington 9

VETERINARIAN Office—No. Market Street, London

C. D. H. C. London

FOR RENT INTO OAK

THE Y. FIR

Stock for PRIZES and but time, and Price

For sale the Agricul Great WHOLE

ST FARM

Lot No. 6 25 miles fr 25 x 35, w Frame St the Lot; rich soil ant to kee

Also, I tance fro well fence or to P. 3

Agents will receive the admission to the Exhibition of time remaining should lose no time in communication with Hermitage.

**OK Here!**  
SAVE YOUR MONEY  
A Right of  
**GRAIN LIFTER**  
LOAD AT ONCE,  
can be pitched off by  
by a horse at one

**P and GENUINE**  
ose yet invented.  
not one in three days.  
ed, or the money re-  
N & BROTHERS,  
Oneida P. O.,  
ip, County and Fac  
3-2

**Dark Bay, 3 yrs. old'**  
inches; good action.  
m sired by Messenger.

**Stock for Sale**

nd a few COWS and  
ass pedigree. Also a  
IVING MARES, three  
single or double harness  
TT, Salem P. O., Co. o  
2-21

**SALE.**

ULL, AGED FOUR  
stock producer, quite  
n injured in any way.  
EACH, Delaware.

**yrshires, and  
e Pigs.**

w choice animals of the  
s and female, from Im-  
most approved strains  
M. H. COCHRANE,  
m-c

n. advertisement about  
aska Lands.

**List for Feb.**

red for rod. \$48.  
red for rod. \$44.  
red for rod. \$40.  
Cutter (double action).

\$30.  
two rods. \$60.  
"Pitt," with two rods  
t," extra heavy. \$120.  
\$80.

\$75.  
Machine. \$160.  
Machine. \$130.  
ctors, \$, \$75, \$100.  
o schools, churches,  
o \$120.

\$89, \$85, and \$100.  
\$6.  
n, 1872.  
25c. per packet.  
r. 25c.

bone dust should send  
as in many cases our  
appointed.  
ondon.

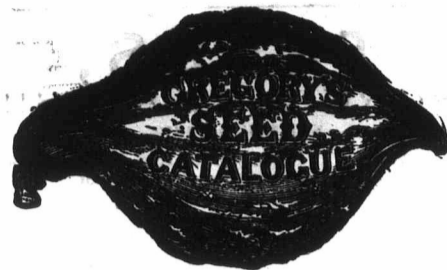
**TRIUMPHS**

offers from his extensive  
ent of Trees, Plants, Vines  
QUANTITIES and in  
be carefully packed, and  
time. Address W. F.  
3-1

ersons intending to take a  
ry, will find it to their ad-  
vantage to examine the National  
unfortunate vessels. Fare  
MARK, next door to the  
.

**HORNED BULL**  
**ON LAD**

or, light roan; very hand-  
ned; dam Rustina by Arte-  
at St. John's, and first at  
\$150. Pedigree recorded.  
JOHN TUCKEY,  
Box 4, London, Lobo P.O.



I was the first to introduce to the public the Hubbard Squash, American Turban Squash, Marblehead Mammoth Cabbage, Mexican Sweet Corn, Phinney's Water-melon, and many other

**New & Valuable Vegetables.**

This season I have a new and exceedingly valuable squash, new varieties of corn, three fine melons, and other choice new vegetables for my customers.

My business is to supply what every good farmer is anxious to get, the very best of vegetable seed. I grow a hundred and fifty kinds on my four seed farms, right under my own eye, making new vegetables a speciality, besides importing their choicest varieties from European growers. A fine selection of flower seed, home-grown and imported, will also be found in my Catalogue, which will be sent free to all applicants.

As stated in my Catalogue, all my seed is sold under three warrants: 1st, That all money sent shall reach me. 2nd, That all seed ordered shall reach the purchaser. 3rd, That my seeds shall be fresh and true to name.

JAMES J. H. GREGORY,  
1-4 Marblehead, Mass.

