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keg, 17c to 22c.
load, \$2 to \$4.
20. Cattle, live
to \$5. Lambs,
\$4.25. Oatmeal,

FARMER'S ADVOCATE

VOL. XI.

LONDON, ONT., DECEMBER, 1876.

NO. 12

The Farmer's Advocate!

PUBLISHED MONTHLY BY WILLIAM WELD.
OFFICE: RICHMOND STREET, EAST SIDE, BETWEEN
THE MARKET AND G.W.R. STATION, LONDON,
ONT.

TO SUBSCRIBERS:
TERMS.—\$1 per annum, postage paid; \$1.25 when in arrears.
Single copies 10 cents each.
We cannot change the address of a subscriber unless he
gives us his former as well as his present address.
Subscribers should always send their subscriptions by reg-
istered letter, and give their name and post office address in
full. Subscriptions can commence with any month.
Subscribers who do not give express notice to the contrary,
are considered as wishing to continue their subscriptions.

TO ADVERTISERS:
Our rates for single insertion are 20c. per line—\$2.40 per
inch, space of nonpareil (a line consists on an average of
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Manufacturers and Stock Breeders' cards inserted in
"Special List" at \$1 per line per annum.
Condensed farmers' advertisements of agricultural imple-
ments, seeds, stock or farms for sale, or farms to let, not to
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Advertising accounts rendered quarterly.
Advertisements, to secure insertion and required space,
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Letters enclosing remittances, &c., only acknowledged when
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must be abridged as much as possible.

Prize for one New Subscriber.

To any subscriber sending us one new name, we
will send a beautiful lithograph of the celebrated
painting by Thomas Faed, R. A., called "The Offer."
A very handsome young woman, neatly attired,
is leaning against a marble mantelpiece in a grace-
ful attitude, reading a letter. The envelope and a
few flowers which have been sent to her are lying
at her feet. A fire is blazing in the grate, and a
large mirror and writing materials are on the man-
tel. A door is standing open, showing her father
busy in the shop adjoining. We can't half describe
the beauties of the picture. It is 22 x 26, and is
superior to any picture we have ever sent out, or
that we have seen with any paper in Canada at
such a price.

"THE OFFER" is fit for any gentleman's parlor,
or any farmer's home. It will please every one
that sees it, and on your wall will make your
home cheerful and attractive. In tone and finish,
the picture is exquisite, and is well worth
\$2 without the paper. We guarantee satis-
faction to every one that earns this pic-
ture. If you are not entirely satisfied with it
we will give you 50c for it if returned to this office
within ten days. The selling price of this very
handsome and pleasing picture was \$3. They have
been reduced, and we have made such arrangements
as to be able to fill our engagement.

For two subscribers we will send a handsome, gilt-
edged manual pocket diary for '77, bound in
morocco.

Should any prefer choice seeds, plants, useful
books or cash, they will receive a liberal reward
for their trouble in obtaining subscribers at the rate
of 25 cents for each new subscriber.

Notice to Subscribers.

An envelope is sent to each subscriber, an account
to each one in arrears, and a renewal slip to all
whose term of subscription has expired. Those
who have already paid in part or in full for 1877,
will retain the envelope for future use. Should the
envelope be closed by the dampness of the paper,
damp it and it will easily separate.

When remitting, be particular to give the correct
Post Office address, with the Province, and not the
name of your residence, county or township, as is
frequently done, which prevents the receiving of
the publication until the correct address has been
obtained. In forwarding remittances register the
letter, or procure a Post Office order (in all cases
we prefer the latter, as it protects the sender and
ourselves), which can be had at the following rates:
\$1 to \$4, 2c., and \$4 to \$10, 5c. When stamps are
sent to make up the remittance, the only denomina-
tions that are of practical use are 1 cent, 2 cents
and 3 cents of the Dominion of Canada. When
changing address from one Post Office to another, it
is necessary to give the old address, as well as the
new. If this is not done, the change cannot be
made, thereby causing disappointment.

Any subscriber who fails to receive his ADVOCATE
by the 10th of the month, will greatly oblige by
sending a postal card at once to this office, and the
P. O. authorities will then institute a search as to
loss or delay, and by this a more prompt delivery
has always been brought about.

Some doubtful persons have at times canvassed
and taken subscriptions for the ADVOCATE; when
in doubt, send subscription direct to this office.
Terms are \$1 per annum in advance; \$1.25 when
in arrears.

Bound volumes of the ADVOCATE for 1874, 1875
or 1876 sent post-paid by mail on receipt of \$1.50
each. Persons who have saved their papers can
have them bound and re-mailed to them by sending
them to Charles Chapman, Book Binder, London,
Ont., whose advertisement appears in our advertis-
ing columns. The cost will be 40 cents for bind-
ing, and 10 cents for return postage. Two years
bound together will cost 60 cents and 20 cents for
return postage.

To Our Patrons.

We know nearly every one of you are satisfied
with the improvements that have been made every
year in the ADVOCATE, and that you will be
pleased to see it again improved; we know, also,
that many of you are willing to aid us. Every
farmer and his family are benefited by the Advo-
cate; thousands of farmers that do not take it
should have it. Each of our friends can get one
new subscriber. Have you shown your paper to
any one and asked him to subscribe? Do so, and
send us one new name before Christmas.

Seed Report—Sorgum.

Mr. Thomas Hill, of Westminster, brought us a
sample of sugar-cane; it is about ten feet long.
He gives us the following information regarding it:
He planted the seed in the month of June, in rows

three feet apart; he ran the cultivator through the
rows to keep the weeds down when it was young.
In August he commenced cutting it, and feeding a
horse with it; the horse preferred it to grass and
throve well on it. He has continued cutting it
daily as he required it. When the stalks became
woody and hard, he chopped them into lengths of
about a foot and a half long. The horse would get
one end in his mouth and eat it. The horse pre-
ferred the sorgum stalks, even in this form, to the
best hay or grass, and kept in better plight than a
horse he fed on hay and oats and worked with him.
Mr. Hill thinks a great deal of his trial with
sorgum, and will sow more in future. Care re-
quires to be taken when first one begins to feed it,
as it is very loosening when green and fresh, but
the animals soon become accustomed to it. The
part of the crop that was cut early in August made
a second growth. The second growth did not
grow very high, as the hot, dry weather prevented
it from starting soon enough.

The Provincial Exhibition.

Mr. D. M.'s letter in correspondence
department should be read by all interested in this
Exhibition. His plan is deserving the attention of
the Directors, whom, we have no doubt, will act
upon it, particularly in regard to the classification
of horses. We would suggest that it might be
well to appoint a stated hour each day when single
horses and matched teams could be seen in the
show ring, and that brood mares and colts be
judged before 11 o'clock or after 3, so that the visit-
ors might see the different classes of driving horses
each day between 11 and 3 o'clock.

The important question in regard to shearing
sheep should be discussed. Shall we fix the time
that sheep should be shorn, or should we leave it
optional with the breeders themselves? The pre-
sent regulation is only a farce, as some shear their
sheep at the appointed time, while many do not
comply with the law, and the sheep are allowed to
compete and carry off prizes that have not been
shorn at the appointed time. Perhaps some of our
sheep men will give us their views on this question.

We are highly pleased to announce that some
old Government documents have been found that
place the title of the exhibition grounds in this
city beyond all dispute, and that our County Coun-
cil, the city authorities and Board of Agriculture
may act in harmony, put the grounds in order and
erect suitable buildings that may no longer be a
disgrace to our Dominion. The Centennial Exhi-
bition buildings have given us a proper idea of the
form on which they should be constructed, that is,
an oblong form, having all the passages parallel and
all articles to be on the ground floor. The crowded
state of the galleries of our exhibitions, with the
dust and heat, have been so disagreeable to visitors
and so injurious to exhibitors and exhibits, that
many ladies will not risk the attempt to see the
display. Some of the best exhibitors are also dis-
gusted. An alteration is much needed.

mond Hill; S. E. Phillips, Schomberg; J. Hagarty, Agincourt; Thomas Webster, Coleraine; A. J. Hughes, Sharon. Peel Division, No. 10—Francis Sil, Htholm, Humber; Eli Crawford, Brampton; Guy Bell, Brampton, Ontario; N. Steen, Streetsville; W. J. Oliver, Derry West; R. Dick, Cheltenham. Kent Division, No. 11—A. McCormac, Morpeth; J. Wright, Chatham; J. Mann, Valletta; R. Wilkie, Rond Eau; A. W. Crow, Kent Bridge; D. H. Everett, Dresden. North Middlesex Division, No. 12—John Levi, Fernhill P. O. Durham Division, No. 14—Wm. Hall, Oshawa; J. D. Gould, Foley; R. D. Foley, Bowmanville. East Lambton, No. 15—Thomas Doherty, Uttoxeter; John Dallas, Theford; J. McDonald, Alvington. East Lambton Division, No. 15—Francis Kearney, Watford. Orangeville Division, No. 16—J. K. Decatur, Camille. West Middlesex Division, No. 17—S. W. Dell, Strathroy; Elgin Division, No. 18—Jabel Robinson, Hatherley. Lennox and Addington Division, No. 19—W. N. Harris, Napanee; M. Neville, Napanee; Uriah Sills, Napanee. North Simcoe Division, No. 20—Charles Drury, Barrie; E. Archer, Hillsdale; H. G. Lister, Rugby; R. Dixon, Ninonesing. Belmore Division, No. 21—Henry Smith, Gorrie. Oxford Division, No. 22—G. E. Harris, Ingersoll. Beaver Valley Division, No. 23—Neil McColman, Clarksburg; Wm. Hewgill, Heathcote. Prince Albert Division, No. 24—Robert McMorde, Kippen. Ontario Division, No. 25—Andrew Orvis, Whitby; J. Haight, Pickering. Wentworth Division, No. 26—M. J. Onstead, Ancaster; P. S. Van Wagner, Stoney Creek; D. Patterson, Copetown; G. Gastle, Carlisle. Huron Division, No. 27—J. Smith, Newry. County Huron—James Livingston, Moncrief. Norfolk Division, No. 28—Isaac Austin, Port Dover; Levi R. Whitman, Knowlton, Quebec. Kent County—Robt. Wilkie, Rond Eau; Charles McGibben, Douglas, N. B. Bruce County—Thomas Blair, Kincardine; John Biggar, Burgoyne; Thos. Houston, Wellington County—Wm Woods-worth, Bowling Green, Stormont County—J. J. Adams, Wales, Wellington County—Robt. Cromar, Salem. Belleville District—W. J. Massey, Belleville.

New Granges.

530, Abingdon, William Parkson, Master, Abingdon; L. Williams, Secretary, Abingdon.

DIVISION GRANGES.

32, North Bruce, John Biggar, Master, Burgoyne; Alfred Shell, Secretary, Burgoyne. 33, Haldimand, Henry Cooy, Master, Jarvis; Jesse Forster, Secretary, Rainham Centre.

Additional Correspondence.

STR.—In reply to the enquiry from I. M. T., of Strathroy, as to the use of superphosphates on sandy soil, I beg to say that I have used 3½ tons during the last two years, principally on sandy loam, with satisfactory results.

For my hoe crops, which consists of carrots, cabbage, turnips, mangles, and corn, I sowed broadcast immediately after plowing, some 500 lbs to the acre, and harrowed in lightly, and then put in my crop in the ordinary way.

For grain I sowed some 200 pounds broadcast. My hoe crop has been most excellent, and I consider my money well repaid in the extra crop and comparative freedom from weeds.

Of course there is nothing equal to good barn yard manure for renovating land, but if the land is not too sandy to yield some sort of a crop as it is, there would be little risk in venturing say half a ton of superphosphate next year as an experiment. My land is good and would have promised a fair crop without the use of superphosphates. I used the lowest grade of the Brockville Superphosphate Company.

R. T. R.

Barton, Oct. 17, 1876.

SIR,—Can you furnish a plan of a building for saving human excrements, which will be cheap and easily built; for I am convinced that much is lost to the farmer in this one manure alone that would pay a good percentage had he a suitable building for the purpose of saving and utilizing it.

EXAMPLE.

[An ordinary privy can with very little expense be utilized for the purpose by doing away with the vault, and inserting on the level of the surface a drawer, as it is in an article of furniture. Any strong close-joined box will answer the purpose. It should occupy the whole space under the seat in width and length, not in height. Put a little dry earth in the drawer before using, and each time after using it; remove the contents as often as necessary, say weekly, to a pit, and keep it covered with earth. The accumulation is a great fertilizer, generally called pondrette. The dry earth is a good disinfectant, and prevents any offensive odour.—Ed.]

REPLY TO A CORRESPONDENT.—There is no doubt but that condiments of various kinds are highly advantageous in fattening stock. The virtue of many of our cattle spices are not sufficiently known among our Canadian farmers. As yet only the most enterprising are trying them, and find great benefit from their use. For particulars and price of Devonshire Cattle Food, see advt. of John Lumbers in another column.

Reports of the Barley Crop and Stock in Hand.

The barley crop of Canada has, within a few years, become of such importance that the interest centered in it is only second to that of wheat, the great staple of our agricultural products. The barley crop of this season has been light, but the growers of it, as far as we have been able to ascertain, have less ground for complaining than the growers of wheat. The following report must, from the great extent and acreage of the cultivation of barley, be of interest to our readers.

The Montreal Gazette gives the return of the barley crop of Canada, comprising reports from 103 points, of which 52 were average, 38 below average and 12 above average, against 97 reports in 1875, of which 54 were average, 1 below average and 42 above average.

The New York Produce Exchange Weekly of a late date stated the visible supply of barley from New York is 562,829 bushels, against 132,214 bushels at the corresponding date in 1875. It also says that Mr. R. H. Lawder has made a tour of inspection of the barley crop in Canada and northern counties of New York. He finds the area sown with barley somewhat larger than in 1875, and the yield less. He aggregates the deficiency this year as compared with last, fully five million bushels, and of the out-turn of the crop this year he estimates that one-quarter of the barley in Canada and New York is so thin and light in weight as to be unfit for malting. He estimates the excess of the old malt held from Philadelphia at two and a half millions more in 1876 than in 1875, thus estimating the surplus stock equal to the deficiency in produce.

Rumor of Epizootic in London Township.

We have a report circulated in some papers that there has appeared in the southern part of London township a disease of a most peculiar character among horses. We have made every enquiry; we have consulted three veterinaries among others, and they state that there is not to their knowledge any disease of an infectious nature—nothing, in fact, to afford ground for the rumor.

Well Done for Canada.

Sixty-eight horses were sent to the Centennial show from this Dominion. Of these fifty-two took prizes, and thirteen were sold. One span of geldings brought \$1,500 in gold. Since the exhibition of horses, the fruit show has taken place there; and in speaking of the display made in this department, the New York Graphic says:—"Probably the finest show of fruits is made by the Fruit Growers' Association of Ontario." The same journal adds—"The present display occupies the entire north side of the Promological Building, and is composed of 100 plates of apples, 200 plates of plums, 200 plates of pears, 90 plates of crab-apples, 25 varieties of peaches, 153 plates of grapes, and a variety of nuts." Canada not only carried off silver medals for plums, but also a number of prizes for apples and pears. For Shorthorns the prices offered were such as would not be accepted. After the exhibition of sheep some English lots were offered for sale, but the prices offered were lower than could be obtained at some of our county fairs.

The flax crop has yielded well this season, while in almost all others there has been a deficiency. The cultivation of this crop has been continuously increasing. The flax at present grown in Ontario amounts to \$700,000 in seed and fibre.

We have received communications from Messrs. A. Gray, F. Malcolm, and C. E. Gardener, which will be inserted in our next issue.

HEARING RESTORED.—Great invention by one who was deaf for 20 years. Send stamp for particulars. JNO. GARMORE, Lock-box 995, Covington, Ky. K-1

Molsons Bank.

At the annual meeting of the above institution, held last month, a most satisfactory and encouraging report of the past year's business was read, and after the usual provision for bad and doubtful debts, paying two dividends of 4 per cent., the rest was increased by \$40,000, and a balance remained to the credit of profit and loss account of \$10,169.98. Considering the hard times and the numerous business reverses of the past year, the management are to be congratulated on their success.

The Molsons Bank is one of the most liberal monetary institutions in the Dominion to the farming community, and an increased share of our agricultural banking business should attend their success and liberality. We are pleased to hear that a branch of this Bank will soon open at Ingersoll—the headquarters of our great cheese interests.

Mr. William Watson, of New York, has purchased of Mr. William Rodden, of Plantagenet, Canada, the Ayrshire heifers Lilly and Amelia, together with the bull calf General Montgomery. These animals attracted much attention at the Centennial, where they formed part of Mr. Rodden's exhibit.

Messrs. John Snell & Sons, Edmonton, Canada, have advices of shipment of a young Berkshire boar and three sows from the herd of Mr. Heber Humfrey, of Berkshire, England. The pigs from England Oct. 5. Messrs. Snell have also recently received the young boar Royal Tombs and his four sisters, "The Four Belles of Shelton," from the herd of Mr. Edward Tombs, of Shelton, Uxon, England, which are said to be extra good ones. This makes nine imported sows added to the Willow Lodge herd in the last four months, besides two fine litters which were imported in their dams. At the head of the herd as a breeding boar is Sir Donhester, Cardiff, winner of five first prizes in England, and used for three years with good success in the herd of Mr. Heber Humfrey.

Commercial.

ENGLISH MARKETS.

London, Oct. 23.—Floating cargoes. Wheat, at opening, quiet; corn, quiet. Carriages on passage and for shipment—Wheat, at opening, quiet; corn, quiet.

Liverpool.—Wheat, on the spot, at opening, quiet; corn, on the spot, at opening, quiet; California white wheat, range of club, per cental, 108 6d to 108 10d; California white wheat, range of average, per cental, 108 6d to 108 7d; red American spring wheat, range of No. 2 to No. 1, per cental, 98 1d to 108 1d.

MONTREAL MARKETS.

The produce markets have lost all the elasticity produced by the warlike news from Europe, and have lapsed into comparative dullness. The decline in the West and the less favorable tenor of the English despatches caused a further reduction in values, but even this failed to stimulate the demand. The stock of wheat at present here is very small, but the enquiry is correspondingly so; we have not heard of any transactions of importance within the week, and the market may be quoted as nominal at \$1.17 to \$1.20 for Canada spring. Flour has declined about 10c per barrel all round, and a fair business resulted at the reduced rates, the market closing weak. Peas sold in car lots at 89 to 90c, and in cargoes at 91c per 66 lbs. Corn was lightly dealt in at 53c for mixed lots, and barley ruled quiet. The transactions in Provisions have been on a very limited scale. Pork remains steady; butter and cheese, quiet and nominally unchanged. Pot ashes closed easier, at \$4.60 to \$4.61½, according to terms. Freights closed easier, at 6s 6d for heavy grains per steamer and iron clipper to Liverpool and Glasgow.

CHICAGO MARKETS.

Wheat, unsettled; No. 1 Chicago spring, \$1.14; No. 2, \$1.10½; No. 3, \$1.02; rejected, 92c. Corn, No. 2, 42½c. Rye steady and unchanged. Oats, firmer, 32½ to 32¾c. Pork, in less demand, \$15.25 to \$15.50.

NEW YORK MARKETS.

New York, Oct. 28.—Flour dull, prices slightly in buyers favor, at \$1.26 for new No. 2; \$1.28 for winter red western; \$1.30 for amber; \$1.32 for white. Corn, 58c to 59½c for western mixed. Barley dull, and in buyers' favor; extra choice six-rowed state at \$1 to \$1.03. Oats reported dull, 35c to 51c. Butter, 20c to 30c. Cheese, 6c to 12½c.

LONDON MARKETS.

London, Oct. 28.—Wheat, per cental, \$1.90 to \$2.01; treadwell, \$1.89 to \$2.00; red fall, \$1.75 to \$1.80; spring, \$1.80 to \$1.95. Barley, 90c to \$1.50. Peas, \$1.20. Oats, \$1.12 to \$1.15. Corn, \$1 to \$1.10. Rye, 80c to \$1. Buckwheat, 80c to 90c. Nut-Beef, per 100 lbs., \$5.50 to \$6. Lamb, per lb., 7c to 8c. Mutton, \$6.25 to \$6.62½. Dressed hogs, \$8.25 to \$8.62½; live ton, \$5 to \$5.25. Butter, roll, 20c to 24c; keg, 17c to 22c. Cheese, 9c to 10½c. Lard, 10c to 10½c. Fleece wool, 27c to 28c. Hay, \$8 to \$10 per ton. Straw, per load, \$2 to \$4. Potatoes, per bag, 80c to \$1. Beans, \$1 to \$1.20. Cattle, live weight, per 100 lbs., \$3 to \$4. Sheep, each, \$4 to \$5. Lambs, each, \$2 to \$3. Flour, per 100 lbs., \$3 to \$4.25. Oatmeal, \$1.85 to \$2.25.



VOL. X

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PUB OFFICE: R THE M ONT.

TERMS.—\$1 Single copies. We cannot give us his f Subscribers gistered letter full. Subscri Subscribers are considere

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PERSEVERE
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LONDON, ONT., DECEMBER, 1876.

NO. 12

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"THE OFFER" is fit for any gentleman's parlor, or any farmer's home. It will please every one that sees it, and on your wall will make your home cheerful and attractive. In tone and finish, the picture is exquisite, and is well worth \$2 without the paper. We guarantee satisfaction to every one that earns this picture. If you are not entirely satisfied with it we will give you 50c for it if returned to this office within ten days. The selling price of this very handsome and pleasing picture was \$3. They have been reduced, and we have made such arrangements as to be able to fill our engagement.