**ABBOTT BROS.,**

CARRIAGE BUILDERS Dundas Street, East of Wellington Street,  
9 LONDON, ONTARIO.

**J. H. WILSON,**

VETERINARY SURGEON,  
Graduate of the Toronto Veterinary College.

Office—New Arcade, between Dundas street and Market Square. Residence—Richmond street, opposite the old Nunnery.

D. HOLMES, BARRISTER, &c., Dundas St., London, Ont. m-c

**YORKSHIRE CATTLE FEEDER**

FOR FATTENING AND BRINGING INTO CONDITION HORSES, COWS, CALVES, SHEEP AND PIGS.

**THE YORKSHIRE CATTLE FEEDER**

IS RECOMMENDED AND USED BY FIRST-CLASS BREEDERS.

Stock fed with it have always taken FIRST PRIZES. Milk Cattle produce more milk and butter. It fattens in one-fourth the usual time, and saves food.

Price 25c. and \$1 per Box  
A Dollar Box contains 200 feeds.

HUGH MILLER & CO.,  
Agricultural Chemists,  
167 King St., East, Toronto.

For sale by Druggists everywhere. Also at the Agricultural Emporium, London. 1-4i

**Great Sale at A. Chisholm & Co's**

WHOLE WINTER STOCK REDUCED.

Now for BARGAINS

AT THE  
**STRIKING CLOCK**  
London, Feb., 1873, 2

**FARM FOR SALE OR TO RENT.**

Lot No. 6, west side of West St. 7 1/2 acres of land, 2 miles from the Market Square. Frame Cottage, 25 x 36, with good Cellar and Kitchen—16 x 18. 1 Frame Stable for six horses; Board Fence round the Lot; small Orchard on banks of river; very rich soil. Price, \$400; Lease for \$100 a year, tenant to keep fences in repair.

Also, FIVE ACRES on Gravel Road, same distance from city. House with 4 rooms; stables; well fenced. Price \$1000. Apply at this Office, or to F. MARKS on the premises.

**WILSON & HASKETT,**  
PRODUCE DEALERS AND COMMISSION MERCHANTS. OFFICE—Corner of King and Oxford Streets, INGERSOLL, Ont.  
JAS. M. WILSON. | JNO. HASKETT. 3-4f

**AGRICULTURAL INVESTMENT SOCIETY AND SAVINGS BANK.**

SHARES - \$50 EACH  
Payable \$1 per Month.

Stockholders receive Periodical Dividends.

RICHARD TOOLEY, Esq., M.P.P., President.  
ADAM MURRAY, Esq., Co. Treasurer, Vice Pres.  
RICHARD BAYLY, Esq., Barrister, Inspecting Director.

**DIRECTORS.**

James Owrey, Esq., J.P., Westminster; Lt.-Col. Jas. Moffat, Brigade Major, London; Wm. Glass, Esq., Sheriff of Middlesex; V. A. Brown, Esq., M.D., London; Geo. S. Birrell, Esq., of John Birrell & Co. Wholesale Dry Goods Merchants, London; John Peters, Esq., J.P., London Township; J. D. Dalton, Esq., London; A. T. Chapman, Esq., of Smith, Chapman & Co., Hardware Merchants, London; L. Leonard, Esq., Merchant, London.

SOLICITOR—DAVID GLASS, Esq.

F. B. LEYS,  
Secretary & Treas.

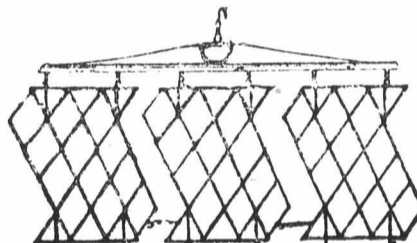
OFFICE—TALBOT-ST. ONE DOOR NORTH OF DUNDAS-STREET. 6-7  
London, May 26, 1872.

**GETTING UP CLUBS.**

Great Saving to Consumers.

PARTIES inquire how to get up CLUBS. Our answer is—You should send for Price List, and a Club Form will accompany it, with full directions, making a large saving to consumers and remunerating to Club organizers. Send for it at once, to

MILLER'S GREAT TEA WAREHOUSE,  
52 and 54, Front Street East, Toronto, Ontario.  
Local Agents Wanted.  
Toronto, April 26, 1872. 5-4f



**HOWARD'S IMPROVED IRON HARROW.**

THIS Harrow is superior to all others, because it is the most complete. It covers 14 feet of land. It leaves the ground finer, works freer, and adapts itself to uneven land. It does not bend, and chokes less than any other Harrow. It is so constructed as to draw either end. The teeth being so set as to tear the ground up to a good depth, or to pass lightly over the surface, as the teeth are beveled on one side. It can be worked with a span or three horses, or it may be unjointed and worked with one or two horses, in one, two or three sections.

They are giving entire satisfaction. Price of Harrow complete, with three sections, triple-tree, and two coupling-trees, \$35. Price of two sections and one coupling tree, \$22. Address—THOMAS HOWARD, Adelaide Street, London, Ontario. Samples may be seen and order taken at the Agricultural Emporium. 71.4e

**London Commercial College AND Telegraphic Institute.**

THE OLDEST, CHEAPEST AND BEST COLLEGE in the Dominion.

Young Men Fitted for a Business Life.

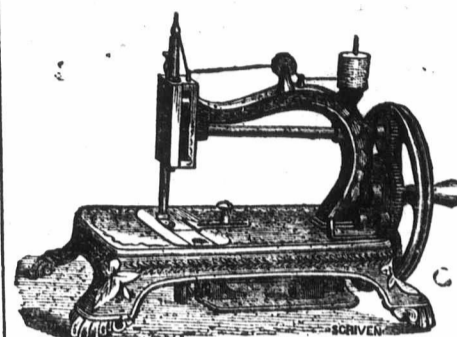
No matter what may be your calling, take a course with us, and you are better fitted to pursue it. No class of men are more imposed upon by lawyers and others than farmers; but if they take a course at our College it will enable them to do their own business, and thus save hundreds of dollars yearly.

Send for Circular to

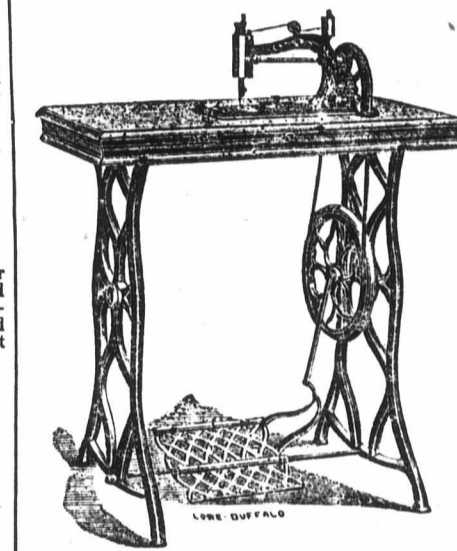
JONES & CO.,

2-5 London, Ont.

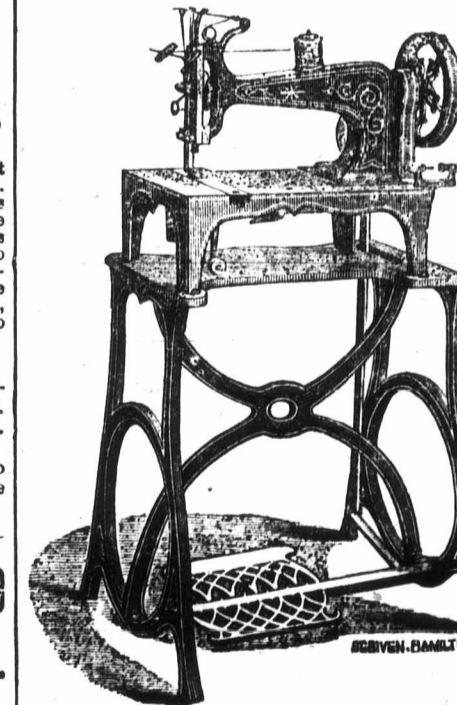
**The Lockman Patent**



Hand Machine. Price \$25.