For two subscribers we will send a handsome, gilt-edged manual pocket diary for '77, bound in morocco.

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To Our Patrons.

We know nearly every one of you are satisfied with the improvements that have been made every year in the ADVOCATE, and that you will be pleased to see it again improved; we know, also, that many of you are willing to aid us. Every farmer and his family are benefited by the ADVOCATE; thousands of farmers that do not take it should have it. Each of our friends can get one new subscriber. Have you shown your paper to any one and asked him to subscribe? Do so, and send us one new name before Christmas.

Seed Report—Sorgum.

Mr. Thomas Hill, of Westminster, brought us a sample of sugar-cane; it is about ten feet long. He gives us the following information regarding it: He planted the seed in the month of June, in rows

three feet apart; he ran the cultivator through the rows to keep the weeds down when it was young. In August he commenced cutting it, and feeding a horse with it; the horse preferred it to grass and thrived well on it. He has continued cutting it daily as he required it. When the stalks became woody and hard, he chopped them into lengths of about a foot and a half long. The horse would get one end in his mouth and eat it. The horse preferred the sorgum stalks, even in this form, to the best hay or grass, and kept in better plight than a horse he fed on hay and oats and worked with him. Mr. Hill thinks a great deal of his trial with sorgum, and will sow more in future. Care requires to be taken when first one begins to feed it, as it is very loosening when green and fresh, but the animals soon become accustomed to it. The part of the crop that was cut early in August made a second growth. The second growth did not grow very high, as the hot, dry weather prevented it from starting soon enough.

The Provincial Exhibition.

Mr. D. M.'s letter in correspondence department should be read by all interested in this Exhibition. His plan is deserving the attention of the Directors, whom, we have no doubt, will act upon it, particularly in regard to the classification of horses. We would suggest that it might be well to appoint a stated hour each day when single horses and matched teams could be seen in the show ring, and that brood mares and colts be judged before 11 o'clock or after 3, so that the visitors might see the different classes of driving horses each day between 11 and 3 o'clock.

The important question in regard to shearing sheep should be discussed. Shall we fix the time that sheep should be shorn, or should we leave it optional with the breeders themselves? The present regulation is only a farce, as some shear their sheep at the appointed time, while many do not comply with the law, and the sheep are allowed to compete and carry off prizes that have not been shorn at the appointed time. Perhaps some of our sheep men will give us their views on this question.

We are highly pleased to announce that some old Government documents have been found that place the title of the exhibition grounds in this city beyond all dispute, and that our County Council, the city authorities and Board of Agriculture may act in harmony, put the grounds in order and erect suitable buildings that may no longer be a disgrace to our Dominion. The Centennial Exhibition buildings have given us a proper idea of the form on which they should be constructed, that is, an oblong form, having all the passages parallel and all articles to be on the ground floor. The crowded state of the galleries of our exhibitions, with the dust and heat, have been so disagreeable to visitors and so injurious to exhibitors and exhibits, that many ladies will not risk the attempt to see the display. Some of the best exhibitors are also disgusted. An alteration is much needed.

Reclamation of Eleven Thousand Acres of Moor Land.

The most important agricultural operations of this age of agricultural improvement are the works carried on in Sutherland, Scotland. There have been reclaimed of what has till now been a swampy waste, not less than 2,074 acres, and converted into good arable land and pasture. The work is carried on by the Duke of Sutherland, of whose large estates it forms part. Of the 1,176,837 acres owned by the Duke in this County, only 26,837 are under cultivation, and many of the sheep farms, though containing from 30,000 to 77,000 acres, have not an acre that can be cultivated. Of this vast territory, a large proportion is mountain and barren rock, and can never be brought under cultivation, but there are 50,000 acres that can be or have been reclaimed and rendered fit for cultivation. At present, sparse as the population must necessarily be, the grain grown in the county is not sufficient to give them bread, and thousands of pounds have to be paid for imported breadstuffs.

The tract of country now being reclaimed is a broad basin having to the south-east a lake over twenty miles long and from one to two miles in breadth. The first work to be done in the reclamation of this swampy waste was to drain off the stagnant water that must, until drawn off, prevent the slightest improvement of the soil. To carry out the proposed improvement the application of steam power was necessary; much of the work to be done in the vast undertaking could not be otherwise accomplished, and even the ordinary steam plow was unequal to the task to be performed, so that new machinery had to be constructed. By the introduction of a revolving cutter, the plow was enabled to ride over boulders when too large to be raised by it, and to it was attached a subsoiler in the shape of a large anchor-shaped crook. This following the plowshare, tears up the subsoil two feet deep, and throws out stones and boulders when not too large. An iron sledge or slag is used for the removal of large stones and boulders that encumber the surface of the ground. Of this also the motive power is steam. One hundred tons of stones are by this means collected in a day. The larger boulders are broken up by means of dynamite, which is also extensively used in tearing up the larger stumps of the old forest that formerly occupied the ground. The furrow turned measures 18 inches wide by 10 deep. Then follow grubbing, clod-crushing and harrowing.

This land has not always been a waste morass. That at some remote period it was possessed of more than ordinary fertility is conclusively proved by the roots and trunks of large trees that are met with in the process of the work. Were it as unproductive as it has been of late years such timber could not have grown on it. Its barrenness is owing to the obstruction of the natural drainage which at a remote time existed. This obstruction caused the water to accumulate till the ground, naturally fertile, became a dreary morass.

This morass is now first drained where necessary, then plowed and at the same time subsoiled. The stones are removed—the large ones for building, dividing-dykes, &c.—the smaller ones to be used in draining. Then the land, having been cleared of stones and roots, is harrowed to break up the large clods. This having been done, there is a liberal application of lime. This is found necessary, as by the chemical action of lime in the soil, it loses its sour and barren qualities and becomes fertile. The first crop taken off generally is oats, followed by turnips; then the third year, oats seeded down with grass seeds. The report from the land that is now bearing its second crop is that the crops were very much superior to the

average crops in the north of Scotland, while the cereals on the land taken in last year, notwithstanding the unfavorable spring, were not so light as was expected. Better turnips than were grown this season on such land were never seen.

The expenditure, taking drains, roads, farm steadings and houses into account, approached nearly £30 per acre.

Mangolds for Stock.

A "New Subscriber," Richmond, P. Q., wishes "for some information through the ADVOCATE of the value of mangolds for stock feeding, and how to feed them to the best advantage."

The result of our experience of mangolds for stock feeding is that there is no crop grown on the farm more suitable for the purpose, or more profitable than mangolds, and this opinion is confirmed by good authority on the subject. As a farm crop it is as easily cultivated as the turnip, and it is less precarious, being free from the attacks of the fly, and that new enemy—the turnip-bug. It also produces a heavier crop than the turnip, as is shown by agricultural reports from different parts of the country, twelve hundred bushels per acre being sometimes reported here. So far, the comparison of the mangold with the turnip is in favor of the former.

On their first introduction into British agriculture, they were said to be inferior to turnips for fattening stock; but they have grown in the estimation of stock-feeders. They are used for feeding horses, young cattle and hogs, and also for fattening cattle, always, of course, with hay or straw, as the case may be. The time when their value is most recognized is the latter part of spring, when other feed is becoming scarce, and also when stock is needing the addition of succulent food such as the mangold. Then, before the soiling commences a bin of mangolds is of great service; and then they are in their prime.

To have mangolds in the best state for feeding it is necessary that they be fully matured before being lifted and stored. If fed too green, they sometimes cause scouring—only under some circumstances, and never when the roots are ripe. On their being properly lifted and stored, at the proper time, and as it ought to be done, much of the value of the mangolds for feeding depends, though, even if they be stored when not fully ripe, but at the same time dry, they will mature in the pit or bin by remaining in it till late in the season, when they are most needed.

One great profit from feeding with mangolds is from the manure made by its means. Straw fed with them is put to the very best account. Regular feeding with mangolds induces stock to eat dry feed, as straw, freely, which they would otherwise nose about and tread under foot—a perfect waste; whereas the feeding it with mangolds is converting it into manure of the very best quality.

Provident farmers and stock-feeders grow roots of different varieties adapted to the different seasons, and in feeding reserve the mangolds for the last. Turnips are the best food in the earlier months, when the mangolds are maturing in store for their fittest time.

The best mode of feeding mangolds is to pulp them or steam them, and mix them so prepared with chaff or cut hay or straw—sixty pounds of roots with the dry food; this is sufficient each day for a steer. Even without pulping or steaming they are good, profitable food, and always with hay or straw. If two or three pounds per day of corn meal be added, it will make a great improvement in the beef.

Cattle Feeding.

From a lecture on this subject delivered by Mr. Gilbert Murray, before an English Chamber of Agriculture, we select and abridge the following extracts. At this season the subject is the most opportune for our consideration.

"In general practice the farmer frequently overlooks the facts that by allowing his stock to retrograde in condition he is entailing on himself a heavy loss, yet how often do we see the accumulated stores of the summer dissipated in providing for the wants of the winter! Stock rearing and feeding can only prove remunerative where the animals are kept in a state of progression from birth to maturity.

"I would impress on your minds the great value of pure blood in the sires you use. I do say, whether you prefer to use a Shorthorn or a Highland Scott, or one from any other of the various breeds, go in for blood and select what the Americans term a live animal. Throughout the whole of the different races of our domesticated animals, we find close-bred sires invariably the most prepotent.

"Now, as to rearing. If our object is beef, the calves should be dropped between the 1st of November and the end of February; winter-reared calves always thrive best. We consider it most conducive to the health of the mother and her progeny to allow the calf to remain with its dam one, or at the most, two days, when it should be removed and fed on skim milk from the pail. With the present high prices of butter, the cream may be taken off and the fatty matter naturally contained in the milk substituted by a combination of less concentrated and cheaper materials. During the first three weeks a mixture of skim milk and linseed meal or oatmeal porridge may be used with very satisfactory results.

"The food should be given three times a day until the young animal begins to eat. A mixture of finely broken linseed cake, wheat meal, pulped roots and a small quantity of hay chaff are the best to begin with; the porridge need not be continued beyond the first eight weeks; if well cared for, the calf will by this time be sufficiently advanced to support itself on other food. At twelve weeks old one pound per day of cake and corn, with a quantity of hay chaff and pulped roots, will be a liberal allowance. Calves may be kept the first year at little cost by turning them out to grass the middle of May and allowing them to shift for themselves."

The author, however, does not approve of the method of keeping at little cost. Compared with the more costly method, he finds it less profitable; but he recommends providing a succession of special forage crops—Italian rye grass, tares, clovers or mixed seeds; these will carry the animals on until the cabbage crop is nearly ready. This green food may be used either in a prepared or an unprepared state, mixed with hay or straw cut into chaff and the mass sprinkled with corn meal, bean or pea meal, or other farinaceous food. "About 2 lb. per head per day of meals and linseed cake will be a fair allowance for calves under a year old. If turned out to graze the first summer, they should receive 2 lb. per head per day of good linseed cake, and be provided with a well-littered shed for shade or shelter."

The food for the succeeding winter, as recommended by Mr. M., is not less nutritive. The quantity consumed by each animal will vary; he takes the daily average at 56 lbs. pulped roots, 30 lbs. of chaff, and 2 lbs. of corn meal, &c., as recommended above, and linseed meal. If the pastures are ready, they may be turned out to grass about the middle of May. "About the 1st of October the animals should again be housed, and at once commence their final preparation for the butcher. The daily allowance of food should now consist of 70 lbs. of pulped roots mixed with from 30 to 40 lbs. of cut chaff, with 2 lbs. barley, 2 lbs. bean or pea meal, and 4 lbs. of linseed cake. With the treatment we have described, the steers will come out ripe at from 20 to 24 months old, and if fairly well descended, will readily reach the weight of from 90 to 100 stones of 8 lbs., which at the

present price \$30 each."

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English

If induced our stock from breeding feeding the parison of England and port from t is as follow lbs.; second Best mutton equal in A lb., live w Compare That selling profit, but no profit; crease the out any c of Texas, bring is a market an pay:—

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present price of 9d. per lb., will realize from \$27 to \$30 each."

Though our system of farming and feeding is not sufficiently advanced to adopt the above course of feeding in all its details, every feeder may find in this abstract of the lecture very useful hints both as to breeding and feeding. The profits are less than might be expected. Of the \$27 or \$30, he reckons a profit of only about \$6, including manure, after deducting the market price for all the articles used as food, and 2s. 5d., the price allowed for the calf when dropped.

English and American Cattle Markets.

If inducements were still wanted to persuade our stock feeders of the advantages to be derived from breeding from good, well-bred animals, and feeding that stock well, it will be found in a comparison of the prices of fat cattle in the markets of England and America. At a recent date, the report from the Metropolitan Meat Market, London, is as follows: Best beef, 5s to 5s 4d per stone of 8 lbs.; second, 4s 6d to 4s 8d; middling, 3s 8d to 4s. Best mutton, 6s to 6s 4d; second, 5s 4d to 5s 8d; equal in American money to—Best beef, 16c per lb., live weight; Best mutton, 15 to 20 cents. Compare these figures with the American notes. That selling at the latter prices not only pays no profit, but that it entails an undoubted loss needs no proof; it is self-evident. Cattle suffered to increase their numbers, and pick up their food without any expense to their owners on the vast plains of Texas, may pay at such prices; whatever they bring is almost entirely gain; but cattle fed for market and sold as in the following report, cannot pay:—

The receipts of cattle from the country were light and count up only 217 head. The market at the Central was rather weak, and at King's Yards the sales were very slow and few in number, owing to the recent rain-storm. We note sales of the best cattle offered at prices that did not reach 4c., none selling above 3½c., and the range of prices went as low as 3c. Fair 1100 lbs. steers sold at 3½c. These are very low prices, but the eastern markets have never been so completely filled with light stock; and the past week the yards in New York have been kept steadily filled with cheap beef. Our feeders ought to be convinced that they cannot compete with the boundless plains of the west in the raising of cheap, light steers. The best stock sells in Chicago and New York at 5 to 6 cents, while light medium steers are not worth over half that price. The profit is altogether in the well bred and best fed stock, even with prices low. Neither the farmer, the drover or the butcher makes any profit feeding and handling light, poor cattle.

Sheep were offered in fair numbers, but they, too, had shrunk in price, and the range was from 3½ to 3¼c. We notice that the eastern markets are not so low in this stock as in cattle in proportion. These prices are quite depressing. But the pens in all the eastern markets have been filled with State sheep carried over from day to day for some time, and we notice that prices at Buffalo and New York have been kept up better than they have been in this market. At New York we note that Michigan sheep have sold at \$4.25 to \$5.25.

Send the Produce of your Farm to Market on Foot.

This is the system of agricultural economy, to which the farmers of Britain are every year more directly tending, the statistics of each year reporting a decreased average of wheat culture, and an increased area set apart for stock feeding. The immense arrivals of breadstuffs bound to her shores

from every point of the compass, speak to the English husbandman of a keen competition from the virgin fields of America and the fertile plains of Asia, that precludes the prospect of a fair remuneration for his expenditure of time and labor in the cultivation of wheat; he therefore manufactures beef and mutton, cheese and butter, where he was wont to grow breadstuffs.

The same change is gradually coming over us Canadians. We find it less costly and more remunerative to feed stock than go on in the old track, relying entirely on our wheat crop; and this change will be more general, it will cease to be looked on as a change, it will become the established system to calculate the profits of our farms by the meat fed and not the bushels of wheat threshed. As we realize the profits from our English markets we will send the produce of our farms to market on foot.

In other colonies of Britain their wealth is centered in great measure in their flocks and their herds. We give the following extract telling of the great progress of a sister colony, New Zealand, proves from returns that cannot be doubted that the great source of her prosperity is sheep farming:—

"The quarterly abstract of the trade and returns of the Colony of New Zealand for the quarter ending the 31st of March, shows that the total value of imports for the quarter amounted to £2,079,267 as against £1,883,653 in the preceding quarter; and of exports for the same period of £2,594,721 as against £1,039,105. The principal items of export are gold and wool, of which in the last quarter there were exported of gold 89,954 ounces value £337,055; and of wool 33,638,562 lbs., value £2,002,269. The total quantity of wool exported in the year 1875 is also given in a note to the abstract. It amounted between the 1st of January and the 31st of December to 54,401,540 lbs., value £3,398,155. The revenue for the quarter ending 31st of December, 1875, was £600,439; that for the quarter ending 31st of March was £632,727, showing an increase of £32,338 on the quarter. The estimated European population of the colony on the 31st of December, 1875, was 375,856. The last previous estimate was that of June, 1874, when the population was calculated to be 310,576. The European population had therefore increased by 65,280 souls in the interval of a year and a half, a rate of progress which may be best estimated by a reference to the fact that twenty years ago, in the year 1856, the entire population of the colony was reckoned to be 45,540 souls."

Will a Top-Dressing of Salt Serve the Wheat Crop?

We have had this enquiry again, this time from a new subscriber. The application of any fertilizer or chemical is variable, and depends much on the constituents of fertility in the soil to which it is to be applied. To this must be attributed the doubts of the value of salt used in top-dressing. In some instances the benefits from its application have been imperceptible, while on the other hand we have most indisputable testimony that it has been of great service to wheat, and, in short, to all crops, grain as well as others. The presence of salt in the products grown, as demonstrated by careful analysis, proves that salt, whether as a constituent of the soil, or supplied as a fertilizer, is essential to the successful growth of many plants, cereals included.

On the farm of the Royal Agricultural Society of England a series of experiments, designed to test the value of salt as a manure, proved the correctness of the opinion of those who hold that salt is desirable as a fertilizer. For the experiment two acres were set apart; one acre to which salt had been applied, 300 lbs. per acre, yielded thirty-nine bushels of wheat; the other acre, to which no salt had been applied, yielded only twenty-nine

bushels: a gain of ten bushels in favor of wheat dressed with salt, though the plots in every respect save the salting were equal.

The Market for Canadian Sheep.

The shipping of sheep to England gives fair promise of being a profitable business for sheep farmers and shippers. The experiment tried a few years of shipping prepared mutton to Glasgow, though not attended with actual loss, did not pay a sufficient profit as to encourage those engaged in it to continue incurring the risk unavoidable in the undertaking, and the enterprise was discontinued. Salt mutton did not prove so acceptable to the palate of North Britons as to induce them to pay a price commensurate with the expenses and risks incurred. And yet the great difference of the price of mutton in the Canadian and British markets is such as to induce enterprising dealers to hazard other experiments to bring Canadian mutton before English purchasers and consumers in such a state as to be acceptable to the most fastidious. Hence

the enterprise of sending live sheep, in good condition, fresh from our Canadian pastures, instead of being slaughtered and salted. So far, the enterprise has been successful. The animals bore the voyage well, were landed in good order, and brought fairly remunerative prices. Before this we fed only for our home consumption and for the American market. The price of our home market has always been low, and though prices in American markets have been higher, the duty imposed then on importers reduced the profits to a low figure. Twenty per cent duty for animals imported was a pretty high sum to be paid by our sheep farmers, and in many instances overbalanced the expected profit. The amount of the duty so charged would, it is said, defray the entire expenses of the transportation of the animals to England; and therefore Canadians can put them in English markets at as little cost as in New York or Chicago. To make this business profitable depends on our farmers themselves. If sheep of an inferior quality or ill-fed be offered for sale as Canadian sheep in the shambles of the Old Country, where they know what really good meat is, a prejudice against Canadian mutton will be caused that will militate seriously against the business. This has not, so far, been against it. Two steamers recently arrived at Liverpool, having on board 1,130 sheep for the English market, affording to the purchasers, at low prices, mutton of a very good quality.

Hints to Dairymen—No. 10.

Written for the Farmers' Advocate by J. Seabury.

The demand for cheese has been very quiet, and the market for the past few weeks has been without animation. The views of buyers and sellers have been so far apart that there has been little or no business done. However, there has been a little better feeling the past few days, and the cable has advanced to 61 shillings, but even this advance does not warrant the prices that have been paid, and that factorymen are now now asking. The views of holders are firm, and they will in all probability carry their goods into the new year before they will concede. Those who do not may have to hold until February before they obtain their price, and at present we can see no prospect of their ideas being realized before that time.

Butter.—Little or nothing doing. The market shows a somewhat better feeling, owing to more favorable reports from the British markets; 20c. is the outside quotation for choice tinnets.

We hope that long before this reaches the readers of the FARMERS' ADVOCATE every cow that has been filling the dairyman's pail so bountiful and without stint the past summer, has been settled

comfortably in her stall in the stable for the winter. For what dairyman could be so ungrateful as to allow his cows to roam about the yard and take shelter in an open shed during the winter months? It certainly would be very poor recompense after her summer's good service, to say nothing of the poor economy and bad management of such treatment. Another thing is, that she should not be allowed to go dry so soon. A great many dairymen complain of their cows going dry in the fall as soon as the cold weather comes, they do not know how it is; whereas if they considered the matter fully they would find it was their fault and not the cows'. If they had been fed more liberally, and well and comfortably stabled, this would not be at all likely to occur. Another thing which dairymen should bear in mind is, that when a cow once gets into the habit of going dry early she will invariably have that tendency, no matter how you may care for and feed her. Hence the importance of keeping young cows and heifers milking well into the winter if you wish to make good cows of them.