No. 1. Plain Top. Price \$32.



MANUFACTURING MACHINE  
Price, \$55.

**WILSON LOCKMAN & CO.,**

MANUFACTURERS,

HAMILTON, ONT. 3-4f

**RESTORE YOUR SIGHT.**



Spectacles Rendered Useless.  
**OLD EYES MADE NEW.**

All diseases of the Eye successfully treated

by **Ball's New Patent Ivory Eye Cups.** Read for yourself and restore your sight. Spectacles and Surgical operations rendered useless. The inestimable blessing of Sight is made perpetual by the use of the new PATENT IMPROVED IVORY EYE CUPS.

Many of our most eminent physicians, oculists, students and divines have had their sight permanently restored for life, and cured of the following diseases:

1. Impaired Vision; 2. Presbyopia, or Far Sightedness, or Dimness of Vision, commonly called Blurring; 3. Asthenopia, or Weak Eyes; 4. Epiphora, Running or Watery Eyes; 5. Sore Eyes—especially treated with the Eye Cups—cure guaranteed; 6. Weakness of the Retina, or Optic Nerve; 7. Ophthalmia, or Inflammation of the Eye and its appendages, or imperfect vision from the effects of Inflammation; 8. Photophobia, or Intolerance of Light; 9. Over-worked Eyes; 10. Myodesopia—moving specks or floating bodies before the eyes; 11. Amaurosis, or Obscurity of Vision; 12. Cataracts, Partial Blindness; the loss of sight.

Any one can use the Ivory Eye Cups without the aid of Doctor or Medicine, so as to receive immediate beneficial results and never wear spectacles; or, if using now, to lay them aside forever. We guarantee a cure in every case where the directions are followed, or we will refund the money.

**3309 Certificates of Cure,** From honest Farmers, Mechanics, and Merchants, some of them the most eminent leading professional and business men and women of education and refinement, in our country, may be seen at our office.

Under date of March 29, Hon. Horace Greeley, of the New York Tribune, writes: "J. Ball, of our city is a conscientious and responsible man, who is incapable of intentional deception or imposition."

Prof. W. Merrick, of Lexington, Ky., wrote April 24th, 1869: "Without my Spectacles I see you this note, after using the Patent Ivory Eye Cups thirteen days, and this morning perused the entire contents of a Daily Newspaper, and all with the unassisted Eye."

Truly am I grateful to your noble invention; may Heaven bless and preserve you. I have been using Spectacles twenty years; I am seventy-one years old. Truly Yours, PROF. W. MERRICK.

Rev. Joseph Smith, Malden, Mass., cured of partial Blindness, of 18 years' standing, in one minute, by the Patent Ivory Eye Cups.

E. C. Ellis, late Mayor of Dayton, Ohio, wrote us Nov. 15th, 1869: "I have tested the Patent Ivory Eye Cups, and I am satisfied they are good. I am pleased with them; they are the Greatest Invention of the age."

All persons wishing for full particulars, certificates of cures, prices, &c. will please send your address to us, and we will send our Treatise on the Eye, of 44 pages, free of charge, by return mail.

Write to

DR. J. BALL & CO., P. O. Box 957, No. 91, Liberty Street, NEW YORK.

For the worst cases of Myopia, or Near-Sightedness, use our New Patent Myopic Attachments which applied to the Ivory Eye Cups, has proved a certain cure for this disease.

Send for pamphlets and certificates—free. Waste no more money by adjusting huge glasses on your nose and disfiguring your face.

Employment for all. Agents wanted for the new Patent Improved Ivory Eye Cups, just introduced in the market. The success is unparalleled by any other article. All persons out of employment, or those wishing to improve their circumstances, whether gentlemen or ladies, can make a respectable living at this light and easy employment. Hundreds of agents are making from \$5 TO \$20 A DAY. To live agents \$20 a week will be guaranteed. Information furnished free of charge. Send for pamphlet, circulars, and price list. Address

**DR. J. BALL & CO., Oculists,**

P. O. Box 957, No. 91 Liberty St., New York.

**THE ONTARIO CABINET LAWYER**

Being a Handy Book of Forms, with observations, designed for the use of Farmers, Merchants and others. Enabling them to draw their Deeds, Mortgages &c., without the assistance of a lawyer.—Price \$1.50. Sent free by mail to any address, on receipt of the amount.

71-94f E. A. TAYLOR, & Co., London Ont.

**BREEDERS DIRECTORY.**

**J. S. SMITH,** McGillivray, Breeder of Leicester Sheep and Durham Cattle, Ailsa Craig.

**JOHN EDDY,** Granton P. O., London Town P., Breeder of Leicester and Cotswold Sheep. 11

**G. WELDRICK,** Thornhill, Breeder of Cotswold Sheep. 11-u

**GEO. JARDINE,** Hamilton, Importer and Breeder of Ayrshire Cattle and Leicester Sheep. 11

**J. BILLINGER,** Richmond Hill, Ont., dealer in Canadian Bred Stallions. Best prices given for good Horses, and some first-class Horses for sale. 8-11

**H. E. IRVING,** Hamilton, Breeder of Galloway Cattle, Southdown and Leicester Sheep and Berkshire Pigs. 8

**N. BETHELL,** Thorold, Ont., Breeder of Short Horns, Berkshire and Yorkshire Pigs, Southdown and Leicester Sheep. 8

**DAVIS & CO.,** Lachine, P. Q., Importers and Breeders of Ayrshire Cattle. 8-ly

**J. PINKHAM,** Westminster, Breeder of Devon Cattle. 9

**R. D. FOLLY,** Bowmanville, Importer & Breeder of Devon Cattle, Berkshire Pigs and Merino Sheep. 11-12

**WALTER RAIKES,** Barrie, P. O., Breeder of Short Horns and Berkshire Pigs. 12-1-y

**JOHN CRAWFORD,** Malvern P. O., Breeder of Heavy Draught Horses and Cotswold Sheep. 1-y

**JOSEPH GARDNER,** Britannia P. O., Breeder of Short Horn Cattle, imported Berkshire pigs. 72

**RICHARD RUNELSON,** Galt, Breeder of Cotswold, Leicester, and Southdown Sheep.

**W. LANG,** St. Mary's, Breeder of Short Horns and Berkshire Pigs. 1-y

**A. PARK,** Ingersoll, breeder of Ayrshire cattle. 12

**JOHN CURRIE,** Verschoyle, breeder of Berkshire Pigs. 12

**J. FEATHERSTONE,** Credit, breeder of Essex, Suffolk, and Yorkshire Pigs, and Cotswold Sheep. 12

**JOHN JACKSON,** Grahamsville, importer and breeder of English Cart Horses, Berkshire swine, and Leicester sheep. 12

**J. MAIN,** Boyne, importer and breeder of Cotswold Sheep and Suffolk Swine. 12

**GEORGE MILLER,** Importer and Breeder of Short Horn Cattle, Cotswold & Leicester Sheep, and Berkshire Swine, Markham P. O. 12

**JAMES LAWRIE,** Malvern P. O., importer and breeder of Ayrshire Cattle, Clydesdale Horses, Berkshire Pigs, and Leicester Sheep. 11-ly

**GEORGE G. MANN,** Bowmanville, Importer and breeder of Thorough-bred Devon Cattle. 11-ly

**JOHN SCOTT,** Coldstream, Breeder of Leicester sheep and Short-Horn Cattle. 11-ly

**THOS. IRVING,** Logans Farm, Montreal, Breeder of Ayrshire Cattle, Clydesdale Horses, Yorkshire and Berkshire Pigs, and Leicester Sheep. 11-ly