The Hon. H. Lewis, of Herkimer Co., N. Y., in his address before the Ontario Dairymen's Convention last winter, made the following remark among a number of others:—"That a small-souled, stingy, close-fisted man has no right to own and feed a cow. He had better be shaving notes, where no conscience is required." There is a great deal of truth in these remarks, for he who will stint himself and all around him will be very apt to stint his cows. The dairyman who is afraid of wasting his feed by feeding his cows liberally has no right to be keeping cows; he had better go out of the business. The same gentleman also stated before the convention that Herkimer Co. was "celebrated the world over for its cheese, and which has liberal feeders in it no doubt; still the whole profit is received from one-third of the cows kept. One-third fail to pay for their keep from some constitutional weakness, another third fail because they are illiberally fed, and thus the whole profit of all the dairies in the county is received from one-third of the cows kept." These are rather surprising statements, and yet when we come to consider the matter, how many farmers in Ontario, taking both those in the dairying and all others, how many are really paying a profit? Take the best rented farms in the country, and how many of them are paying five per cent. on their net value? I doubt if there is one in twenty that does. Here is a subject for thought and study during the long winter evenings, and one which every dairyman cannot consider without being benefited in some way or other. It will bring forcibly before him the importance of good farming, good and liberal feeding of his stock, and also good breeding, with all the necessary care and judgment in that part of the business. It will bring before him the importance of keeping accounts, and knowing what his farm and stock are doing, and whether they are really paying him. There are so many hints and suggestions that show themselves on the balance sheet of a ledger, he can see at a glance where many needless expenses have crept in, what accounts have paid the past year and what have not. Let every dairyman take hold of this matter and ponder and consider it carefully, and make up his mind to make some improvement the coming year, either in his stock, his farm work, or mode of culture. Do not stand still; this is an age of progress. It has been affirmed with a great deal of truth, "that we cannot stand still; we are either advancing or receding."

There are two things that cannot be too strongly placed before dairymen, and these are liberal feeding, and kindness to his cows, and in fact to his whole stock. Bates, the great English Short-horn breeder, "instead of leaving his stock to the exclusive care of his herdsman, looked carefully after

them himself, personally saw to all their wants, and knew every particular relating to them. He loved his cattle so much that he almost made companions of them; they would follow him about the fields and yards, and he would lovingly fondle them and caress them, while they in turn would rub against him, lick his hands, &c. So intractable did they become in his presence that the herdsman could scarcely drive them when Bates was present." Some one will perhaps think, well, this is very nice, but I never can get my cows to treat me in that way. This cannot be accomplished in a month, or even in a year. The fact is, that timidity and wildness has been bred in them, and has become a part of their nature, and will have to be bred out again. To accomplish this you would have to begin with the calf, and follow it up till she is a cow, and even then she will show some of the old disposition.

I would impress it upon all that these qualities are very important in making a really good milch cow, and can be developed as well as any other point of excellence. The Hon. H. Lewis says, "that all he knows about the cow with regard to her feed and care he learned from herself, and that he has a good deal more to learn yet." A dairyman, to be successful, must be familiar with the wants and habits of his cows. She is a "machine" for the production of milk, and he should know all about the parts of that "machine," and how to get the most out of it. He should know when it is doing its work properly, and when it is not he should know what is the matter and how to apply the remedy.

ADVICE TO YOUNG MEN.

There are no doubt many young men who have been working at home all their days on their fathers' farm who sometimes have serious thoughts about leaving it and trying something else. To those I would say, consider well the step you are about to take. There seems to be among those beginning life for themselves a desire to escape from hard work. The idea seems to prevail that farming is the reverse of light. Hard work is the price which success invariably demands, I care not what the occupation or profession is; it may be physical or it may be mental, but hard work there is in store for all those who would win promotion or wealth by their own exertions. The farmer's son has very little idea of the long hours of toil and brain work day after day and year after year that many, very many, go through before they reach the goal of ease and comfort. When the farmer comes in at night his work is done; not so with the business or the professional man. He has to take the evening or night for his hardest work, it, in all probability, being the only time that he can have an opportunity to collect his thoughts.

Success is the object which should be aimed at in choosing a profession. The question should then be very carefully considered: Can I succeed better at some other business, and what are the chances that I will so succeed? What is the business or occupation in which I will succeed best? You have been raised on a farm, you know all the in's and out's about farming, any other business you know nothing about. You will have to begin and learn again, and it will be a number of years before you will be fully master of any other occupation. It will therefore be better for you to stick to the farm; you are, or ought to be, pretty well master of it. But set to work and make yourself thoroughly master of it, and aim to excel in it. Every farmer who does not try to excel, and keep pace with the times and improvements of the age, and make his farm a credit to himself and his neighborhood, is not doing his duty either to himself or his neighbor.

In Great Britain the farmer ranks next to the

nobility, so will it be in this country when a first-class education becomes more general among farmers. The day is not far distant when the mere snob will sink and the other classes, especially the farmer, will raise in the social scale. But then he must remember that if he hopes to rise he must fit himself for it by study, reading, &c, and by intercourse with other men of education, and thorough gentlemen in every sense of the word. There is nothing to prevent a farmer from taking positions, and his place in the best society when occasion calls for it. These things are only acquired by patient study, reading and observation. Cultivate good manners and a gentlemanly deportment at all times, especially at home, and it will then be easy and natural when out. Be respectful and obliging to all whom you come in contact with, and you will gain the esteem and good-will of all your fellow-men.

Our Second Visit to the Centennial.

So numerous and grand were the different displays in the various departments of this Exhibition, that no one could have more than a very faint idea of it from a two and a half days visit, that being the time we sojourned there on the first occasion. On our second trip we remained five days, and would liked to have stopped a month.

The sheep, swine, butter and cheese were on display on the latter occasion. In quality the show of stock was good, but in quantity it was sadly deficient. We have seen twice as large a display at our Canadian Exhibitions. The stock-yard was a poor, miserable, dirty looking place, without a redeeming feature—not a quarter as good as the worst exhibition we have ever seen in Canada. A dirty, badly kept yard, with miserable surroundings, though ample shed room had been erected. The greatest display consisted in empty sheds. The attendance was very small, about 40 or 50, at the time of our visit.

The most remarkable among the sheep were a few Oxford Downs, sent by Mr. Russell, Swanwick, Cirencester, England. We never had seen any sheep so large and symmetrical. The wool on them is very thick, of fine quality, and as smooth and even on the ends as a piece of well-dressed cloth. We shall never forget the fine broad, even backs, and the handsome appearance of them. The sight of them was well worth a visit to the cattle yards.

We also noticed a drove of Berkshires shown by T. S. Cooper, of Coopersburg, Penn. They were better than any we had previously seen. One sow, two years old, was as handsome as a picture, and would weigh between 600 and 700 lbs. That is as heavy as we want pigs in Canada.

A celebrated Merino ram was out having its likeness taken when we passed the pens. Five thousand dollars was the price set on this animal. We looked at its wrinkles and form, but failed to see the money in it. The Merinos may suit the Americans, but Canadians are satisfied with the superior quality of their long-wooled sheep. Many of our Canadian breeders would not send their stock. If the Americans want to see an agricultural exhibition they should come to our Provincial Exhibition next year. They might then see that Canada has the stock, and men that take care of them.

A few Southdowns and Cotswolds were also sent from England. They were offered for sale but the prices realized were far from being remunerative.

In the dairy department the display was not as large as we should expect. The dairy implements shown were principally such as are in general use in Canada. They were no doubt instructive to

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the inhabitants of other countries. There appeared nothing novel in this department, except that some of the smaller cheeses were made in new and pleasing forms. For instance some were made in the shape of pine apples; others were in form of bricks. These were small and suitable for a family. It is our impression that small cheeses will pay better than large ones.

We devoted a great part of our time in examining seed grain and agricultural implements. We found it difficult to gain as much information in regard to seeds as we should wish. We applied to our Commissioner regarding them, and he said that he would try and procure such as we suggested. Mr. Laderith made the greatest display in wheat but we failed to find the Soules wheat in his collection, although his exhibit embraced the old and new varieties. We hope to find that our Government have obtained samples of all spring wheat exhibited, as we very much need a good spring wheat. In implements we could find but very little really new or improved implements to surpass those made in Canada. The most useful and suitable article for Canada, was a crushing or grinding mill. It would grind oats alone or mixed with corn, or corn on the cob. It did its work well, better than any farmers mill we have seen in Canada. Our manufacturers would do well to make them here. The capacity of the small mill we saw was from eight to twenty bbls. The power required was from four to eight horses. We also noticed a cultivator that would cultivate the earth between rows of wheat when sown with a drill. This we thought a very useful implement, and one that our best farmers will use when they are introduced.

We shall give a part of the prizes taken by Canadians in another part of this paper. The mode of awarding medals to everything that is of merit is highly appreciated by some, while others consider that it is no mark of superiority, and that it is of little account when nearly every exhibitor gets them. We have not yet received the official list.

An auction sale of Shorthorns was attempted, but buyers were not numerous, and the prices received were not satisfactory to sellers. It is rather remarkable that we never have seen a good auction sale of stock at any agricultural exhibition. Our prize list for dairy products and fruit will open the eyes of the Americans and others.

Some of the American papers complain in regard to part of the management. Some Canadian exhibits of high merit were entirely overlooked.

Provincial Plowing Match.

The Provincial Plowing Match of the Western Division took place near Watford, a thriving village on the G. W. R., 33 miles from London, and 27 from Sarnia. The soil in this locality is a strong clay, though in some places a very rich black loamy soil over-lays it. We notice in this vicinity the farms are being rapidly improved. The farms of Messrs. D. S. Robinson and A. Y. Anderson were selected on which to hold the match. The competition for honors was very keen, and the plowmen eager for the contest. The greatest contestants were the plow-makers themselves. They have exercised the greatest skill to make the plow. The points and coulters of some of the plows are made with such exactness with crooks, bends and twists to cut just such a furrow as to show the neatest crown. The high art attained in making these plows can only be judged properly by those that thoroughly understand them. To the majority of farmers this highly accomplished finish of the plow, or the work done by it, is of but little interest, as no such coulters or points are used for the profit of

the farm. In fact, it is remarkable, that the first prize plowing will not yield as good a crop as land plowed in the ordinary way. The undercut and cut-out are such as to make a furrow nearer a triangle than a square. This mode of plowing does not turn much more than half the land than when it is plowed in the ordinary square manner; consequently the land is not as fit for a crop or a summer fallow. Would it not be well to have a double list of prizes—one for practical plowing, and the other for ornamental work. The work done at this match was highly creditable to all contestants, and any one that can gain a prize at such a match is sure to be able to plow his land well, and thus show a pattern to his neighbors. This will show the old style plowmen that they must either improve as plowmen or sell out. The attendance was not large, being estimated at two hundred, showing that the interest did not extend much beyond that vicinity.

Each plowman had one or two friends, and the plow-makers were on hand with hammer and file, ready if a tap or rub should be wanted.

There are three essentials to gain a prize, viz., plow, team and man; so that if either are inefficient the prize is lost. We heard that there was a difficulty among the plow-makers in getting suitable teams. Farmers may have good farm horses, but first class teams for prize plowing are not very easily procured. The weather fortunately remained dry, although a few drops fell about mid-day. The prospect for shelter or other accommodation was not over abundant, as this is comparatively a new country. Should the Provincial Association continue these matches, it might be well to let the public know of them in time; also we believe a cheap excursion might be got up by some of the railways to fenable visitors from a distance to attend.

At the next Provincial Match, we think we ought to see the steam plow introduced, as the time is coming when they will be in demand here. The trial of implements that took place near Paris some years ago, brought out ten times—aye, perhaps twenty times—as many spectators, although in the busy harvest season. Perhaps the Association might consider that the expenditure of the money for a trial of implements might do as much good for a season as by continuing the Provincial Plowing Matches. We do not depreciate them, but townships and counties get up good matches.

At the conclusion of the Plowing Match a dinner was partaken of at Roger's Hotel. The chair was occupied by Stephen White, Esq., and the vice-chair by Peter Graham, M.P.P., East Lambton. Among a large number of farmers from different parts of the country, were L. E. Shipley, Lobo; D. McNaughton, Reeve of Enniskillen; D. McVicar, Chatham; J. L. Courtice, Goderich; John Morgan, Kerwood; J. B. Andrews, Chatham; Wm. Obray, Sarnia.

The following are the prize winners in the various classes:—

First class—20 entries—1st, A. McDiarmid, Howard, Ridgetown, McDiarmid plow, \$50; 2nd, Douglas Fraser, Turnbury, Yeandle plow, \$40; 3rd, Albert Duncan, Sarnia Township, Peterson plow, \$30; 4th, John Still, Harwich, McDiarmid plow, \$20; 5th, Joseph Duncan, Sarnia Township, \$25; 6th, Donald May, Ekfrid, McLowrie plow, \$15; 7th, Jas. Harburn, Hibbert, Kerrach plow, \$10; 8th, John Wood, Raleigh, McDiarmid plow, \$40; 2nd, Wm. Keath, Dover East, McDiarmid plow, \$30; 3rd, Donald Alexander, Moore, Lowrie plow, \$25; 4th, James Welsh, Warwick, Heddle plow, \$20; 5th, William Jackson, Moore, Paterson plow, \$15; 6th, John Crone, Warwick, McSherry plow,

\$10; 7th, James Campbell, East Williams, Jackson plow, \$5. Boys' class—11 entries—John Dunn, Gore of Downie, Yeandle plow, \$25; 2nd, Robert Duncan, Moore Township, Peterson plow, \$20; 3rd, John Macaulay, Moore Township, Lowrie plow, \$15; 4th, Alex. Chalmers, Sarnia Township, Peterson plow, \$10; 5th, Gilbert Crosby, Sarnia Township, Peterson plow, \$5.

There were 56 entries in all. The work done by some of the boys was superior to that done by some of the men.

Centennial Awards.

We have not yet received the full list of awards given by the Centennial Commission to Canadians. We give you now the Canadian awards to stock; the awards are all Bronze Medals, except where Silver Medal is mentioned, and these are all for Ontario, except where otherwise mentioned.

SHORTHORNS.

AGED BULL CLASS.—J & R Hunter, Alma, Lord Aberdeen, silver medal; Jas Russel, Richmond Hill, High Sheriff; Jas Gardhouse, Highfield, Count Grindewald; Jacob Terryberry, Glanford, Glanford Prince.

TWO-YEAR OLD BULLS.—Thos Boak, Milton, Duke of Cumberland, silver medal; J & R Hunter, Alma, Baron Booth of Killerby.

BULLS UNDER TWO YEARS.—Jas Russel, Richmond Hill, High Sheriff 2nd, silver medal; J & R Hunter, Alma, Ranger; W B Telfer, Ponsoby, 3rd Duke of Kent.

COWS.—Jas Russel, Richmond Hill, Duchess of Springbrook, silver medal; W B Telfer, Ponsoby, Maid of Kent; J & R Hunter, Alma, Rose Blossom; W W Kitchen, Grimsby, Jessie; W W Kitchen, Grimsby, Duchess of Grimsby.

THREE-YEAR OLD HEIFERS IN MILK OR IN CALF.—William Miller, Pickering, Necklace 7th, silver medal; J & R Hunter, Alma, Maid of Honor 2nd; W B Telfer, Ponsoby, Duchess of Kent.

TWO-YEAR OLD HEIFERS.—Wm Miller, Pickering, Young Arabella, silver medal; J & R Hunter, Alma, Belle of Sunnyside; Thos Boak, Milton, Lady Hubbard.

ONE-YEAR OLD HEIFERS.—Wm Miller, Pickering, Rose of Oxford, silver medal; Jas Russel, Richmond Hill, 3rd Duchess of Springbrook, silver medal; Hodge & Ketchley, York Mills, Graceful; Wm Miller, Pickering, Lady of Otha; W B Telfer, Ponsoby, Rosedale; W B Telfer, Ponsoby, Maid of Kent 2d.

HEREFORDS.

BULLS UNDER THREE YEARS.—George Hood, Guelph, Hero, silver medal.

BULLS UNDER ONE YEAR.—George Hood, Guelph, Victor 3rd, silver medal; George Hood, Guelph, Robin Hood.

COWS.—George Hood, Guelph, Victoria, silver medal.

DEVONS.

BULLS.—George Rudd, Guelph, Hartland.

BULLS UNDER ONE YEAR.—George Rudd, Guelph, Duke of Norfolk, silver medal.

AYRSHIRES.

AGED BULLS.—Wm Rodden, Plantagenet, Carrick Lad, silver medal; George Thompson, Dwight, Tarbolton 2d.

BULLS UNDER ONE YEAR.—Wm Rodden, Plantagenet, General Montgomery, silver medal.

COWS.—Wm Rodden, Plantagenet, Mermaid, with calf, gold medal; Wm Rodden, Plantagenet, Lily, silver medal; Wm Rodden, Plantagenet, Dimp.

ALDERNEYS.

BULLS.—Wm Rodden, Plantagenet, Baronet, silver medal.

COWS AND HEIFERS.—Wm Rodden, Plantagenet, Maggie, silver medal; Wm Rodden, Plantagenet, Pride; Wm Rodden, Plantagenet, Lucy.

GALLOWAYS.

BULLS.—George Hood, Guelph, Roger, silver medal.

COWS AND HEIFERS.—George Hood, Guelph, Lady Isabella, silver medal; George Hood, Guelph, Mary.

FAT CATTLE.—Satchell Bros, Ottawa, ox Lord Dufferin, silver medal; Satchell Bros, Ottawa, Lady Helen, silver medal.

HERDS.—Messrs Russel (Shorthorn), silver medal; Messrs Hunter (Shorthorn); W Rodden (Ayrshires), silver medal; W Rodden (Jerseys), silver medal; G Hood (Galloways), silver medal.

HORSES.

GOLD MEDALS.—Wm Clarke, light thoroughbred stallion Warmanbie; T & J Little, agricultural stallion Young Wonder.

SILVER MEDALS.—John White, thoroughbred stallion Terror; Charles E Mason, heavy draft stallion Gleneig; Wm Long, do Royal Tom; M A Burgess, do Honest Sandy; James & D Boag, heavy draft mare Jean; James Swinerton, agricultural stallion Glory of Dominion; J C Sanderson, do Duke of Newcastle; J P Fisher, do Pat Malloy; James McDonough, agricultural mare Fannie; James & D Boag, do Fancy; Andrew Somerville, carriage stallion British Splendor.

BRONZE MEDALS.—C J Douglass, heavy draft stallion Marquis; J & D Boag, do Dundonald; James McDonough, do Scotsman; Edmondston & Snyder, do Loch Fergus; Jeffrey Bros, heavy draft mare Goldstream Lass; W H Hurdman, do Black Bass; W H Hurdman, agricultural stallion Farmer's do Polly and Sue; F K Hicks, agricultural stallion Lord Logan; James McSorley, do Young Cumberland; George Doidge, agricultural mare Empress; J Smith, do Dash; George Currie, do roadster stallion Ghalstone; Alex McEwen, do roadster stallion Black Mary; H Kennedy, carriage span (mare and gelding); W Long, horse Emperor; W Long, horse Zetland.

[The full reports are not yet complete. We will publish more awards in next issue.—Ed.]

Stock and Dairy.

Butter Bulls.

To the sire, as a general rule, may be traced the excellencies or defects of their posterity. In a late number of the *Country Gentleman*, C. S. S. traces the superior quality of milch cows to their sires. But hear him for himself:—

In Jersey stock the great deficiency to-day is bulls that represent a large yield of butter. Of cows there are many that are good; but several herds of good cows—some, indeed, very choice—have very poor bulls. It is admitted that heifers get more butter quality from their dams. A good bull will get better heifers from second-rate cows than a poor bull will from first-rate cows. I have a cow that is thick in the neck and shoulders, beefy in the throat, coarse and steep in the rump, deficient in rear udder, and especially so in the front udder, not deep in the flank, with small teats and white skin; and yet her daughter is slim in the neck and shoulders, clean in the throat, fine and level in the rump, very full in front and rear udder, deep in the flank, with large, square-set teats, and with a skin as yellow as gold. She is a small, wedge-shaped cow, and her yield on grass alone, as a two-year old, was over thirteen quarts a day, and of butter nine and a half pounds per week, while her dam would not give over ten quarts per day, nor over seven pounds of butter per week.

This bull, in other cases, has shown that he transmits the same characteristics, most of which he inherits from his dam. But his latent udder, as shown in his daughters, is even fuller than his dam's, and his skin is a deeper yellow, thus proving that his sire on the Island of Jersey must have been a good-uddered and yellow-skinned bull; yet he, with a good thigh-mirror, had no escutcheon or mirror between his thighs. I confess to this being the reason why, for three years, I passed on him as being below the standard, because of his deficient mirror.

Thus, while the most promising looking bull may get inferior heifers, we see that the condemned bull may really be of greater value, and, as they say, be "worth his weight in gold." And, if any ask why so, I reply that his value will be shown in all of his get, especially of his daughters, and will crop out in his descendants after he is dead. The universal prevalence of white udders among Jerseys, makes them appear to disadvantage in this one respect, when compared with the yellow-skinned Guernseys. It can be corrected only by the use of a bull with yellow scrotum, but of course the shape of his dam's udder must not be sacrificed for the sake of skin color. When one can get a bull the produce of two such choice animals, so that with good form and fine breeding the inherited udder and teats shall be faultless, and the skin intensified with deep yellow, he has reached near to perfection, and has an animal that gives him immense controlling power over all that is valuable in a herd where yield of butter is the main consideration.

Apples in the Dairy.

ABRIDGED FROM AN ARTICLE BY PROF. L. B. ARNOLD

Apples are an excellent food for milch cows, as they are for all other stock when fed in proper quantity. They give an excellent flavor to milk, and the butter and cheese made from it, and increase the yield of either. A few observant farmers have for a long time been aware of the fact that apples and other fruit are valuable and healthy food for stock, milch cows included, and have been in the habit of utilizing their inferior fruit by feeding more and more of such fruit as is not fit for market. The quantity which may be fed profitably varies with the size and constitution of the animal fed. A good, healthy cow weighing 1,000 pounds can safely eat a peck of apples twice a day, and smaller animals in proportion. The quantity should never be so large as to produce either scouring or feverishness. The feeder should begin with not more than half rations, and gradually increase the amount, carefully noting the effect. Taking the appetite of animals as a guide, it is not best to feed either sweet or sour extensively. If but one kind could be used, sweet would be the best, but stock prefer to change from one to the other, or to have them mixed at the rate of two sweet to one sour. Either kind will be readily eaten by cows, though a mixture is preferred, and it is believed to be best for them. The best method of feeding, is to slice them in a root-cutter and feed in the stable, but they may be fed on the

ground. The value of apples as a milk-producing food varies with the circumstances under which they are fed, reference being had to the quantity of milk which a given quantity of apples will produce. They are pretty nearly but not quite equal to potatoes for this purpose. When cows come into milk in the spring, and their milk is not allowed to shrink by drouth or scanty feed beyond what it naturally would by distance from the time of coming in, apples fed in the fall as an extra feed, and taken promiscuously as they usually grow, with sweet and sour mixed, will increase the milk in quantity and richness so much as to give a pound of cheese from a bushel of apples, or a pound of butter from two bushels and a half, a peck per day to a cow being consumed. If fed to cows nearly dry, or to those otherwise scantily fed, so that the substance of the fruit is employed to make fat or flesh, the increase in the yield of milk will be less. If they are full fed, and have more recently come in, they will give a better return than above stated. Taking the ordinary condition of cows at the season when apples are ripe, and counting in their value as a substitute for other food, as well as increasing the value of milk, and with butter and cheese at the prices now current, apples as a food for milch cows are estimated at 12 to 15 cents per bushel. I speak advisedly on this subject, having determined by weight and measure the increased yield of a ration of one peck per day each to a herd of 36 cows. To be fed advantageously to cows, fruit must be dealt out with care and judgement. If fed a little too freely, the result will be a loss instead of a profit. When judiciously fed, any kind of fruit, and particularly apples, not only increases the amount and richness of milk, but gives a deliciousness of flavor to both butter and cheese beyond that given by grass alone.

Lord Kinnaird on Sheep Breeding.

Of the means used by those called fancy farmers for the selection and improvement of live stock, the following account of the efforts of Lord Kinnaird, a Scotch nobleman who has long paid close attention to this important subject, will be found interesting and instructive. The labours of such men are not merely for themselves, but for the country.

"I commenced sheep-breeding in 1828, with a flock of Southdowns from the flocks of the Duke of Richmond, Sir J. Shelly, and Mr. Watson, of Keillor, but I soon found that though the wool at that time was worth from twopence to threepence per pound more than Leicester—fine cloths being then in demand for general wear, instead of tweeds—yet the carcass did not suit the working classes, there being neither size nor fat. I then went in for the blue-faced Ditchley Leicester, but I crossed the Southdown ewes I had with the Leicester tup, and found the produce, which resembled Southdowns, came to a great size and early maturity, brought the highest price in London, and were purchased eagerly by the first-class butchers there, this cross not being then known; so that for several years I got from England pure-bred Southdown gimmers, took several crops of lambs from them and sold them at eighteen months in London, getting the highest price for Southdown mutton.

"Some years ago I met with a breed of sheep combining the excellence of the Southdown mutton with the long wool of the Leicesters—a well-established breed carried on from father to son on a farm in Gloucestershire. The sheep were originally a cross between the Cotswold and Hampshire Down—the cross-bred rams being used to constitute the breed. This breed I find to be most profitable. They are superior to the breed now known as Oxford Downs, inasmuch as the clip is twice the quantity. The quality of the wool, which, being long wool, sells at a higher figure, and the mutton is as good as Southdown—indeed, has been pronounced by competent judges to be as good as old Highland mutton. In the 'Transactions of the Highland Society' for July, 1864, will be found an account of the very careful experiment I made in 1863 to ascertain the relative value to the farmer of some different breeds of sheep, in lots of 10 wethers. The result was in favour of Border Leicesters over English Leicesters, and Gloucestershires over both in weight and value at the end of the experiment, which was carried on for twelve months."

Fraudulent Butter and Cheese.

On behalf not only of purchasers and consumers, but of honest producers and sellers as well, we must denounce frauds in manufactures and sales, and as a fraud must be ranked the making and sale

of spurious butter and cheese. On this subject the *Rural World* gives the following well timed article:—

At the meeting of the Butter and Egg Association at Philadelphia, Mr. G. E. Groome called attention to the manufacture and sale of oleomargarine in the large cities, where it is disposed of as pure butter, at the same prices as the genuine article. He said:

This has grown to such great proportions as to call for legislative aid in the butter-producing States, and demands the punishment of the parties who sell it and practice the deception. Cases were cited where large manufacturers in Glasgow make up the article and supply the United Kingdom with it, one of these factories being a publicly-known "soap works." Its general use tends to ruin legitimate trade, while it brings large profits to the makers. Oleomargarine is made of beef fat, finely rendered, and cured of impurities by a secret process. It is packed in barrels and tierces, and exported over the whole world, oils and greases of various kinds and fine quality being made from it. Mixed with fresh milk it has the appearance of good butter, and so close is the deception, that it requires an expert to detect the fraud. (?) The manufacture of it requires costly machinery and a thorough knowledge of the business, else what will be made will turn out only fit for wheel grease. The cost of fitting out the factories no doubt deters many from embarking in the business. It is represented that butter made from this article is sold extensively in New York city, and there can be no doubt that it will be found on the tables of most of the third-class boarding houses in the country, and even its way into hostleries of greater pretensions. (?)

Having investigated this "oleomargarine" business, we are prepared to say it is not as butter that this stuff comes into our markets, but as an adulteration of cheese. No person who has eaten butter, could unknowingly eat the oleomargarine in place of it. It has a granular taste in the mouth, and does not melt smoothly, as butter. We know of no case in which it has been put on the market in this country as butter, but of many in which it fraudulently comes as cream in cheese. There are several "creameries" in which the cream is taken from the milk and churned, and oleomargarine, or the oil from beef fat, is mixed with the skim-milk and made into cheese, which is sold as full cream cheese.

Horses for the English Market.

WHAT ANIMALS TO SEND AND HOW TO SHIP THEM.

SIR,—The importance of fostering trade between Canada and England will, I trust, secure for this letter an insertion in your columns.

The trade in cattle to this country may now be considered established, and your readers are, I presume, already aware of the great success that has attended the few shipments of horses.

Many enquires have been made of me as to the proper class of horse, to bring to England, and I trust that the following information, obtained with great care, may be of interest to your readers, and of service to intending shippers.

The risk is proved to be next to nil if proper care and simple and inexpensive precautions be taken.

Our horses are much admired by those who have purchased them, and are admitted to be superior both in constitution and spirit to those at present imported from Germany and elsewhere. I am confident that a very extensive and remunerative trade will rapidly be developed if proper selections be made. In conversation with Canadians who have brought horses over, I have been struck with the repeated expression, "Next time we come we shall know what class to bring; we have left the horses best suited for the English market in Canada."

Carriage or Riding Horses.—Height, 15 hands 1 inch to 16 hands, not over or under.

Weight.—From 1,100 to 1,350 lbs.

Age.—From four to six or even eight years, providing they are new and fresh on the legs.

Colour.—Brown, bays, and dark chestnuts in matched pairs, about 15 hands 3 inches will realize the most money. Greys and blacks are not so saleable. Light colored chestnuts or horses with white forefeet will hardly warrant the cost of transport, being, to use a dealer's expression, "only fit for slaves," &c., i.e., cab work, &c., and will never realize fancy prices.

Geldings.—Will realize at least 20 per cent more than mares. Select long, low, deep-ribbed horses, the head and countenance as pleasing as possible. Avoid the large mulish, common-headed horses.

The freight on a com on the best.

Action.—It must carriage horses is England. A horse action, and only going hour, will realize a can cover a mile ur with good time are United States than

Draught horses.—a mistake with this great demand at broader the better.

Numbers.—If pos be brought in a bat the voyage, adverti for forty as for ten. portance is, that th the greater the c will not come any Intending importers end.

Shipping.—Grea horses shipped abn If this advice be n likely be lost.

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The freight on a common horse is just the same as on the best.

Action.—It must be borne in mind that speed in carriage horses is a secondary consideration in England. A horse that has good showy free knee action, and only going at the rate of ten miles an hour, will realize a better price than one which can cover a mile under three minutes. Trotters with good time are worth more in Canada and the United States than in England.

Draught horses.—It would be difficult to make a mistake with this class of horses, which are in great demand at high prices; the heavier and broader the better.

Numbers.—If possible, not less than forty should be brought in a batch, the expense of caretakers on the voyage, advertising, etc., being about the same for forty as for ten. But what is of far greater importance is, that the larger the number of horses the greater the competition for them. Buyers will not come any distance to select from a dozen. Intending importers might associate to attain that end.

Shipping.—Great care should be taken to have horses shipped athwart ship, never fore and aft. If this advice be not taken the horses will most likely be lost.

Tail pads.—Nearly all the horses that have arrived from Canada have had the butts of their tails badly rubbed, seriously disfiguring them; this may be easily avoided by either plaiting hemp in the tail (straw will not do for so long a journey), or better, make a kind of sleeve of soft brown basil leather, or sheep-skin, with the wool turned in, as a crupper, fastening it by a string along the back and around the neck of the horse.

Head stalls.—Head stalls should have fronts to them to prevent them slipping and chafing the hair of the main and neck, and be supplied with two shanks; they will then last the voyage.

Slings.—Avoid slinging if possible. Directly a horse feels the sling he will lean towards it, and in this manner more than likely constipation will ensue, resulting in the death of the horse.

Boxes.—The boxes should not be too wide, rather tight than loose; they would be all the better if padded with canvas or hay or straw. A supply of saw-dust will prevent the horses slipping and keep them clean.

Exporters will find it amply repay them to prepare their horses for the English market. They should be all driven in single harness and made handy. Dealers do not care to purchase them too green.

More attention should be paid to shoeing. The market here for the right style of horse is, practically speaking, unlimited, and sellers may rely upon readily realizing the utmost value for such stock at prices unknown in Canada. The better the horse, the better it will pay to bring over.

In conclusion I shall be most happy to answer any questions which a perusal of the above may suggest, and render any assistance that lies in my power to further this or any other branch of trade between Canada and England.

JOHN DYKE,

Canadian Government Emigration Agent, Liverpool, England, Oct. 28th, 1876.

The London Dairy Show.

The show of dairy stock and products which opened at London, Oct. 24th, appears to have attracted considerable attention. The cattle exhibited were divided, as we infer from the published reports, into classes—the Channel Islands breeds, and all other breeds. In class 1st, a prize of 100 guineas was offered for the best three cows "in milk, for dairy purposes, any breed not Channel Islands." The result illustrates the fact, to which we have frequently referred heretofore, that for the practical dairyman in England, the Short-Horn is the favorite breed. The London Field says:

"To compete for this magnificent reward, sixteen groups of threes were entered, although one was not sent. Two groups were Ayrshires; with other fourteen were Short-Horns, or crosses with Short Horns. The majority of exhibitors were London or Manchester cow-keepers; only a few were what are commonly considered farmers. Yet it was instructive to the latter as cow-breeders to see what kind of cattle the dairymen—their best customers—approve of most."

We italicize the calling that prevailed among the exhibitors for the sake of emphasizing the fact that it was not a display from the herds of gentlemen and breeders. And we refer to the matter of breed the more particularly, because so much misapprehension prevails in this country as to the dairy merits of Short-Horns. Although improved in beef-producing qualities to the neglect of milking capacity, descendants of the same stock from which they sprang, constitute to-day the great milk-giving breed of England. In the above class, the 1st prize went to "three blood-red cows, looking like Lincolnshire Short-Horns," says the Field; the second went to cow Mabel and two of her offspring, pure Short-Horns, and prize winners as such at the Yorkshire show in 1875:

"There could be no question about the worth of these as dairy cattle; every one of the three had a fine bag of milk, and, if a capability of producing good calves, as well as milk and butter, was to be taken into account, this was by far the best trio exhibited. The third prize was given to Mr. Thomas Statter, Manchester, for three good Yorkshire dairy cows, each unlike the other, except that all were evidently milkers; and the same exhibitor had the fourth prize for three Ayrshires, whose work as fill-pails was evident to all observers 'at the two ends of the day.' Besides these, Messrs. Denchfield had three somewhat rough and leggy cows, looking like west-country Short-Horns, highly commended, as they deserved to be, for each had a great show for milk."

When we add that the "Yorkshire dairy cows," above mentioned, are unquestionably of the old Short-Horn stock, * it will be seen that little else than this blood came to the front at all. In the second class, for the best dairy cows in pairs, the three prizes all went to short-horns; and when we come to the single cow class, the same experience was repeated with 1st and 2nd prizes, at least, the 3d prize going to a cow apparently of no particular breed. It is but fair to add, however, that while we observe no criticism of the awards in the first class, those in the 2d and 3d classes are not equally exempt, as it is claimed that scant justice was done in them to the Ayrshire exhibit.

In class 4, a hundred-guinea cup for the best trio of Channel Island cows, there were six exhibitors, the four prize winning trios being Jerseys, and the other two of Guernsey blood. All of them, as we infer from the names of the exhibitors, were from the herds of gentlemen breeders. As to the other classes of Channel Island cattle, we find nothing to remark on, unless that Jerseys carried off the honors, excepting 2d prize on pairs of cows, which went to Guernseys, and 2d on single cows, which went to an Alderney.

In cheese, the exhibition was large and competition apparently close. It is said that American and Canadian cheeses were shown, but beyond this nothing farther. There seems also to have been a good display of butter—nearly one hundred 12-pound baskets of fresh-made, aside from a collection of cured in tubs, pots and casks. In what may be considered the side features of the show, poultry, grain, roots, &c., we observe nothing worthy of special remark.

One fact in connection with the cheese show, is of interest, however—to wit, that the three prizes for Derbyshire cheese all went to the three factories established in that county. And at the meeting held during the exhibition, to complete the formation of a British Dairymen's Association, it was stated that cheese made in these factories commands a higher price than that of dairymen in other districts, and that their example is tending already to improve the quality of English cheese. —Country Gentleman.

*Since the above was written we find that this trio is expressly designated in the London Live Stock Journal, as "short-horns of the old Yorkshire dairy cow breed."

English Method of Packing Butter Prints for Market.

The Derbyshire method of sending butter to market is quite different from anything practised in this country. The dairy farmers put their butter up in half pound prints neatly stamped. Instead of boxes or pails for packing, they use stout willow baskets. These are made especially for the purpose, and are arranged to receive from twenty to thirty pounds in each layer, and several layers of prints are placed one above the other. The layers of prints just fit the baskets in rows five to six or four to five, so as to avoid shucking and bruising by moving from their position as placed in the basket. The baskets are very nicely made, the sides rising

up from the bottom perpendicularly, and being made sufficiently strong to retain a true and even shape. From fifteen to thirty pounds of butter are packed in each basket, according to the size of the dairy or the amount of butter to be sent to market from time to time. In other words, the baskets are made of different sizes to accommodate the dairy, and they are completely filled with prints when sent to market.

The following is the manner of packing: first, a fine, white, dry cloth is laid over the basket, and upon this is placed a wet one of fine white cotton. They lay dock leaves over the bottom. The dock leaf has a stock running through its length, thus rendering the back of the leaf uneven, while the face of the leaf is flat. The stalk, therefore, must be carefully drawn off with a knife, care being taken that the leaf is not split. Now wet the prepared leaves and place them in the bottom of the basket, and upon them place a layer of butter prints, then a layer of leaves, and so on until the basket is filled, finishing with a layer of leaves. The ends of the cloths are now turned down over the whole, and it is complete. The basket should hold five half-pound prints in depth. In this way the butter goes to market in the neighboring city or village, sweet, rosy, and in firm condition, the same as it leaves the dairy.—Rural New Yorker.

Canadian Cheese in England.

While I am upon a gustatory theme, I may mention that to-day, in walking down Ludgate Hill, I observed in the window of what is certainly known as the first cheese and butter shop in the city, if not in the whole of London, a cheese, rich-looking, buff and mellow. To it was tacked a printed label. "Canadian cheese" was the legend thereon, "8d. per lb., by the half or quarter." I was glad to see this, as the commonest American cheese is retailed in the smaller shops at 11d. per lb., and is cheese and nothing more. Canadian cheese is, I am informed, commonly of better quality than the American cheese proper. In England there is an insatiable market for cheese, butter, bacon and meat. All cheese in retail shops here—that is eatable—is sold at 11d per lb. Good butter is 1s 6d to 1s 8d, bacon 11d to 14d, and prime beef 1. We want a supply of these articles of every-day and everybody's consumption, and I hope to see an immense extension of Canadian trade in such commodities. The cheese trade, I learn, has for some time been dull, but that is only a temporary affair. These farm and dairy commodities are what we can take in any quantity, and this ticket, "Canadian Cheese," is a move in the right direction. It is most desirable that all producers in the Dominion should distinctly label their goods "Canadian." As it is, they almost all float into the market as American. It is not enough to mark a can or a package "John Smith, Ont." Such is our insular ignorance of geography that to most people "Ont." means something American, and against American cheese, at all events, there is a just prejudice. But, for goods marked "Canadian," there is a fine market here. Dairy produce of all kinds must pay a good profit if conveyed direct to English houses without the intervention of the New York middle-man. It is necessary, however, on the part of exporters that they should take the proper steps to make it quite clear that the goods they send to the Old Country are to be known here by the national trade-mark "Canadian."

Kind Treatment Pays.

Mr. Willard, in his new Butter Book, speaks in the strongest terms in favor of kind treatment of cows kept for the dairy. He says:—

It is really astonishing what a large difference in the yield of milk it makes by attending properly to a number of small things in the management of stock—and things which to many would seem quite too insignificant to be worth observing. The dairyman should have a genuine, hearty love for the animals under his control, providing wholesome, nutritious food, pure water and pure air—everything of this kind in abundance; keeping the animals properly sheltered from storms; feeding the ways with great regularity; paying the most marked attention to the manner and time of milking, and withal, preserving a uniform kindness and gentleness of treatment throughout every operation—a gentleness extended even to the tones of the voice. Generally speaking, the cow will do her best that is loved the best and petted the most by those who have her in charge. If you wish a cow to do her best, you must cultivate her acquaintance intimately, and be unsparing in little acts of kindness.

Thoroughbred Stock.

A writer in the *New York Times* puts the question plainly, in saying, if a farmer is raising cattle for beef and he can add two hundred pounds to the carcass of each by the time it is ready for the shambles, by the use of a Shorthorn bull, it will certainly be profitable to him to pay a good price for such a bull. This is the average result of using thoroughbred bulls on the native cows of the country, as estimated by the best stock-breeders; and this two hundred pounds is a clear gain, for it is produced by no greater consumption of food. If the use of a thoroughbred ram on a flock of ewes increases the weight of the fleece one pound on the average, certainly more than "five in a hundred can make it pay," whether more than five would or not is another question. And so with hogs. The difference between the common herd of the past and the improved breed of the present, is beyond comparison.

Nothing can be more penny-wise than the practice of many of our farmers of breeding from scrub and grade boars. To the farmer who breeds ten

or more sows, a thoroughbred boar is cheaper at \$50 than a grade boar for nothing, even if the hogs are to be fattened. A single dollar on each pig would make up the money, and I am confident that I have seen in many cases a difference of \$5 each, with the same care, between thoroughbred hogs and those that have been bred hap-hazard. On hundreds of farms to-day can be found stock hogs a year old that will not weigh over eighty pounds each, and that are not ten pounds heavier in the spring than they were in December. If offered for sale now they would not bring over five and a-half cents a pound, and they have probably consumed as much grain as the breed of hogs that, at the same age, weigh two hundred pounds, and are worth seven cents a pound.

The man who is carefully breeding pure stock is a public benefactor, and ought to be well paid for what he offers to the public, for it is valuable. Such men should be patronized and encouraged, for the farmers cannot do without them. In the good time coming more attention will be paid to this matter than at present. Not only should this question be discussed in the grange, but the members should co-operate and purchase such animals as will improve their stock.

Horses Rearing.

Whenever you perceive a horse's inclination to rear, separate your reins and prepare for him. The instant he is about to rise, slacken one rein and bend or twist his head with the other, keeping the hands low. This bending compels him to move a hind leg, and of necessity brings his fore-feet down. Instantly twist him completely round, three or four times, which will confuse him very much and completely throw him off his guard. The moment you have finished twisting him around, place his head in the direction you wish to proceed, apply the spurs and he will not fail to go forward. If the situation be convenient, press him into a gallop, and apply the spurs and whip two or three times, severely. The horse will not, perhaps, be quite satisfied with the first defeat, but may feel disposed to try again for the mastery. Should this be the case, the process of twisting, etc., should be repeated.—*British Sportsman*.

The Dominion Steamship Company has decided to run a fortnightly line between Liverpool, Halifax and Philadelphia during the coming winter instead of their usual course between Liverpool and Boston.

Hints for Horse-Owners.