**BRODIE & CONVERSE,** Breeders of Yorkshire Pigs and Ayrshire Cattle. Address Jas. Brodie, Rural Hill, Jeff. Co., N. Y.; J. F. Converse, Woodville, Jeff. Co., N. Y.; Hugh Brodie, Belleville, Ont. 11-ly

**W. HOOD,** Guelph, Breeder of Galloway Cattle. 11-ly

**H. H. SPENCER,** Breeder and Importer of Devon Cattle, Clydesdale Horses, Southdown and Hampshire-down Sheep, and Berkshire Pigs. Brooklin P. O., near Whitby, Ontario. 11-ly

**J. MILLER,** Thistle-"ha," Brougham P. O., Breeder of Short-Horns, Cotswold Sheep, improved Berkshire Pigs and Clydesdale Horses. 11-ly

**R. LEAN,** Coldsprings, Breeder of Leicester Sheep and Berkshire Pigs. 11-ly

**G. MORTON,** Morton P. O., Breeder of Ayrshire Cattle. 11-ly

**JOHN SNELL & SONS,** Edmonton, Breeders of Short-Horn Cattle, Leicester and Cotswold Sheep, and improved Berkshire Pigs. Winner of the Prince of Wales prize for the best Bull and five of his Calves at Provincial Exhibition, Kingston, 1871. 11-11

**F. W. STONE,** Morton Lodge Guelph, Importer and Breeder of Short-Horn and Hereford Cattle, Cotswold and Southdown Sheep, and Berkshire Pigs. 11-11

**JAMES COWAN CLOCKMOHR,** Galt P. O., Breeder of Short-Horns, Leicester Sheep, and Essex Pigs. 71-10

**GEO. ROACH,** Hamilton, Importer and Breeder of Berkshire, Suffolk and Essex Swine. 11-71

**J. R. HUNTER,** Alma, Breeder and Importer of Short Horn Cattle. 11-71

**D. S. ROBERTSON,** Wanstead, breeder of pure bred Berkshire pigs. 72-3-y

**EDW. JEFFES,** Bond Head, Breeder of Short Horns, Leicester Sheep, Berkshire and Chester White Pigs. 72-3-y

**THOS. GUY,** Sydenham Farm, Oshawa, Breeder of Ayrshire and Devon Cattle. 72-3-y

**M. & A. A. MCARTHUR,** Lobo, Breeders of Leicester Sheep.

**FOR SALE—Imported and Thoroughbred AYRSHIRE STOCK**  
Catalogues furnished on application.  
S. N. WHITNEY, Montreal, P. Q., Canada

**JOHN EDDY,** Granton P. O., Biddalsh Township, Breeder of Lincoln, Leicester and Cotswold Sheep.

**HILTON'S NEW Patent Washing Machine.**

**WHAT IS CLAIMED FOR IT:**  
1st.—It is the best ever offered to the public for the following reasons, viz: It will do its work quicker, easier, and better than any other machine, cleansing effectually and perfectly, no hand rubbing being necessary, and without the slightest injury to any article submitted to its operation, neither breaking nor misplacing buttons or other fastenings.  
2nd.—Its range or scope of action is greater, acting singly upon a lace or linen collar, and accommodating itself to the heaviest article of bedding without change or adjustment of the machine.  
3rd.—It is durable, not likely to get out of order, and when so, easily repaired, being constructed in such a manner that any of its parts can be supplied by the manufacturer without the presence of the machine, and adjusted to its place by any person, which is evident at first sight of the machine.  
In witness of the above read the following:  
We, the undersigned, having used Mr. Hilton's Patent Washing Machine one year, can fully endorse the above claims:—Wm. Rapley, S. A. Bakins, Jos. Benjamin, W. W. Hull, Jas. Manson, Isaac Moore, G. Street, and others. Strathroy, Ont., February, 1872.  
Town and County Rights for sale. Price of Machines, \$14. All orders addressed to the undersigned will be promptly filled.  
ALEX. HILTON, Strathroy, Ont.