If a colt is never allowed to get an advantage, it will never know that it possesses a power that man cannot control; and if made familiar with strange objects, it will not be skittish and nervous. If a horse is made accustomed from his early days to have objects hit him on the heels, back, and hips, he will pay no attention to the giving out of a harness or of a wagon running against him at an unexpected moment. We once saw an aged lady drive a high-spirited horse, attached to a carriage, down a steep hill, with no hold-back straps upon the harness, and she assured us that there was no danger, for her son accustomed his horses to all kinds of usages and sights that commonly drive the animal into a frenzy of fear and excitement. A gun can be fired from the back of a horse, an umbrella held over his head, a buffalo robe thrown over his neck, a railroad engine pass close by, his heels bumped with sticks, and the animal take it all as a natural condition of things, if only taught by careful management that he will not be injured thereby.

They undergo only a partial transformation, the larva and pupa resembling the adults, except in the absence of wings and in size; in all the stages they live in the same way, and are equally active. One species, the earth bugs (*gecorisæ*) have the antennæ exposed and longer than the head; most are terrestrial, but some live on the surface of the water; many emit a disagreeable odor. The wood bugs, or *pentatoma*, occur mostly in warm countries, where they attain considerable size, and are marked with brilliant colors; they live on the juices of vegetables and sometimes on those of other insects; they exhale a disagreeable odor, and adhere to whatever they touch.

Our illustration shows the *pentatoma grisea*, a family of the wood bugs, which may be seen, De Geer tells us, on the boughs of trees, the young following their parent like chickens after a hen. They are interesting to the entomologist on many accounts; but the gardeners find them by no means attractive. From June into autumn, the fifteen species of *pentatoma* are busy on cabbages and other vegetables, as well as on trees, and

flowers; vines, beans and rosaceous plants fall victims to their fatal punctures in their search after sap. The wren and the chickadee are foes to these insects, and may do the farmer good service; but the chickadees have disappeared from many of our cities, owing to the pugnacity of the sparrows. Gardeners employ other remedies against these pests, tobacco fumigation and the application of whale oil soap being the best.

FULL VS. SCANT FEEDING.—The fact of it is, all farmers have not as yet learned that the only economical way of keeping swine is to keep them thriving as long as they live. They whose policy it is to feed them just enough to keep them along for the first few months of their existence, and let them glean and root and steal for a living, will be likely to become disgusted with swine-keeping; but when the best breeds are kept as they should be, we think there is money and satisfaction in the business.—*American Rural Home*.

Five hundred and twenty-five dollars in cash prizes will be given amongst Canadian exhibitors at the October exhibit of butter and cheese at Philadelphia, by the Dairy-men's Association of Ontario; also 1 gold, 5 silver, and 10 bronze medals, will be awarded by the Canadian Commission, for dairy products, in addition to the awards by the American Centennial Commission.

SEVEN ACRES OF LAND FOR EACH PERSON.—There is commonly at every Social Science Congress one address which stands out most prominently, not always or necessarily on account of its inherent value, though sometimes also for that, but also on account of its novel, or unusually suggestive, or, as it is called, "sensational" character. Such was Dr. Richardson's address at Brighton last year, when that very desirable place of residence, the City of Hygeia, was first introduced to the notice of the British public; such was Mr. Hawksley's address this year at Liverpool. Mr. Hawksley has a gloomy tale to tell of our condition and prospects at the present day, and he tells it without reserve. First of all let us realize these facts and figures:— "The population of England now amounts to 24,000,000 persons, distributed over about 30,000,000 acres of cultivable land. There is, therefore, one person to one and a quarter acres, whereas in most of the other kingdoms of Europe there are about five acres of land to each person; and on the entire surface of the earth, exclusive of the arctic zones, about ten acres of land to each person; or, after a fair deduction for uninhabitable deserts and mountains, probably seven or eight acres of cultivable land to each person.



The Hemiptera or Bugs.

Mr. Thomas Winnet, a farmer in London Township, brought us a beetle, very much like the bug shown in this illustration. He thought it was damaging his apple trees, as he found it and many others in holes in the bark of the trees. We showed the beetle to Mr. W. Saunders, editor of the *Entomologist*. He said it was the grey cetonia (*ectonia inda*); that it would not perforate the trees, but merely sucked the sap from wounds in the tree caused by woodpeckers, or damages done to the bark, and that it was not an injurious insect.

The insects of the order *hemiptera*, or half-winged, include all those commonly called bugs, harvest flies, tree hoppers, plant lice, etc. They are sucking insects, having neither mandibles nor maxillæ proper, but horny beaks curved along the breast when not in use, containing in grooves a series of delicate, sharp bristles, by which the insects puncture the skins of their victims. They have four wings, of which the upper are generally thick at the base and membranous at the ends, being as it were half *elytra* and half wings, whence the name of the order. In a few species, the wings are membranous, and some are wingless as the

Corn Fe

To those who scientific rese and while we, every theory welcome the doing us goo valuable aid all the bran and experime the results of is most need ing record of is very usefu

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Corn Fodder—A Cow Capacity.

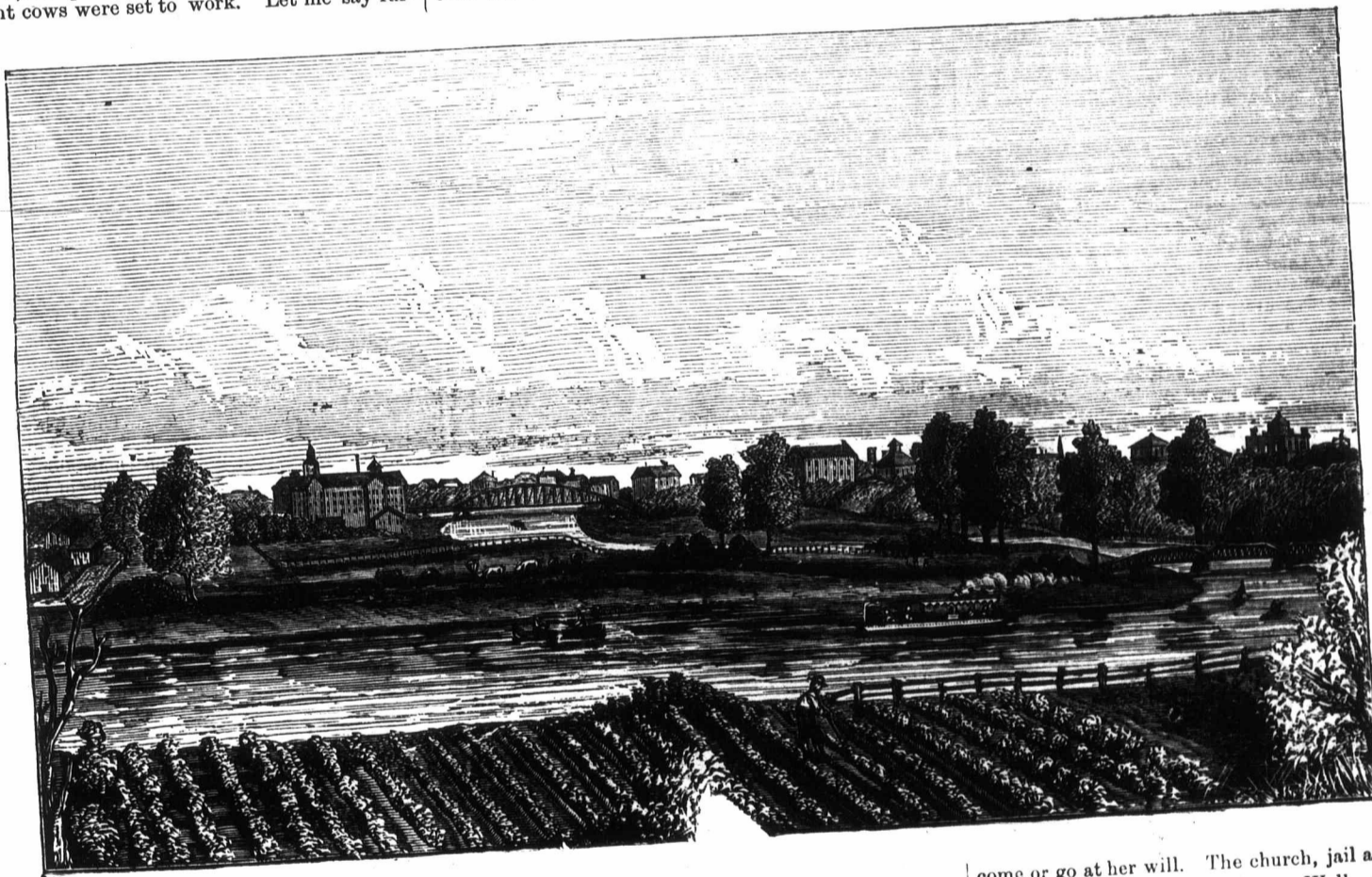
To those who bring the lessons derived from scientific research, agriculture is much indebted; and while we, as practical farmers, maintain that every theory should be proved by experience, we welcome the labours of men of science who are doing us good service. Every farmer can give valuable aid in the onward advance of progress in all the branches of agriculture. A record of trials and experiments such as any attentive observer of the results of his daily work on the farm is, what is most needed in aid of this science? The following record of this sort, plain and easily understood, is very useful:—

For eight cows I began wheeling the corn to them by the wheelbarrow load. This was slow work, as the cows would consume one load while I was after the other. I then took it to them by the wagon load, keeping the cow's in at night. One small wagon load would not suffice. I thought I would like to know how many tons one cow would go through in a day. I weighed one load and found it to be 2,345 pounds, and on Saturday at 5 p. m. the eight cows were set to work. Let me say fur-

but we must remember that this food is very juicy, holding a large percentage of water. If we are to take the baking experiment of Harris Lewis, the 164½ pounds of corn contained only about 11½ pounds of dry food, which would be rather a small allowance, after all, for a good sized cow, since she will eat 25 to 30 pounds of well-cured hay per day in winter. But the probability is that our friend Lewis carried the drying process to a very great extreme, having carbonized a large proportion of the woody fibre, and when corn is dried at a moderate heat it will be found to contain, in its most succulent state, 16 to 18 pounds of dry substance in 100 pounds, which would give about 25 pounds of dry food to each cow in the above experiment, and this would be just equal to 29 pounds of air-dried hay. We have tested cows with clover in its most watery state, and found they would each eat 100 pounds per day. This gave about the same amount of dry substance as 146 pounds of green corn, as clover will dry out about 75 per cent. But a man may congratulate himself on feeding even 146 pounds of green corn per day, for if his corn was ordinarily thick on the ground and 10 feet high, he had, no doubt, 30 tons per acre, which would feed a cow 410 days to the acre, thus making an acre feed a cow 13½ months. What crop will do better than this?—*N. E. Homestead.*

We presume the lands will be sold ere long for residences. The railroad and telegraph pass a short distance in the rear of this land. Ladies are enjoying themselves on the river; men are at work.

A few important questions incidentally arise:—Which of all the professions, occupations or institutions has the greatest influence?—which does the most good?—which does the most harm?—which is the most pleasing?—which is the most offensive? are questions that many will differ in opinion about. Many say that the largest building near the end of the bridge will do the most harm; it is a brewery built by John Carling & Co., at a cost of \$300,000 and uses 1,500 bushels of barley per week. The farmers like the money. The temperance fraternity say it is wrong to make beer; brewers say that they prevent so great a use of that dangerous enemy, whiskey. It is not our sphere to laud or condemn; other papers fight such battles. Perhaps some of you believe that the Members of Parliament have the most power; that lady on the boat might make him

**London, Ont.**

ther that they were not starved for 48 or 24 hours prior to this, but were well filled at the time of beginning the task. At 7 p. m. the stalls were turned over to them until they were full, and enough for their lunch during the night left within reach. They were let out for water on Sunday, but were not dry, only too indulging. They were fed three times on Sunday. None would drink on Monday. Again they were fed during Monday. At 5 p. m. the whole load, 2,345 pounds, was consumed, an average of 146½ pounds per day, or each cow ate 293 pounds in the 48 hours, and was not uncomfortable either. The cows shrank during the time about three pounds each. The corn sowed was Ohio mixed; at time of cutting it was fully ten feet high. From the 1st of August my pastures have increased, owing to keeping cows off at night. I regard grass as better for milch cows than fodder, unless you are making butter. I sell milk in town, and to produce large quantities I feed "brewers and malt." This produces a large flow of lactical fluid; but followed up with meal, or corn and oats ground together, it makes a large flow of good milk. I cannot afford these hard times to buy meal, so I feed sowed corn (cut and fed green), which answers every purpose and is much cheaper. The amount of fodder corn a cow will eat, according to the above statement, is certainly very large;

You have had illustrations of several varieties of stock and implements. We now give you one of a different kind. As we were working in the field you see in the foreground, the thought struck us this would make a nice picture and give you some little idea of London. The view is taken just outside of the city limits, in the township of Westminster. The growing crop was seeds raised for the Agricultural Emporium the present season. The river is not large enough for mercantile purposes. The steamboat is kept only for pleasure; it is the only one that has ever been on the river at London. Our artist has taken a little liberty with the scene.

Several church spires, the Jail and Court-house, the residences of Ministers, Doctors, Lawyers, Editors, Members of Parliament and a Senator, Catholic and Protestant educational institutions, a large grist mill, a very handsome and substantial iron bridge, two wooden bridges and a large brewery may be seen from the foreground.

come or go at her will. The church, jail and stout manufactory have great power. Well, well, we must leave you to digest these questions after your Christmas dinner. We hope you may be pleased with your dinner, your picture and your discussions about it.

LOSSES IN THE LIVE STOCK TRAFFIC WITH ENGLAND.—It is a well-ascertained fact that cattle from the United States do not bear the hardships of the voyage to England as well as those of Canada. Mr. G. C. Frankland writes that he bought a lot of 90 bullocks at Chicago, which were shipped at Quebec for England. They were scarcely at sea when their strength gave way, and ten died and had to be thrown overboard. During the summer season as many as 97 cattle have been similarly lost on the voyage between America and England. Some were Canadian cattle, and as a rule they bore the voyage better than cattle from over the border.

Mr. G. F. Frankland stated lately that he was feeding 1100 head of cattle for the English market. For that market he thinks the Shorthorn breed the best. He had sold 2 steers to H. R. H. the Prince of Wales, for £42 sterling each.

Garden, Orchard and Forest.

Planting Nut-bearing Trees.

When about planting trees, even on so small a scale as is required for shade, it is well to consider the claims of some species that, while being valuable for timber, have the additional value of being fruit-bearing. Of this class, those known as nut-bearing trees are deserving of more attention than they generally receive. On the peculiar value of some varieties of nut-bearing trees, the *Western Rural* writes:—

The progress of tree-planting which has been going on in some portions of the prairie States during the past few years, is certainly an encouraging omen for the future of timber growing, or forestry, in those States. Generally the quick-growing varieties have been planted first, which is well enough, but other kinds, including nut-bearing trees, should receive a fair share of attention. Among them the hickories, walnuts and chestnuts are desirable on account of the valuable uses to which the different woods are put, and also for their fruit.

Everywhere the wood of the hickories is more highly esteemed for fuel than that of any other kind, and it is therefore made the standard of value in comparing woods for this purpose. In numerous manufactures, where hardness, strength and elasticity are required, this wood is indispensable; for making hoops, it is better suited than any other wood. It is becoming scarce and dearer year by year.

It is hardly necessary to refer to the high prices which black walnut lumber commands. Its rapid consumption in the manufacture of furniture, and for the inside finish of houses, as well as various other purposes, has already made it scarce and high in price, and it will not be long before the supply will be exhausted unless steps are taken to plant and cultivate it largely for commercial purposes. There is no tree that will better repay the cost of planting and cultivation where the soil is suitable to its growth. In favorable locations it is a rapid grower, and is easily cultivated. The fruit forms an article of commerce of no mean importance, and is produced before the trees have attained a large size. If tall trees are desired the black walnut should be planted thickly, as it is inclined to throw out heavy side branches and form a spreading top, hence it is necessary to give the tree attention while it is small by pruning so as to give it a good shape. The seed should be planted where the trees are to remain. Our intention is not to describe, at this time, the best way to plant and grow nut-bearing trees, but merely to direct attention to the propriety and desirableness of cultivating them. It is proper to remark in passing, however, that black walnut plantations should be made by themselves, or if grown with other trees, the latter should be of cheap quick-growing kinds, which may be thinned out at proper intervals. Fruit trees, especially apples, do not thrive in the neighborhood of the black walnut. It requires a deep, rich soil.

The chestnut tree is another nut-bearer which will well repay cultivation wherever the soil is suitable and the winters are not too severe. It thrives on the dry prairies of Illinois and other Western States, but a wet soil is fatal to it. Rich soils are not necessary to its growth, as it succeeds well on dry, sandy or gravelly soils. The wood of the chestnut is valuable for various purposes. It is employed in the manufacture of furniture, for the inside finish of passenger cars, steamboats, &c. It is very durable, strong and elastic, and though the grain is not fine, it makes a handsome finish when oiled or varnished. The nuts of this tree, it scarcely need be said, are a source of much profit. At fifteen years old a chestnut tree commonly bears a peck of fruit, and about a hundred of such trees will grow on an acre of ground without detriment to each other. The nuts sell at from \$5 to \$10 per bushel, so then, an acre of chestnut trees, yielding but twenty bushels of fruit, yields a revenue of from \$100 to \$200. Lands too poor to produce other products may thus be made profitable.

In selecting seed for planting, it is well to let them get quite ripe before they are gathered, and only the best should be saved for planting. This is the time of year to gather them, and put away those intended for seed. They should be partly dried, then mixed with dry sand, and placed in mouse-proof boxes and buried in sand in a dry location, where they are to remain until the time arrives for planting.

Black Knot.

Abridged from an article on the Black Knot by Professor Furlow.

The disease, common to all sections east of the Rocky Mountains, is doubtless the most striking one, of vegetable origin, in the country. It is more prevalent than formerly, particularly, in New England, though very destructive from early times. Its special breeding place is the wild choke-cherry, from which it propagates rapidly to the plum, so that one now seldom sees the latter tree free from these black, disfiguring, and destroying wart-like excrescences. The knot makes its first appearance in a swelling of the branch. Under the microscope, mycelium of the fungus is plainly visible, and is located particularly in the cambium, or growing part just beneath the bark. The fungus first reaches the cambium either by germination of spores on the surface of the branch, or by the mycelium proceeding from a neighboring knot. In the spring, the mycelium, in the swollen part of the branch soon reaches and bursts through the bark, so that by the time the choke-cherry is in flower, the knot is nearly its full size, though still greenish in color and rather soft in consistency. The minute fruit spores ripen through the summer and fall; those found ripe in February germinated in three to five days. They are discharged from the spore-bearing cavities, and when they fall upon the surface of a branch in the right condition, germinate and continue the species. Other forms of fruit ooze out from the cavity in which they were produced, in the form of tendrils, held together by a sort of jelly. Thus the fungus does not lack for methods of propagation.

The knot on the choke-cherry, when compared with those on the plum and cultivated varieties of cherry, is seen to be slightly different in general appearance; but when viewed with the microscope, they all prove to be identical; the difference noticeable to the naked eye being due to more favorable circumstances for its growth afforded by some species of *Prunus* than by another. On the plum it does not thrive as well as on the choke-cherry. The curculio deposits its eggs in the young pulpy knot, and from the punctures a gum soon exudes, and on this coating another fungus, or mold, quickly develops, giving a pinkish color to the knot. It is probably owing to the fact that the curculio stings the knot, that many people have been led to believe that the knots themselves are of insect origin.

The proof given of the fungoid rather than insect origin of the black knot is conclusive. First, the knots do not resemble the gall made by any known insect. Secondly, although insects, or remains of insects are generally found in old knots, in most cases no insects at all are found in them when young. Thirdly, the insects that have been found by entomologists, in the knots, are not all of one species, but of several different species, which are also found on trees never affected by the knot. On the other hand, we never have the black knot without the fungus *Sphaeria morbosae* and the mycelium of that fungus is found in the slightly swollen stem, long before anything which could be called a knot has made its appearance. Furthermore, the *Sphaeria morbosae* is not known to occur anywhere except in connection with the knots.

Having seen some cherries free from the knot, although growing near diseased plum trees, and others, perhaps not near any plum trees, covered with knots, some people have jumped at the hasty conclusion, that there must be two different fungi proceeding from the wild cherry, another on the plum derived from the wild plum. This false inference comes from the fact that some species of wild cherry, and also some cultivated varieties, are not attacked by the knot. With a knowledge of the nature of this contagious disease, the remedy suggests itself; namely, to cut off the knots, together with the swollen portions of the branches, wherever and whenever they are found. In autumn, as soon as the leaves fall, the knots can be most easily seen, and all branches bearing them should be taken off and burned at once. Though the ascospores are not formed until late the following winter, it was observed that when left undestroyed, they would ripen after the branch was removed from the tree. The choke-cherry, bird-cherry, and wild-plum, furnish means for rapid propagation of the knot, and they should be gladly sacrificed for the good of their more worthy allies. However opinions may differ as to the beauty of the choke-cherry, there can be only one as to its injurious influence on cherry and plum orchards; and it cannot be too strongly impressed on fruit growers, that it is a most dangerous enemy, and should be destroyed.

Protecting against Frost.

M. G. Vinard proposes a method for protecting vines against frost in spring, which embodies the idea of smoke as a blanket to secure the earth against the influence of extreme cold. The plan, which is said to have proved successful, and to be of easy application, is described as follows:—It consists in carefully mixing gaster with sawdust and old straw, and piling up this mixture into large heaps in the vineyards. The mixture remains easily inflammable in spite of rain or weather, for more than a fortnight. When required for use, smaller heaps are made of the large ones, or about two feet in diameter, and are distributed in and around the vineyard. If there is a little wind, these heaps burn freely for about three and a half hours, and produce a very dense smoke. The artificial cloud which thus envelops the vines considerably decreases the radiation from the ground, and with it counteracts frost, which is greatest toward the morning of calm spring nights, and which does so much harm to the plants.

This method of protecting vines and trees from frost by smoke, has been tried successfully at O. C., by using scraps of tom leather procured at our trap factory, and put in heaps near vines and ignited when danger threatened from frost. These can be used to advantage by growers of fruit, especially peaches and plums. During a cold winter there are generally a few days of extreme cold weather which frequently destroys the entire crop of fruit by the killing of buds. If growers would be watchful and vigilant by procuring a quantity of leathers, which cost but little and burn a long time and produce a dense smoke, they would, with little trouble, by burning them when the proper time came, save their crop of fruit, and during harvest time would realize much more than those who took no precaution in the time of need.

A Vase of Simple Flowers.

A few days since I arranged a vase of flowers for the breakfast table which was much admired by several friends, indeed, so much so, that I am induced to give a description of it, as the effect was produced by the arranging of the flowers, not the quality, for they were only common garden varieties. The shape of the vase was a flat tazza, out of the centre of which rose a tall glass trumpet, and from the base of the trumpet sprang three curved branches; round the edge of the trumpet were fronds of the Lady Fern, and in the tazza were grouped white Water Lilies, Scarlet Geranium, leaves of Dells Beet, Ribbon Grass, hardy Ferns, and Wild Grass. In the three curved branches were yellow Roses and Delphiniums, the latter a very pale shade of blue. In the trumpet was a yellow Rose, some scarlet Geraniums, white Honey-suckle and blue Lobelia intermixed; with these were wild grasses and a few blades of Ribbon Grass; round the mouth of the trumpet drooped a few fronds of the Lady Fern, while twined amongst the glass branches were a few young shoots of the variegated Periwinkle. As will be observed on reading the above, the flowers themselves are only common kinds, such as are to be found in almost any garden, but if a little trouble be taken in the arranging of them, few I think will feel disappointed with the effect produced. Other effective arrangements could be made in different colors with the same class of flowers, say for instance the light blue Delphiniums used in place of the Scarlet Geraniums; pink Christine Geraniums in place of the Delphiniums in the curved branches, and the same in the trumpet; again, mauve-colored Clematises might be used in the tazza, and Violas in the curved branches and trumpet; by the change of these few flowers quite different stands could be produced, though the principal flowers and foliage would remain the same all through. It is in this way that variety can be produced where there are few flowers to cut from. A great mistake often made is, that because the flowers at hand may not be perhaps of very choice kinds they are not worth arranging, but most effective decorations can be made with very simple materials; indeed, nothing is more charming than wild flowers if well arranged. Just at present, too, these are in their full beauty, so those living in the country who have not hitherto employed them will do well to give them a trial.—*A., in Gardener's Record.*

Chrysanthemums after Flowering.

Many amateurs who have grown chrysanthemums for conservatory decoration are in doubt as to what should be done with them now that they are out of flower; and a word or two on the subject will be of service. They are, it must be said, very accommodating, and may be kept in a properly-constructed

pit or under a covering is not often very abundant to suffer from severe layer of coal-ashes sheltered place, and of frost cover them or newly-collected on the top, especially prevent them blowing main until all danger then they can be up the spring turn the all the soil, and sell few roots attached singly in small pots striking the cutting gained. When es can be shifted on i from cuttings.—G

Prof. W. J. B. following report: A row ten feet sandy, leachy soil were harvested a

Nash's gray ma White globe, ma Early red globe, Giant rocca, une Improved large, New Queen, cur White flat Italia Early flat red. Southport late Yellow Strash Margajole, one Large round gi White Portuga with pink. Yellow Danver Red Wetherid. From our sh the Red Weth onions. They quality as the yield well an rather more yellow Danver The white son careful hand white Portug

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Mr. Smith an old and y when he spee fruit trees, a form to the intelligent c man who k tree, take h be done w branches sp just how to the whole t ter tree. T care and m ing or graft yield of fr borers. I their imp cultivator tributary y be change things as necessary, gent, and

Years a fruit, we during th conventio were exhib good flav are crid apples h previous dry saw boys, an they do placed a was fill way, w the gro their fr

pit or under a covering of long litter. As pit-room is not often very abundant in such gardens, and the chrysanthemums, although reputed hardy, are likely to suffer from severe frosts, stand the pots on a layer of coal-ashes at the foot of a wall or other sheltered place, and when there is any appearance of frost cover them with a thick layer of long litter or newly-collected leaves, and place a few boards on the top, especially if leaves are employed, to prevent them blowing about. Here they can remain until all danger from severe frost is past, and then they can be uncovered. In the early part of the spring turn them out of the pots, knock away all the soil, and select the strongest suckers with a few roots attached to them, and then put them singly in small pots. This will save the trouble of striking the cuttings, and a little time will also be gained. When established in the small pots they can be shifted on in the same manner as those raised from cuttings.—Gardner's Weekly.

Onions.

Prof. W. J. Beal, Michigan, furnishes the following report: A row ten feet long of each sort was planted on sandy, leachy soil, and all treated alike. They were harvested at the close of the growing season.

Table with 2 columns: Variety and Weight (lbs. oz.). Includes varieties like Nasby's gray mammoth, White globe, Early red globe, Giant rocca, Improved large yellow cracker, New Queen, White flat Italian, Early flat red, Southport late globe, Yellow Strasburg, Margajole, Large round giant Madeira, White Portugal, Yellow Danvers, and Red Wethersfield.

From our short experience I should recommend the Red Wethersfield and early red globe for red onions. They are not considered quite as good quality as the yellow and white varieties, but they yield well and keep well, and are thought to be rather more hardy. For yellow onions I prefer yellow Danvers and improved large yellow cracker. The white sorts are the most delicate. They need careful handling. I like best the white globe and white Portugal.

Shaping the Tops of Trees.

Mr. Smith, the veteran nurseryman, but repeats an old and yet an ever new and interesting fact, when he speaks of the almost intelligent nature of fruit trees, and the readiness with which they conform to the training and wishes of the skilful and intelligent cultivator. It is interesting to see a man who knows all about the matter go up to a tree, take hold of its branches, tell what ought to be done with it, what limbs taken out, what branches spread apart, just how to shape the top, just how to saw a limb—that the sun may enter the whole top and the tree become a truer and better tree. These things are a part of necessary care and management, are as important as manuring or grafting, and have as much to do with the yield of fruit as fighting caterpillars or digging for borers. It is true they are apt to be neglected, or their importance overlooked—but the judicious cultivator attends to these things and makes them tributary to his success and his profits. Trees may be changed, molded at will, and become just such things as the master would have them. How necessary, then, that the master should be intelligent, and know just what he wants his trees to be.

Years ago, when we produced large quantities of fruit, we always kept apples in excellent condition during the entire year. At a recent agricultural convention in Utica, N. Y., a quantity of fair apples were exhibited, which were plump, fresh and of good flavor, quite as good as the same kind of apples are ordinarily on the approach of spring. The apples had been put up in refuse boxes the year previous, and in the following manner: A layer of dry sawdust was sprinkled at the bottom of the box, and then a layer of apples placed in so that they do not touch each other. Upon this was placed a layer of sawdust, and so on till the box was filled. The boxes, after being packed in this way, were placed on the wall in the cellar, up from the ground, where they kept perfectly, retaining their freshness and flavor until brought out.

Correspondence.

Canada Thistles.

SIR,—Noticing something in your ADVOCATE concerning the Canada Thistle Act in Canada, I wish you would please give us an outline of the Act as it is enforced in Ontario. Also, could you inform us if there is any way of destroying them, for it will be necessary for our several districts to take some precaution at once, otherwise many of our best farms will be overrun by them.

ALBERT GAY.

Pownal, P. E. I., Sept. 30th, 1876.

SIR,—By the Act of 1865, of the Parliament of the late Province of Canada, by Vict. cap. 40, it was made the duty of every occupant of land in Upper Canada to cut down the Canada thistles growing thereon, as often as necessary to prevent them going to seed, and a penalty of not less than \$2 or more than \$10 was imposed for each offence upon every owner, possessor or occupier of land who should knowingly suffer the seed to ripen so as to endanger the spread thereof.

It was also made the duty of every overseer of highways to see that the provisions of the Act are carried out within their divisions of cutting the thistles growing on the roads; and to give notice in writing to every owner, occupier or possessor of land within his division whereon Canada thistles are growing and in danger of going to seed, requiring him to cut them down within five days. In case of default of the owner, &c., to comply with the notice, the overseer is authorized to enter and cut the thistles, except where the land is sown with grain.

In case of non-resident lands, no notice is necessary.

By Sec. 3 the Clerk is to notify Station Masters of Railways to cut thistles growing on Railway lands, and in case of neglect for 10 days, overseer to enter and cut down the thistles.

Sec. 4 provides for recovery of expense of cutting down the thistles where the owner has neglected, after notice by the overseer, to do so; to be collected like ordinary taxes.

Sec. 6. Penalty for selling grass or other seed containing Canada thistle seed, from \$2 to \$10.

Sec. 7. Overseer of highways neglecting his duties liable to penalty of from \$10 to \$20.

Sec. 8. Fines to belong to the municipality. By the Act of the Legislature of Ontario, 1868-9 32 Vict. cap. 41:

Sec. 1. Overseer of highways not to enter on duties imposed by Act of 1865 without authority from municipal corporation.

Sec. 2. All municipal corporations may authorize the carrying out of provisions of Act of 1865.

[There have been several legal cases in this county about them. Several parties are enforcing the law in this county; in some localities it is neglected, and law suits have taken place. The neglect has been borne out as the law directs, when suits have been done in a legal manner. One farmer lost \$40 by trying to enforce the Act; he did not work in a legal manner. The law is a good one, and every good farmer should endeavor to have it enforced. The above synopsis has been kindly furnished to us by Mr. Meredith, Q. C.—Ed.]

Management of Exhibitions.

SIR,—I was glad to see in your last paper (the October number of the Advocate) an invitation to offer some suggestions as to the management of our exhibitions, the Provincial in particular. I beg to offer the following, viz., that as the Horse Department is by far the greatest attraction to the public, and they pay their money, 25 cents, for the purpose and they pay their money, but other parts of the show, of seeing not only that but other parts of the show, they certainly ought to have a fair opportunity of gratifying their curiosity to the fullest extent. If they stay away, our shows would soon come to a halt, and as the money taken at the gate is the great means of keeping things afloat, those who pay certainly ought to get the best value for their money. The Directors can give them. Now, sir, what do we find in the Stock Department, and the what you cannot find anything you may wish to see. The Cattle are even better classed than the horses. You do find a shingle telling you that this shed is allotted to the Devons, and that to the Herefords, and the other to Grades, &c. But we even then often find them mixed, but with the horses it is such a

work to get even a glance at them, for the doors are most of them locked and the inmates of those open are not classed at all. For instance, the first stall you come to is occupied by a blood stallion, 4 years old and upwards, and in the next we find like enough an old mare and foal in the carriage class, or something of that kind, and the next may have some animal in the heavy class, and so on. Now, sir, why cannot this be obviated in some way? It has often occurred to me that it might, and also the doors of the stalls might be kept open for a part of each day; or better still, make the whole of them be brought into the ring, each class by itself, at a certain hour every day, and the farce of parading all the prize animals just as the show is closing would be done away with. As to my own personal knowledge, not half of those to whom premiums are awarded are ever brought out at that time, because every one is in a hurry to get off home. And as to keeping each class by itself, I cannot see why a certain number of stalls cannot be set apart for each class, and thereby avoid putting large beasts into small stalls, which is very often the case, and vice versa and accidents avoided. I am speaking more particularly of the show ground at Toronto, for there each building is by itself, and one might be set apart for the heavy horses and another for the agricultural, and one for the blood, and so on. And let it be clearly understood that at a certain hour each day such a class would be called into the ring, and those who would not conform to the rate should be debarred from exhibiting as long as the Board might think proper, or forfeit the prize to which they might otherwise be entitled. As to the sheep department, shearing, time, &c., I must say if the 25th day of April is to be the earliest date, in my opinion it is too early. The middle of May would be quite soon enough; and the judges ought to be charged to satisfy themselves that those competing are properly shown, and if they think proper, as the rule of the Society states, the sheep should be clipped on the ground. But of far more importance is the over fat condition in which most of the breeding animals are brought forward in all classes, and which cannot be too strongly condemned. Very many of them do not breed at all. Many ewes bring a lamb into the world (but at what time?) and do they suckle it until it is fit to wean? I answer they do not; they only bring forth a lamb, and it is very soon removed, and the ewe dried, and then they are fed to the last extent and do not raise their lamb as they should do to be styled breeding ewes. It is also a question if they have lamb the following year; and the rams in like manner are quite unfit for serving ewes, being too fat and unable to attend to their business. One thing more; the entry ticket should not have the name of the owner on it or his place of abode, as it gives people room for fault-finding with the judges. Very often people say, Oh, the judges looked at the tickets and saw Mr. Stone's name or Mr. Somebody else, and then gave him the prize. By leaving out the name this would be avoided. What I would propose in the sheep line, is this, that the tickets be issued in duplicate for those shown in pairs, and then turn them into a pen loose and let the judges select the best; the number being the same on each pair, no mistake could be made. With these few remarks I am, Sir,

Yours, &c., D. M., Guelph.

Dairymen's Convention.

SIR,—I would like to have the views of some of your dairyman readers on the subject of holding a Dairymen's Convention some place in Western Ontario the coming winter. They are all no doubt aware that the Ontario Dairymen's Association holds its annual Convention at Belleville the coming winter. Now, there are a great many cheese makers, factorymen and dairymen who don't care to go down there, and yet would be glad to attend one near home. Why cannot we have one, even if it should be on a small scale? There are a great many important questions that could be talked over and discussed to the great advantage of all. One very important one which I think should be fully discussed is the advisability of making butter and cheese in the same factory, and also of making and cheese in the associated plan, as cheese is now made, and which has been referred to by the author of "Hints to Dairymen" in your valuable paper. The question will naturally come up—Where shall it be held? I will only say that the City of London has many advantages in favor of its being held there, and among them are its railway facilities, making it by far the easiest and nearest of access to the majority of the dairymen in Western Ontario. Let some of the leading dairymen take

hold of this matter, and let us have a nice, pleasant time. But I hope they will not be influenced in any way, but have the Convention held where it will bring the most dairymen and factorymen together for the mutual benefit of all.

Elgin Co.

DAIRYMAN.

Hulless Oats—New Wheat.

SIR,—One of my neighbors sowed one bushel of hulless oats last spring. They were almost a total failure. I think they are played out.

On the day of our County Fair two men were engaged at one of the hotels in Woodstock selling a new kind of spring wheat, a branching variety, said to have grown north of Toronto, or near Collingwood. The heads were shown and looked very nice; also the clean wheat in a bottle. It looks very like fall wheat, being, I think, as white as the Clawson. They were selling this wheat at \$12 per bushel. I very much suspect it is a swindle. If they were responsible men, whose guarantee would be of some value, it would lessen the risk; or those owning it would rent land in different parts of the country, and grow it another year, and it should succeed as those agents say it did this year—grow 40 bushels of beautiful white wheat per acre. They would do a better thing for themselves than selling it even at \$12 per bushel. If you know anything about this wheat, let us know. Innerkip P. O.

[We have heard of different persons selling different varieties of wheat through the country; we have not heard of any new variety introduced by any seedsmen this year. Steele Bros., of Toronto, have brought some wheat from Manitoba and the Western States, but we are not aware that he has travellers out; we presume this wheat is brought in as a change of seed, not as a new variety. The Egyptian wheat, of which we gave an illustration and account in the January number, 1875, might be the variety you speak of; as you do not send a head or grain, we cannot positively say. Mr. Browne, of the Agricultural Emporium, is importing a new variety, but he has no travellers out. Farmers should try new varieties only on a small scale; they will find it generally safest to deal with the established seedsmen.—Ed.]

Provincial Exhibition.

SIR,—Your remarks on the coming Provincial Exhibition for next year are well timed, and I hope that they will have the desired effect, not only upon the Provincial Board, but upon the city and county councils, and stir them up to take timely action in the matter; for I fully coincide with you that with proper management and hearty co-operation on the part of all, the next Provincial Exhibition can be made the best by far that Ontario has yet seen. Let the question of holding the present site for all time to come be settled once and forever, and I cannot see how any citizen who has the prosperity of the city and the success of the Exhibition at heart, can advocate its removal to any other site. With proper management and forethought, the present site, with Victoria Park, can be made to answer a two-fold purpose.

As to the advisability of keeping the Exhibition open for two weeks, there are a good many arguments against as well as in favor of the plan. But one thing is certain—there is room for improvement in the management of the proceedings during a one-week fair. Let the Provincial Board put their heads together and devise some means whereby visitors can have more than two days to inspect the articles. It can be done by putting a little life and thoroughness into it, and by having everything on the ground promptly on Monday, and the judges ready to go to work. Let the readers of the *Advocate* give their views on the subject, and let us have one of the grandest Fairs Canada has ever seen.

London Township, Nov. 20th, 1876.

SIR,—Can you tell us what is the cause of cotted wool, and if there is any way to prevent it? If so, it will be of great advantage to many farmers. We would like to get all the information possible from wool growers and breeders of sheep.

H. BEST, Culloden.

[The cotted wool proceeds from a stoppage of its growth, caused by a sudden change in the atmosphere or by a change in food, from a rich diet to the opposite. Either change affects the health of sheep, and this change shows itself in the altered state of the wool.—Ed.]

Short-Horn Breeding.

SIR,—You would oblige if you would publish in the *Advocate* the rules of breeding of Short-Horns. I would like to know how many crosses are required before animals can be entered on the Herd Book, and how long before their names wear out; also, how did the Dukes and Duchesses originate?

C. C. GARDNER,

Charlottown, Prince Edward's Island.

[To thoroughly and fully explain all these questions would take up more space than we can afford to give; but we will try to satisfy our correspondent briefly. By the "rules of breeding" we presume are meant the distinction between *grade* and *thorough-bred* cattle, with regard to their entry and registry in the "Canada Short-Horn Herd Book," the first volume of which was published in 1867, compiled by the Secretary, and revised by the Committee of the Board of Agriculture of Upper Canada. This volume took a very high standard of admission, requiring that every animal recorded should have derived its descent from animals whose pedigrees are already recorded in the English or American Herd Book, and if any were short or imperfect, such were distinguished by a star (*) or asterisk, and in fact any pedigree that did not show descent from the English Herd Book through all its branches was marked with a star, and thus many pedigrees which were entered in the American Herd Books were thus marked, as they could not come up to the standard of purity of blood. This was the rule of breeding for the first volume of the Canada Herd Book; but in the two following volumes the standard has been very much reduced, and any animal that can show four ancestors of recorded short-horn bulls was admitted as thorough-bred, no matter if their fourth dam on the female side were a black muley cow; and the same rule now holds good, only animals having less than four recorded sires are marked with a star, and this star will wear out in the progeny as soon as the animal can make up the four recorded ancestors. The rule is very liberal, and we think a wise one, as it encourages farmers to breed up their herds to the standard by using in their herds *thorough-bred* bulls. It does not take so many years to do this, and each year the young calves are getting nearer to the required standard, and by always using *bulls of one family*, in time a very valuable herd can be formed. Such has been the practice of some good English breeders; they have raised noted families of short-horns from good market cows, but they always used bulls of the very highest and purest blood, and always of one family, and thus intensified the purity of each generation, and so quite bred out the cold blood in the original market cow; and we wonder that their example has not been followed by many of our intelligent stock farmers, for now when beef cattle are so much in demand for exportation to England, it will pay to breed *short-horn* grades, as their *quality* is so superior to common cattle, and they fetch a much higher price in England.

C. C. G. wants to know how did the Dukes and Duchesses originate.

[In the year 1784 Charles Colling bought the "Stanwick Duchess" cow from the estate of the Duke of Northumberland, in Yorkshire. She was bred to Hubback (319), and produced a heifer (Duchess), who was bred to Favorite (252); she produced a heifer (Duchess), who was bred to Daisy Bell (186), who was son of Favorite, and the produce was a heifer, who was bred back to Favorite, her grand-sire; she produced a heifer, who was bred to Comet (151), whose sire and grand-sire were also Favorite (252), and her daughter was called Duchess 1st, and was bought by Thomas Bates at Charles Colling's sale, October 19th, 1810, for 183 guineas—about \$915; but really money was so much more valuable then that the relative cost would be equal to nearly \$1,800 of our money. This cow Mr. Bates thought so much of that he bred her descendants for nearly 40 years, keeping only the very best, and such as came up to his standard of perfection; any males or females that fell short of the mark were *ruthlessly butchered*. Indeed so strictly did he carry out this principle that he had only 14 of this family at the time of his death. He bred them generally to bulls of their own family, taking only out-crosses of the "Red Rose" and "Princess" families, which were the two favorite families of Robert Colling, and like the Duchess, traced their blood direct from Hubback to Favorite. Mr. Bates said that it was to the union of these three bloods—"Duchess" tribe, "Yarborough's" dam and "Princess" tribe—that his cattle owed their superior excellence; but indeed his herd had more of the blood of the Princess tribe than any other, as he used the Princess bull "Belvedere"

(1706) for six years in his herd, even on his own daughters, and then used his sons "Short-tail" and the Dukes of Northumberland until he brought fresh blood in by the "Oxford" cross from the Matcheen cow, who was herself one-half Princess blood. This, then, was the mixture of bloods that produced the Dukes and Duchesses. Let our breeders follow the example of the sage of Kirk-livington in his strictness of selecting *his best* only to breed from, and the firmness with which he con-signed his inferior ones to the butcher. Let them but persevere in this, and they will, like him, surely succeed.—J. B. T.]