**TYTLER & ROSE, Family Grocers & Seedsmen.**

**TIMOTHY and CLOVER SEED;** all KINDS of FIELD SEED, TURNIP, MANGEL, &c. &c., imported direct by themselves, and of the very best quality.—LAND PLASTER.

**TYTLER & ROSE, WINE MERCHANTS AND SEEDSMEN,**  
DUNDAS-STREET.  
London, April, 1872. 2

**VALUABLE FARM FOR SALE.**

**LOT NO. 1, N. HALF 14th CON., TOWNSHIP of LONDON,** consisting of 167 acres; 30 acres of excellent wood land, and the remainder in a good state of cultivation. Well fenced, well watered; never-failing creek; excellent young orchard of choicest fruits of all kinds; good brick house—90,000 bricks in it—with slate roof. Good barns, sheds and outbuildings. Distance from London, 15 miles. Soil unsurpassed in quality. Price, \$5,500.  
This is a rare opportunity, as the proprietor is determined to leave.  
Apply to—**REUBEN BISBEE,** Devozes P. O. or to this office.

**G. MOORHEAD, WHOLESALE AND RETAIL**

**Manufacturer of Furniture, UPHOLSTERER, &c.**  
1-11 King Street, London.

**JOHN MILLS, WHOLESALE AND RETAIL**

**BOOKSELLER, STATIONER & NEWS DEALER.**  
RICHMOND-ST., LONDON.  
*American Papers received twice a-day from New York.*  
English Magazines received weekly from London.  
London, Ont., Oct. 28, 1872. 12-11

**FARMERS, Improve your Stock of Pigs.**

**THE SUBSCRIBER has at GREAT EXPENSE** secured the services of the following Bors, in order to improve the stock of pigs in this section of the country. They will be found at the  
"MIDDLESEX HOTEL,"  
over Blackfriars Bridge.

**Great Sale of Cutters & Sleighs**

in all varieties and designs, on and after December 1st, 1871. Warranted first rate material and workmanship.  
**HODGSON & MORAN**  
Richmond Street, near Crystal Palace,  
LONDON, ONT. 12-11

**W. BELL & CO., GUELPH, ONT.**



**PRIZE MEDAL Cabinet Organs! AND MELODEONS.**

Sole Proprietors and Manufacturers of  
**"THE ORGANETTE,"**  
Containing Scribner's Patent Qualifying Tubes.  
**AWARDED THE ONLY MEDAL!**  
Ever given to makers of Reed Instruments at Provincial Exhibitions, besides Diplomas and First Prizes at other Exhibitions too numerous to specify.  
**CAUTION!**  
As we have purchased the sole right of manufacturing Scribner's Patent Qualifying Tubes for the Dominion of Canada, we hereby caution all parties from purchasing them elsewhere, as they will be liable to prosecution. We have copyrighted the name of the  
**"ORGANETTE,"**  
For our instruments containing this wonderful improvement. Any manufacturer infringing on this copyright will be prosecuted.  
Illustrated Catalogues furnished by addressing  
**W. BELL & CO., Guelph.**



**MARKHAM BELL FOUNDRY.**

There are about 1800 of the above bells now in use and giving the best of satisfaction, costing only one-third the amount of ordinary bells, and are all warranted one year. Encourage home manufacture and purchase a warranted article. Farmers! throw aside those dinner horns, which cause the ladies to get well-niced necks by blowing. **JONES & CO.,** Markham P. O., Ont. W. WELD, Agent, London. 72

No. 1 Bell, 15 inches diameter—yoke & crank...	\$10
No. 2 " " " " " " " " " " " "	12
No. 3 " " " " " " " " " " " "	20
No. 4 " " " " " " " " " " " "	30
No. 5 " " " " " " " " " " " "	50
No. 6 " " " " " " " " " " " "	70
No. 7 " " " " " " " " " " " "	120

**H. MITCHELL, M. D., C. M., Graduate of McGill University, Montreal, &c.**  
**Physician, Surgeon, &c.**  
Office: Gothic Hall, Dundas Street, London, Ont. 71-12-y

**TO FARMERS AND MARKETMEN.**

You want none but the very best of seed, grown from carefully selected seed stock. With the money you have to invest in manure, help and glass, you know you cannot afford to use any other; you feel very anxious about it; TRY MINE. Catalogues free to all.  
N. B.—Call in the Spring and see what onions, cabbages, &c., I set out to grow seed from.  
**JAMES J. H. GREGORY,**  
1-4 Marblehead, Mass.