Our English Letter.

We have the pleasure of giving our readers the following brief communication from our English correspondent. Though brief, it is interesting to us, treating of the past season's yield of crops, price of stock, and steam-ploughing—a subject now becoming a subject of enquiry among Canadian farmers:—

DEAR SIR,—I will give you an account of Sussex farming. We had a dry summer, but a showy harvest. My wheat comes out 26 bushels to the acre; oats come out 64 bushels to the acre; and I grew 6 cwt. of hops to the acre, which I expect to bring £7 7s to £7 10s per cwt. They will pay me very well this year. After harvest I had the steam-plough to work. I ploughed 26 acres of stubbles. I had two small engines of six-horse power (by Airling, of Rochester), and Fonter's steam-plough, and they do their work in our small fields more satisfactorily than the large engines. I think they would answer well on the small Canadian farms. I am glad to see there is another emigration of 1,800 Icelanders to Canada. I have read with much interest Lord Dufferin's visit to British Columbia. I should much like to see the Canadian Pacific commenced. I bought the other day at Eastbourne fair 50 good strong Southdown ewes at 35s apiece: they will weigh 72 lbs. when fat. I am giving them 1 lb. of linseed cake on a two-year seed lea, which I shall afterwards break up and sow with oats. In the last *Agricultural Journal* there were two very good articles; one on the "Farming of Denmark," and the other on the "Old Long-horn Breed of Cattle." I cannot conclude without thanking you for your paper, as there are many very useful articles in it.

ROBERT WATSON.

Standard Hill, Ninfield, Battle, Oct. 23, 1876.

Superphosphate of Lime.

DEAR SIR,—I notice in your October number an enquiry from a correspondent as to the value of superphosphate of lime as manure. I have used some this year, and will give my experience. My land is a clay loam. I first manured moderately about four acres with barn-yard manure; in the centre of this piece, on two acres, I sowed two barrels of the lime, of 250 lbs. to the barrel, or half the quantity recommended. The results were satisfactory to me. This year the turnip crop in this locality was almost an entire failure, owing to the drought, while last year they were very good. The part of the crop manured with superphosphate was almost up to last year's crop, while that unmanured was scarcely worth digging. Through one of the sides unmanured I dug a tile drain, which, when covered over with sand and hard clay from the bottom of the ditch, looked very unpromising for a crop. On this space, some 35 rods long and two rows in width, I sowed a half-bushel of the manure, and dug an average crop, while those on each side were worthless; they also kept green long after the unmanured ones were killed by the frost. This is my first trial of the manure, and am satisfied it is a good thing. I intend to sow it on my grain next year.

J. E.,

Pickering Township, Co. Ontario.

Duffin's Creek P. O.

[In reply to the enquiry of J. M. L., Strathroy, in the October number of the *Advocate*, Mr. E., of Pickering, has kindly communicated the above information. As far as we have heard, the superphosphate referred to in our visit to Brockville has realized our expectations.—Ed.]

Superphosphates.

SIR,—In your valuable journal (*FARMERS' ADVOCATE*), there was a communication from "J. M. L., Strathroy, Ont.," asking for information regarding the use of superphosphates, which was answered by "R. T. R., Barton, Ont." With your permission, allow me to add my experience. I used it last spring on turnips, potatoes and corn, with satisfactory results, considering the season, which

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was exceedingly dry. On potatoes the amount used was a small handful to each hill, leaving one row without any; this row did not yield as many potatoes, and the quality was inferior to those where the superphosphate was applied. On corn the amount used was a handful to three hills, also leaving one row; this row did not yield more than half the quantity of corn, the quality being very much inferior to that treated with the superphosphate. There was no other manure used. The soil is a light sandy loam. My turnips were poor, the dry season being the principal cause.

J. L. B., Hampton.

Peas.

SIR,—In digging our potatoes, a vine of peas that grew with the potatoes and the enormous amount of pea-pods it contained led me to count them, with the following result, viz:—

No. of pea-pods with	Peas.	Pods.	No. of peas.
8	7	2	16
"	"	8	56
"	6	12	72
"	5	25	125
"	4	13	52
"	3	6	18
"	2	11	22
"	1	1	1
No. of peas found shelled in field,			13
Total amount of peas on vine,			375

By adding up the second column you find that the vine contains 78 pea-pods, and they contained 375 peas. Never hearing of such a great return from one single pea, and having the vine yet in my possession to prove that my statements are correct, I resolve to give them a fair, honest trial, and if they prove to yield as good as this vine in proportion, it will be to the interest of my country, Canada, to do so. I will send you the total weight of the peas raised next season therefrom, and intend to make it, if possible, the greatest pea in existence. The name I intend calling them is the "Canada Prolific." The vine with the thirteen peas last weighed four ounces and one-half, and the total length of straw was two feet.

The vine was raised on the 6th concession of Brock, two miles west of Sunderland Station, on T. N. R. R. W. G. St. J., Sunderland.

[We presume your pea is some known variety. If the vine and peas were shown to a seedsman, he might give you the proper name. You do not state size, color or shape of the pea. Should it prove to be an unknown variety and possessed of superior merits, it may be of advantage to the country. There have been too many old varieties of grain sold under new names. You will be right in propagating the pea. We shall be pleased to hear results.—Ed.]

Steam Plows.

SIR,—I see in your last issue a Mr. Charles wishes information as to steam plowing, and asks some questions. Being in communication with the patentees in England for the purchase of a steam plow for my prairie farm, Mr. Charles is welcome to what information I have acquired.

The best makers are Fowler & Co., of Leeds, and Howard, of Bedford, England.

Land free of stumps and stones can be advantageously plowed by steam; on a light soil, 30 to 50 acres a day can be done by the double system, depending on depth of furrow and strength of engines. Each engine is placed on the headland opposite each other, and draw the plow by a steel wire rope, backward and forward from the one engine to the other, said engines being self-moving and advancing along the headland as the land is being plowed. Three men work this system.

By the single system, only one engine is used, the wire going round a pulley fixed on a patent moveable anchor, placed on the opposite headland. Two men and a boy work this system.

Another system is to use a portable engine, which remains stationary when plowing. It drives a windlass of two horizontal drums, on which the rope is wound, which travels round the pulley on a patent anchor placed on each headland opposite each other, the plow moving backward and forward between them. This system requires two men and a boy.

The cost of two engines of 30 H. P. each is £2,560, down to two engines 12 H. P. each £1,300. The cost of one engine of 14 H. P. is £715, down to one engine of 8 H. P. £540. The cost of a port-

able engine of 6 H. P. £242, of 8 H. P. £280, of 12 H. P. £368, up to 40 H. P. £1,100; three-furrow plow £70 to £80, five-furrow £100 to £110, eight-furrow £130 to £160; self-moving patent anchor £50 to £60; 1,200 yds. steel wire rope £30 to £120; rope porters about £20; steam harrow £60. For a portable engine of 10 H. P. the patent windless with self-acting coiling gear and universal joint can be attached, having 1,400 yds. rope, 2 anchors, 2 claw anchors, each with 50 yds. rope, and 11 rope porters, and five-furrow plow, costing £400 in addition to the engine. Those engines are used for hauling wagons, sowing grain, harrowing, plowing, rolling, threshing, pumping water and sawing wood. Yours truly, Orford, Nov. 8, 1876. PRAIRIE FARMER.

Dynamite.

SIR,—I see an article in the FARMER'S ADVOCATE on dynamite. Will you please let me know where it can be obtained and what it will cost, and oblige, J. M. ANGUS, Wallace Harbor, N. S.

[Several other parties have written us in regard to dynamite. We have not used it, but are informed by those who have that it is really a useful article, that it is five times stronger than powder and much safer. It is not dangerous unless it is confined, and it does not ignite as easily as powder. It is fired by means of a fuse and percussion cap. It makes strange havoc among stumps and stones; a common charge is two ounces. It costs \$1 per pound. John Young & Co., of Toronto, will furnish you with dynamite and particulars about using it, &c. See advt.—Ed.]

SIR,—Having seen the interesting accounts in your paper about Manitoba, I have about made up my mind to go there in the spring. If I go, there will be twenty-one of us who will go together. If you could supply me with a pamphlet and map of the country, I should feel obliged, as I wish to gain all the information I can about it.

T. H., New Brighton P. O.

[We have no map or pamphlet about this fine part of our country. The Government has not furnished us with much information, as it might have done. Hundreds of our best settlers should have gone there instead of going to the States. We pay to import poor, worthless creatures, and allow our young Canadian farmers to go to the States for the lack of information about our Dominion. We hope some of our Manitoba readers will furnish us with as much useful information about their part of the country as may be necessary to guide Mr. Hand and others that are intending to make new homes. We have heard that a land-grab game is going on; that settlers cannot procure land near any other settlers; that the wild lands unoccupied are sprited out of the way of the settler, and out of the way of the tax collector, and settlers are compelled to go miles from settlements to open up the country, while grasping speculators or indolent settlers lock up large tracts.—Ed.]

SIR,—Will you kindly insert the following in your valuable paper, in regard to the Free Grant Lands in this district:—

Last year I read letters written by Mr. L. Jones, of Markham, published in your paper, concerning the Free Grant Lands in this district, and I got Mr. Jones to locate two lots for myself and daughter, and I landed here this day week with my team and got a winter's job at five dollars per day, with my team, on the C. P. R. R. I found my land good, and as the markets are first-class, I am well pleased with the location selected by Mr. Jones, and I would advise all parties who want good Free Grant Lands up here to communicate with him, as he is well posted in these matters and will do what is right with all parties. By inserting the above you will confer a favor on the public.

GEORGE TOWLE,

Late of the County of Oxford, Ont. Prince Arthur's Landing, Sept. 23rd, 1876.

SIR,—Could you or any of the readers of the ADVOCATE recommend from practical experience the Randall Harrow, manufactured by the Warrlor Mower Company, of Prescott, Canada? Is it a good pulverizer compared with the best tooth harrow? I think the merits or demerits of implements might be discussed through the ADVOCATE with profit, as well as other questions.

C. W. R., Markdale.

[We are not aware that any farmer is using them in this county.—Ed.]

Canadian Agricultural Notes.

Ontario.

THE MAGANETAWAN COUNTRY.—Mr. Reazin, Dep.-Reeve of Fenelon, has just returned from a three week's visit to the Maganetawan country. He is an old farmer and settler of Fenelon, and his opinion of the capabilities of the new country is entitled to great weight. He has taken up four hundred acres in the township of Armour, which he will improve for his children. Mr. Reazin says that the townships of Ryerson, Armour, McMurrich, Perry, McLean and Ridout are as fertile as Fenelon and Eldon. He met a settler north of Hutsville, who had 25 to 30 bushels of wheat to the acre and every thing else in proportion, and they could surpass in vegetables anything grown in Victoria or Ontario. At another "clearing" a settler had 24 acres, from which he reaped 500 bushels of wheat; 250 bushels of barley, and 150 bushels of oats. It so happened that during the summer there were frequent rains in that section while over the rest of the province there was a prolonged drought. The turnips at this place were wonderful. Mr. Reazin endeavored to cross or cover one with his foot, but the turnip stood an inch and a half larger, and his "understanding" is not a small one. There is a considerable influx of new people, chiefly front sections. Mr. S. Reazin informs us that the forest is chiefly maple, beech, and other hardwoods, with no more pine in the districts named than will be actually needed for home consumption. After the rocky range at Washago and Gravenhurst is crossed there is a wide tract of very good farming country that has before it a very promising future. It is just this stretch that will be reached by the Victoria Railway beyond Haliburton, as was stated in Mr. Swanton's report. The Government is making good roads through the district, and are doing everything in reason to encourage and facilitate settlement. Settlers have good times comparatively. They get for hay \$15 a ton; for flour \$7.50 a barrel; oats, 75c. a dozen sheaves—all cash. It appears to be a promising section; and those who want new land would do well to give it a visit.

A GOOD EXAMPLE.—The Editor of the *Collingwood Enterprise* tells of a visit he had paid to Himont Park, New Lowell, and was surprised to see that there is such a farm in the county:—

The farm consists of about six hundred acres, with a large portion of it free of stumps, and is devoted almost exclusively to stock raising. Their buildings are immense, and laid out in the most convenient manner for the care and attention of their large herds of cattle. Messrs. Hay and Paton have now a herd of splendid thoroughbred short-horn stock, as fine as can be procured—six cows and one bull, which they are keeping for the purpose of breeding from, besides these they have about sixty head of grade cattle old and young, and thirty head stall fed ready for the market. They employ about ten span of horses, and about the same number of yokes of oxen. In one of the stalls we noticed an immense ox, being fattened for the Christmas market—the largest animal we ever saw, now weighing about 2,400 pounds, and is not yet ready for the butchers. The stock is fed entirely on cut hay, turnips and bran. Of which they have an immense quantity on hand, in apartments built for the purpose. Besides this stock they keep about thirty pigs, nearly all Berkshire. These animals are fed on boiled peas and shorts. The cook house adjoins the pig house, and has very large boilers, capable of boiling about twenty-five bushels of peas at a time. The hay is cut by horse power, and is conveyed from the upper flat, where the machinery works, to a large bin on the lower floor, from whence it is taken and mixed with other food before feeding. The farm premises of Messrs. Hay & Paton are worth a visit, as they are undoubtedly the most extensive in the county, and there is a place for everything and everything is kept in its place.

The flax crop has yielded well this season, while in almost all others there has been a deficiency. The cultivation of this crop has been continuously increasing. The flax at present grown in Ontario amounts to \$700,000 in seed and fibre.

The quantity of apples shipped from Strathroy this season is very large. Up to the end of October fully 20 car-loads of 3,000 barrels have been sent away, the largest part to Liverpool, and several car-loads to Glasgow.

One day lately a buyer shipped 1144 barrels of apples from Woodstock to London, England.

Agriculture.

Sewage Farming.

Many a plausible theory has been found to be words—mere words—when tested by experiment. Even from stubborn facts theories are sometimes deduced that have been proved to be theories only, and have sometimes misled even practical men. For some time the value of sewage as a manure was a prominent subject in every agricultural paper. There can be no doubt of its great fertilizing properties, but they were magnified egregiously; and now that the experiments from which so much had been expected have been fully tried, its intrinsic value is better known. Enormous expenses have been incurred on sewage farms, and extravagant rents have been undertaken, so much so that the produce, though heavy, has fallen far short of the outlay. It is a matter of absolute necessity that the sewage be removed from towns, however it may be disposed of, and it is also an established fact that it possesses very great fertilizing properties, but in the use of fertilizers, as in other matters, we may "pay too much for our whistle." Mr. J. C. Morton, in an able contribution on this subject to the Journal of the Royal Agricultural Society, in which he details the results of his personal experience in sewage farming, and reviews the operations on half a dozen various farms, says:—

"Meanwhile it may be held as certain that the agricultural remedy for the sewage nuisance is alone trustworthy. None of the chemical methods having to deal with a putrescible liquid can send it from them in a non-putrescible condition. The agricultural remedy alone is perfectly efficient. A putrescible liquid passing through the aerated soil—and over that incalculable quantity of surface within it to which the superficies of all its particles amounts—meets with the oxygen of the air under circumstances which promote, hasten, and produce the chemical transformation which it requires in order to its perfect defecation. Its organic matters are thus oxidised and transmitted in a condition in which they are no longer capable of creating a nuisance. This is the explanation of ordinary agricultural experience on a sewage farm, to which Dr. Frankland's laboratory experiments, conducted with admirable insight into the conditions of the problem, have directed him. It is the explanation of the perfect efficiency of his method of downward intermittent filtration—a sufficient depth of soil and subsoil being filled alternately with sewage and with air—which is just an extensive form of the ordinary agricultural experience on a well-managed sewage-farm. And whether on the extensive or inextensive scale, this, whatever be the expense of it, is the only process capable of dealing efficiently with a liquid in which the mischievous organic ingredients, filthy as they may be, are, nevertheless, in such extremely dilute solution as they are in town sewage. From this method alone, moreover, on the extensive or agricultural scale, is there any hope of extracting a produce which will contribute in any sensible degree to the expense of the process."

Our English contemporary the Farmer, in a judicious article on sewage farming, writes as follows:—

"So remunerative were sewage farms to be that in some of the earlier experiments the towns eagerly bought land at an exorbitant price, the engineering work was done in the most costly manner, and whether the sewage had to be lifted one hundred feet or gravitated with a fall of fifty, did not appear to matter greatly. Outlays were made on the most extravagant scale, regardless of expense, in full and certain faith that a sewage farm, however obtained, was in the end sure to pay."

"By this time experience has ruthlessly undeceived even the theorist, and it is with difficulty that many sewage farms are able to pay the labor bill and the rent. Some towns have gone to such an enormous expense in the purchase of land, litigation, and engineering expenses, that it is impossible the money thus expended can be repaid by the sewage farms, which have only just been able, hitherto, to pay for labor employed in addition to such a sum as would be equivalent to a fair rental—that rental being by no means the £20 per acre, or more, which, at one time, was thought to be but a fair equivalent for an almost unlimited quantity of sloppy sewage. Not only have we learnt that the estimate formerly made of the value of town sewage was too high, but other matters in the practical management of sewage farms have

had to undergo modification. In reviewing the whole question, there are three lessons distinctly taught us. The first lesson is that sewage is a poor and weak manure, and will not bear a heavy cost of distribution, even after it is delivered free on the farm. Plow-made furrows should be enough to regulate the flow where sufficient slope naturally exists, and the surface should be so arranged that a single man may be able to distribute a large quantity, say about 5,000 tons of sewage daily. The second lesson which agricultural experience with town sewage teaches is that such plants must be chosen for cultivation as can prosper under the enormous quantities of water contained in sewage. Italian ryegrass must be the principal resource, but cabbage, mangold wurtzel, garden crops, and all other succulent growths are suitable. Furthermore, the third lesson is the need of confining the cultivation of even such a succulent plant as Italian ryegrass to that period of its life and growth during which it retains its full vigor, namely, for one year only."

English Agriculture as Seen by an American.

At a recent State Fair of New Hampshire the Hon. J. B. Walker delivered an address on the "Peculiarities of English Farming," which we give below, slightly abridged, from the Western Farm Journal. His observations are, in general, accurate and free from prejudice.

I saw cattle and sheep getting a pretty good living out of doors in January. While visiting a farm eighteen miles from London, on the seventh day of October, I found the farmer setting out cabbage plants, and he said they would be fit to eat about Christmas.

The annual rain-fall in England is not very large, but the showers are very frequent; you are never safe to go abroad without an umbrella. There is much moisture in the air, and this gives the country a verdant appearance. They suffer little from drouth, and can raise cattle better than we. England is a finished country; everywhere it appears as though there was nothing to do but settle down.

The best soil they have is a soil we would do nothing with; I mean the clay soil. Without under-draining, England would be able to do nothing at farming. There are no forests in England. Land is worth too much to raise wood on except in some of the mountains east of Scotland.

We find no wooden buildings there. The Englishman cannot afford to buy any lumber, so he lays brick and stone, and builds of them. Their architecture is better than ours, and some of the poorest cottages, which are hardly as good as barns, have a very picturesque appearance.

The house of a small farmer is of stone, small, though comfortable, and not as good as those of New Hampshire farmers. There are no barns in England except horse barns. They have haystacks.

Once on going out West I got left in a town where there were banks, churches, hotels and school-houses, and on asking how old the town was, was told "eight months." Ask the same question in a town in England and the answer will probably be, eight hundred years.

The land tenure in England comes down from the old feudal system. There are rare sections where a man may buy a farm as here, but not many. As a rule, no farmer owns his farm. The land is owned by landlords; twelve of them own half of Scotland. There land owners are the aristocracy, and the grandest aristocracy on earth. If any man has a right to be an aristocrat, it is he who owns the soil. The tenant farmer hires the land of the landlord, generally from 200 to 1000 acres. This gives a large system, and large operations, and better management.

A third class of men dependent upon farming is the laborer who does the work. He generally has little ambition to better his condition. He does his work, takes his pay and spends it, and does not expect to ever do anything else.

The rent of land depends wholly upon the section it is in. It ranges in Ireland from a shilling to ninety pounds per year, per acre. The average is about ten dollars per acre per year. This price could not be obtained here, but there it is readily, and there are more tenants than land. This arrangement seems satisfactory to landlord and tenants. The tenant don't want to own the land, because he wants to put all his capital into his farming operations, and he cannot afford to own land. The landlord does not want to sell the land, because his importance depends upon his land. Without it he could not hold his position in life.

Mr. Mecchi, the famous English farmer, told him that he ought to have \$100 per year per acre to farm with. The English never hesitate to put into their farming all the money that will pay. It would be better if it were more so here. Half the money in our savings banks should be invested in our farming operations. They have the same trouble about scarcity and poorness of labor that we have here. Many of their best laborers come to America. The average English farm laborer gets about two shillings per day for ordinary farm work. In harvest they get more. Fifty pounds per year is pretty good pay.