**GEORGE VAIR, LANDSCAPE GARDNER.**

Plans given, selecting, arranging and planting fruit and ornamental trees. Address—  
8-11 TORONTO and BARRIE

**J. BEATTIE & Co.,**  
IS the cheapest Dry Goods, Millinery and Mantle Store in the City of London. 3-y

**TREES, SHRUBS, PLANTS!!**

**SPRING OF 1873.**  
We invite the attention of Planters and Dealers to our large and complete stock of Standard and Dwarf Fruit Trees, Grape-Vines, Small Fruits, Ornamental Trees, Shrubs, Roses, New and Rare Fruit and Ornamental Trees, Evergreens and Bulbous Plants, New & Rare Green & Hot House Plants.  
Small parcels forwarded by mail when desired. Prompt Attention Given to all Enquiries. Descriptive and Illustrated priced Catalogues sent pre-paid, on receipt of stamps as follows:  
No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholesale free. Address,  
**Estab'd 1840. ELLWANGER & BARRY,**  
2-2 Mount Hope Nurseries, Rochester, N. Y.

**CABLE SCREW WIRE BOOTS & SHOES**  
the best in the World. CHEAP at  
**CHESSELL'S PENITENTIARY STORE,**  
11-y Dundas St., Cor. New Arcade.

**THE SUBSCRIBER IS PREPARED TO** fit up Public Buildings, Churches, and Private Residences with Velvet, Tapestry, Brussels, 3-ply Kidderminster Carpets, Floor Oil Cloths and matting at short notice and very moderate prices. R. S. MURRAY. July

**JOHN ELLIOTT, PHENIX FOUNDRY.**

**MANUFACTURER of Stoves, Ploughs,** Reaping machines, Threshing Machines, Lap-Furrow Ploughs, Cultivators, and Guage Ploughs, &c., London, Ont. 3-11



**RAISED BY S. H. MITCHELL, ST. MARY'S.**  
Matures earlier than any other variety. The flesh is solid and rich, having only about half the quantity of seed usually found in tomatoes. The fruit sets more evenly in the vines. It is less liable to rot in wet weather, having no green leaves about its stem. Color—red. Shape—from oval to round; some have a few indentations. It is of medium size.  
From all reports received we believe it will be a great acquisition to our gardens. We have acceded to Mr. Mitchell's request to act as sole agent for it in Canada.  
**W. WELD,** Manager of the Canadian Agricultural Emporium, London, Ont. 25 cents per packet.

**DURHAM BULL FOR SALE**

A Thoro'-bred Durham Bull, eleven months old.—Dark Red Color.  
**THOS. FUTCHER,**  
St. Thomas, Ont.

**EGGS FOR SALE.**

**HAVING PROCURED A CHOICE STOCK of POULTRY** from Mr. J. Plummer, who has retired from the poultry business, and from several other prominent poultry gentlemen, I am now prepared to supply eggs that I will guarantee  
**Pure and Fresh**

from the following varieties, viz:  
**BLACK POLANDS,**  
**DARK BRAHMAS,**  
**LIGHT BRAHMAS,**  
**BLACK SPANISH,**  
**GREY DORKENS,**

**Aylesbury and Rouen Ducks.**  
PRICE—23 PER DOZEN.  
Address **JOHN WELD,** London, Ont.

**FOR SALE.**

**A SHORT HORN BULL,** 4 years old, Dark Red. Dam, "Mail of the Dale;" Sire "Pickering Lad." Apply to **JOHN Mc GURK,** Thorndale P. O. 3in-c