Deep Soil.

Our opinions in favor of deep cultivated soil are not unknown to the readers of the Advocate. What Pennsylvanian agriculturists think of the value of deep soil generally will be seen by the following extract from the Germantown Telegraph:

"Among the peculiar features of the exhibit of Iowa at the Centennial, is a sample of her soils. She has long glass cylinders over a foot in width and many feet in length, and in this is placed earth, just as it exists. On the top is the black prairie soil, then the subsoil, and so on deep down to 'hard pan,' 'solid bottom,' or whatever the end is called. This enables the stranger to see how deep is the rich black soil, and is very attractive to visitors. There is a glass pillar for each county, and the soil of each county, just as it is, is represented each by itself. There is no doubt it is one of the very best methods of showing how deep is the soil of Iowa, and that the fact will have at least its due weight to those who are seeking homes in the West.

"But after all, we must remember that it is not alone deep soil that is to make good farm land. Though black rich soil is a hundred feet deep, it is only the first foot or so that is of any material value to a good crop. Some roots go deep, but the chief feeding roots are near the surface, and in time they will exhaust the soil, and, unless the lower strata are brought to the surface, at some expense, the crops will be poor. This has been found the case in Ohio. Here was deep rich soil, as deep as anyone could wish, but in a quarter of a century it gave out, and many a wheat-field has been laid down again to grass, and cattle now graze over land which was once the grain-growers' pride. The subsoil might be brought up to the top, but that is too expensive. No way is like the old way in many things, and no way of keeping up the fertility of the soil is like the old way of feeding it annually with manure. Soil may be as deep as one chooses, and laughter and 'pity' may be bestowed on our Western journals and Eastern farmers who talk about manuring, but the richest Western soils are no exception, and the time will be when these deep Iowa soils, as represented in these Centennial glass collections, will have to be annually manured like all the rest.

"Even the deep plowing, the turning up of this rich subsoil, is not always the best plan, even when the expense of turning it up is not so great an object, for, notwithstanding the advice of the great farmer of Chappaqua to 'plow deep,' prairie-men never appreciated it. The universal testimony is, that in breaking prairie for cultivation the shallow plowed land yields the best crops. There is reason for it, but we need not give it here, where only the undoubted fact is of consequence."

In the name of good farming we must point out that for permanent and genuine agriculture in is of little account. The English have no virgin soil, no deep black bottoms to their land, but by judicious and cheap management it yields to-day crops of which the black lands of Iowa might feel proud.

Fancy Farmers.

However much we might wish to change the term fancy, the fancy farmers are more than fancy, they are enterprising, far-seeing men, who have generally been in advance of their time, and to whom we are indebted for many of the improvements and much of the progress of modern agriculture.

No class of men have been ridiculed so much and none have done so much good as those who are denominated fancy farmers. They have been in all times and countries the benefactors of the men who have treated them with derision. They have been to farmers what inventors have been to manufacturers. They have experimented, for the good of the world, while others have simply worked for their own gain. They tested theories, while others

have raised dignity and never had 1

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have raised crops for market. They have given a dignity and glory to the occupation of farming it never had before.

Fancy farmers have changed the wild boar into the Suffolk and Berkshire; the wild bull of Britain into the Shorthorn; the mountain sheep, with its lean body and hair fleece, into the Southdown and the Merino. They have brought up the milk of cows from pints to gallons. They have lengthened the sirloin of the bullock, deepened the udder of the cow, enlarged the ham of the hog, given strength to the shoulder of the ox, rendered finer the wool of the sheep, added fleetness to the speed of the horse, and made beautiful every animal that is kept in the service of man. They have improved and hastened the development of all domestic animals, till they hardly resemble the creatures from which they sprang.

Fancy farmers introduced irrigation and under-draining, grinding and cooking food for stock. They brought guano from Peru and nitrate of soda from Chili. They introduced and domesticated all the plants we have of foreign origin. They brought out the theory of rotation of crops as a natural means of keeping up and increasing the fertility of the soil. They first ground up gypsum and bones and treated the latter with acid to make manures of peculiar value. They first analyzed soils, as a means of determining what was wanted to increase their fertility. They introduced the most approved methods of raising and distributing water.

Fancy farmers or fancy horticulturists have given us all our varieties of fruits, vegetables, and flowers. A fancy farmer in Vermont a few years ago, originated the Early Rose potato, which added millions of dollars to the wealth of our country and proved to be a most important accession in every part of the world where it was introduced. Another of these same fancy men originated the Wisconsin strawberry, and another the Concord grape. It was a fancy farmer that brought the Osage orange from Texas to the Northern States.

Among the men in this country who were classed as fancy farmers at an early day one first introduced mules; the second, the cultivation of improved rice; the third, the use of land-plaster; and the fourth, the raising of lucerne. More than any men of their time did they add to the wealth of the country. After them came another race of fancy farmers, who introduced Arabian horses, Spanish sheep, and the improved breeds of English cattle and swine. These fancy farmers added immensely to the wealth of the practical farmers of the country. What we want, to develop the agriculture and horticulture of the country to their fullest extent, is a large number of fancy farmers—men who work for pleasure, rather than for private gain. These are the men who will perform experiments, and give the world the benefit of them. These are the men who will carry on investigations for the sake of investigating. These are the men who will bring in new grains, new fruits, new vegetables, and new varieties of animals. These are the men who will devote their time and money to the improvement of old varieties and the creation of new ones. The country is sadly in need of more fancy farmers.

Application of Lime.

E. H. Libby, in a recent number of the *Scientific Farmer*, from an investigation of the nature and action of lime, draws the following conclusions in regard to its application:—

Soils rich in organic matter, even though they already contain it in considerable quantities, drained peat swamps, stiff clays, and coarse, heavy soils, and especially those destitute of it, are all benefited by an application of lime. Good results also follow its use on light soils after an incorporation of organic matter, as green manure, muck, or thick sod or green crops plowed under. Sterile soils are rapidly rendered more sterile by its application. Wet lands show least effect from treatment with lime. Hence such lands must either be drained or receive an extra amount. Clays should also have organic matter applied in connection with lime. It acts most effectually near the surface. The apparent effect is greater the second season than the first, so the most satisfactory results are obtained by sowing broadcast in the early fall, with at most only a light harrowing or brushing. It should be applied in an air-slaked, fine mechanical condition. The most profitable quantity to apply depends much on the land; wet soils, those well filled with organic matter, and clays, taking most—from ten to forty bushels being recommended, according to the circumstances. A careful study of this subject will explain why soils containing lime are benefited

by an addition; and also why, though an excess of lime in soils causes the production of coarse plants, yet its use often improves grasses and grains. It is said that turnips on some farms grown on land well limed, are better cattle food than otherwise, perhaps of the potash set free for their use. But a great deal still remains to be learned by this subject.

Fall Planting.

Fruit-bearing trees, shrubs, vines and brambles may be transplanted in the fall, and very often under more favorable conditions, and with better prospects of success, than if set out in the spring. There are some well known objections raised against fall planting, especially of fruit trees, such as the long exposure to the swaying of the winds before growth commences. But the injury or displacement of the roots from swaying at the tops amounts to little compared to the many striking advantages gained in planting at a season of the year when there is comparative leisure, when the ground is usually dry and in good condition, and when the necessary preparatory stirring of the soil can be made without any extra expense. These are points that tell in the growth and productiveness of fruit trees, either in the garden or the orchard. If planted in the fall the soil settles closely around the roots and fibres by the time the spring opens, and an earlier growth is started than with spring setting, which is often pushed back until the season is well advanced from causes over which the planter has no control. The spring may be backward enough to hinder planting of trees in a way in which they should be set out to insure success. All other things being equal, there is no doubt that spring would be the better time to plant trees. But this does not often happen to be the case, as every practical fruit grower well knows. It is therefore wise to transplant in the fall, if the trees and the ground are in readiness.

Improvement of Soil—A Good Wheat Yield.

Many farmers complain that wheat raising does not pay. It is true that many, owing to their methods of cultivation and preparation for seeding, find their wheat returns insufficient to pay expenses of seeding and harvesting. To show what intelligent farming can do, we subjoin the following facts furnished us by Mr. A. A. K. Sawyer, who has succeeded in getting the heaviest yield of wheat per acre that we have heard of in this county. Some six years ago Mr. Sawyer came into possession of "Scherer Farm," situated about two miles south-west of town. It is one among the oldest settled places in the county, and was considered pretty well "run down."

The tract in question, upon which the wheat was raised, was a clay side hill, a part sloping off into a sort of sandy bottom. When Mr. Sawyer took charge of the farm, this tract was considered worn out and almost worthless. It had been in cultivation since 1818.

Mr. Sawyer first seeded the tract in clover, about six years ago. It remained in clover three years, he, in the meantime, having cut one crop of the clover, the remaining time using it for hog pasture for about 150 head of hogs.

In August, 1873, about fifty-four acres of the tract were plowed, turning under the second crop of clover. The ground was then thoroughly pulverized by harrowing and rolling some five or six times. The wheat was drilled about the 10th of September; two varieties, the Bouton and Indiana Yellow, were sown. The yield was 27½ bushels per acre average. The clover re-seeded itself, though Mr. Sawyer thinks that in most cases it will not re-seed so as to be thick enough for immediate use for pasture, and if such is desired it is better to put on some seed. The land was again used for pasture till the latter part of July, 1875, when the second crop of clover was again plowed under. The ground was again thoroughly pulverized with harrow and roller, and about Sept. 10th 32 acres of the tract were sown with drills. The tract sown included about five acres of the sandy bottom above mentioned, which had never been in clover. The average yield was 32 bushels per acre. Owing to the wet weather in harvest, a large amount of wheat was lost on the ground. Could all have been saved the average yield would have been fully 35 bushels per acre. The four acres of bottom which had never been in clover only yielded about 15 bushels per acre, which reduces the average materially below what it really was on the clover land. Of the several varieties, Mr. Sawyer found that the Fultz led, yielding 40 bushels per acre.—*Prairie Farmer.*

The Supremacy of Price.

The English *Agricultural Gazette*, in an article under the above caption, says: All the influences affecting production, are receiving remarkable illustration, as we become aware, through the Statistical Department of the Board of Trade, of the extent which is year by year under wheat and other grain crops in this country. Even agriculture answers at length to the spur or rein of market price; it is true that here routine exerts its utmost sway; and it is not merely habit which controls but a rule of practice which is imperative—certain rotations, out of which no escape is possible, being, as it were, enacted. During the past two years no fewer than 635,342 acres have been taken out of the wheat growth of Great Britain—an alteration of farm management in so short a time as to amount almost to a revolution. More than one-sixth of the area in wheat in 1874 has been this year devoted to other crops. Barley has increased 245,000 acres, and oats nearly 200,000 acres. The effect of falling and rising of prices is to be seen in this, even more than the effect of season or of weather. And the process thus in operation appears likely to continue. Prices are now unprofitable for wheat culture; and therefore it will no doubt still diminish. It is value, not mere unproductiveness, that will bring about this end. The two are, indeed, no more related as they used to be; and our bad crops this year are being sold at as low a price as formerly was the penalty of plenty.

A Minnesota paper, referring to the light crop in that State, says:—

"Looking for the cause of the light crop, it is believed that some of the causes were within the control of the farmers and some were not. The small size of the berry is attributable in many instances to poor and imperfect seed. Gen. Delaplaine cited a notable instance. A farmer had two fields sown near Delano, one from his own seed and the other from seed obtained farther north, where it was entirely free from the late rains last harvest. The result is that the wheat from this seed is plump, full and perfect, while the other is small, shrunken and stunted. It is a well settled fact that a vigorous growth cannot be obtained from seed in which the germ is once started, however slightly, in the previous season. Similar instances to the one above might be mentioned in Winona county, in which the fields of grain from different seed show the same significant difference in the yield. This cause, let it be emphatically repeated, is within the control of farmers, and merits their careful consideration."

The bulk of all fertile soils consists of three earths, to wit: silica, alumina, and lime. Unmixed with clay, sand or other organic and inorganic substances, lime consists of the oxide of the metallic element calcium, and as it enters into the composition of all plants, it necessarily occupies a large place in Nature's laboratory. Chemistry tells us that it has an affinity for water and carbonic acid; when applied to the land it absorbs water, forming hydrate of lime; this hydrate then absorbs carbonic acid, so that lime, although applied to the land in the caustic state, really exists, shortly after its application, in the form of carbonate, along with a little sulphate and phosphate, as previously mentioned. Lime has for a long time been used as a fertilizer; when land previously unworked is brought into cultivation, or when worn-out pasture land is broken up, lime is generally applied. It effects chiefly the vegetable matter contained in the soil, promoting its decomposition, and thus rendering it available as plant food.

In reply to queries upon this subject, the *Scientific Farmer* advises, as the flesh of most fruits contains much potash, as well as lime, in combination with the fruity acids and the seeds of phosphoric acid, the application each year per acre of from 200 to 250 pounds of bone-lust, 300 to 400 pounds of sulphate of potash—the latter guaranteed to contain 35 to 40 per cent. of sulphate of potash. This would give us 70 or 80 pounds of potash, 50 to 60 pounds of lime (from the bones), 10 to 20 pounds of nitrogen, and some magnesia in the potash and fertilizer. Such treatment has been found successful by fruit growers both in this country and Europe. We should apply broadcast in the fall to the surface, and leave it to the rains to incorporate with the soil, or at most only harrow the fertilizer in. A ton of dry, unleached wood ashes per acre would furnish nearly the same ingredients. The same amount of mineral phosphates as mentioned of bones, would furnish more phosphoric acid, but in a more insoluble condition.

Canadian Poultry at the Centennial.

Annexed will be found the full list of Canadian poultry prize-takers at the Centennial—the prizes being awarded by the Centennial Commission. It may be stated that the Ontario exhibit was one of which we may justly be proud.

In games Mr. Allen had the best lot ever shown on this continent, and they called forth many highly flattering remarks. In Hamburgs, both gold and pencilled, were the Black Spanish, W. C. Black Polish, Silver Polish, game bantams, Rouen ducks, Bremen geese. The white-crested black Polish, of Mr. Bogue, were far ahead of any competitors, and were justly admired, being probably the very best birds of their kind in existence. The silver-bearded Polish, of W. McNeil were also unexcelled there. The Asiatics were mostly from the yards of W. H. Thomas, and compared favourably with the American poultry. There were 150 pairs of poultry and 35 pairs of pigeons in all, and of this large number only one bird was lost; it died on the return journey.

Prize list:—

Silver medal to H. M. Thomas, Brooklin, for Partridge Cochins.

Do., D. Allen, Galt, black and red games.

Do., Duncan Kay, Galt, silver-pencilled Hamburgs.

Do., R. McMillan, Galt, gold-pencilled Hamburgs.

Do., John Bogue, London, W. C., black Polish.

Do., A. Terill, Wooler, Bremen geese.

Do., D. Allen, Rouen ducks.

Do., H. B. B. Alley, London, carrier pigeons.

Bronze Medal, D. Allen, brown-red games.

Do., D. Allen, yellow Dorking games.

Do., R. McMillan, Galt, gold-spangled Hamburgs.

Do., R. McMillan, Galt, black Spanish.

Do., D. Kay, Galt, black Spanish.

Do., John Bogue, London, silver-grey Dorkings.

Do., H. M. Thomas, Brooklin, La Fleche.

Do., Wm. McNeil, London, silver-bearded Polish.

Do., W. D. Dael, black-red game Bants.

Do., D. Allen, Galt, black-red game Bants.

Do., H. Cooper, Hamilton, silver Dorking Bants.

Do., W. M. Campbell, Brooklin, red pyle game Bants.

Do., D. Allen, Galt, black African Bants.

Do., D. Allen, Galt, Aylesbury ducks.

Do., H. Cooper, blue fantail pigeons.

Do., H. Cooper, white trumpeters.

Do., H. Cooper, red barbs.

The judges also recommended the exhibit of Mr. Allen, of Galt, for a gold medal for superior merit; and the exhibit of H. M. Thomas, of Brooklin, for an award for excellent merit.

Care of Poultry.

The care that poultry is entitled to, to make it profitable, says an exchange, is not near so much as one would think. It is just like any other business—it needs daily attention, not one day in a month, but each and every day. If you expect a cow to be profitable you attend to feeding her regularly, give her good, comfortable quarters to protect her from cold, storms, &c. Now the poultry should have equally as favourable treatment as any other stock. Construct houses, not too large, as you will permit too many to crowd together. They should be about eight feet wide, sixteen feet long, to accommodate each a flock of fifty fowls, fronting to the south, with large windows, so placed that the fowls may enjoy as much sunlight as possible. Have it perfectly tight and dry, excepting means for ample ventilation, without a possibility of a direct draft reaching the fowls at night while asleep, as easily as a person. Keep the roosting apartment clean; sprinkle a little air-slaked lime and dry ashes under the perch; have the house thoroughly whitewashed inside three or four times a year. See that they have free access to plenty of pure, fresh water at all times; don't force them to drink the drainage from the barn-yard; many cases of cholera have been caused by this. A few drops of sulphate of iron put in their drinking-vessels occasionally will be a benefit. Sprinkle the perches with coal oil, and scatter sulphur in their nests and dusting-boxes.

Many fowls die from severe colds received by roosting in exposed places. Of course, every fowl that dies, it is said, had the cholera, when probably half of them were affected in this way.

Simple Cure for Chicken Cholera.

EDITOR RURAL WORLD: Having read so many inquiries in your valuable and interesting paper, for a remedy for cholera in fowls, I will send you

mine, which you can publish if you think it worthy of notice: Scald as much cornmeal as is required to feed the number of fowls, with boiling water. Make it tolerably greasy with lard or meat fryings. If lard, salt in the same proportion as for bread. If salty grease, no salt is necessary. Black pepper, ground, a level teaspoonful to a pint of meal. Feed this twice a week, in the morning, warm, and chickens will not need any watching. They have neither cholera or gaps. Chickens, or turkeys either, should not be fed too often; twice a day in summer, if they are running out, and three times in winter, is often enough. Most people feed their fowls too much. My experience has been, that all fowls that die with cholera are excessively fat. S. J., Mexico, Mo.

VALUE OF POULTRY MANURE.—From actual experiment, we found that the droppings from four Brahmas, for one night, weighed, in one case, exactly one pound; and in another more than three-quarters, an average of nearly four ounces each bird. By drying, this was reduced to not quite 1 1/2 ounces. Other breeds make less; but allowing only 1 oz. per bird daily, of dry dung, fifty fowls will make, in their roosting house, alone about 10 cwt. per annum of the best manure in the world. Hence half an acre of poultry will make more than enough manure for an acre of land, 7 cwt. of guano being the usual quantity applied per acre, and poultry manure being even richer than guano in ammonia and fertilizing salts. No other stock will give an equal return in this way, and these figures demand careful attention from the large farmer. The manure, before using, should be mixed with twice its bulk of earth, and then allowed to stand in a heap covered with a few inches of earth, till decomposed throughout, when it makes the very best manure that can be had.—Illustrated Book of Poultry.

DRY EARTH FOR POULTRY HOUSES.—Dry pulverized soil (not sandy) has now come into general use in all large cities as a deodorizer, and can be used with great success in all large or small poultry houses. By care and attention, 300 or 400 fowls can be kept in one building without causing any unpleasant smell, if the droppings from the roosts are removed daily and the dry earth renewed weekly. Care must be taken that the earth is perfectly dry before using; it will then absorb all moisture and smell. We can recommend the use of dry earth as the best thing our breeders can use on the floors of their poultry houses.

The Story.

Minnie May's Fortune.

A dreamy, radiant afternoon in mid July, the clock pointing to the hour of four, the scent of newly-mown hay filling the air, and the crimson billows of the clover meadows rising and falling softly at the touch of the summer wind, and one brown-winged robin warbling his rouselay in the upper boughs that brushed the dining-room windows at Merton Farm—this was the scene Miss Tabitha Merton received, during the months of July and August, a few friends, who were allowed to share the expenses of the household. And, somehow, Miss Merton continued to subsist very comfortably for the rest of the year on the July and August contentment of her friends. Upon this glowing summer afternoon, when the cherries winked at you from behind their leafy veils, and the currants hung like ruby fringes on the bushes that lined the garden fence, Miss Merton was making custards in her kitchen. "Minnie," said Miss Merton, "Get me the nutmeg," said Miss Merton, "and don't stare about you so." "Yes, Aunt," said Minnie, presenting herself with the nutmeg grater in hand, and a fine pink color on her cheeks. "How old are you?" demanded Aunt Tabitha, transfixing her niece, so to speak, with the twin moons of her spectacles. "Seventeen, Aunt Tabitha." "You are a great deal too old to go trailing about the woods with Mr. Harcourt." Minnie grew pinker than ever. "I didn't trail about, Aunt Tabitha; I only walked as far as the Rowler Rocks to see the view, which he said was as fine as anything on the Rhine." "Fiddlesticks!" said Aunt Tabby. "Look here, Minnie, you mind your business, and let him mind his." "Yes, Aunt," said frightened Minnie. "Now mind what I say," persisted Miss Merton, grating savagely at the brown nutmeg. "Yes, Aunt," fluttered Minnie. And she went back to the tablecloth she was mending, and cried quietly over it, she didn't quite know why. And all this time Mr. Ernest Harcourt, the gentleman in question, was strolling homeward through the woods, with Adela Brownson leaning on his arm, while Mrs. Brownson, a portly matron in black gown and a Spanish scarf, was making believe to read a novel on the verandah, and, in reality, watching restlessly for Adela to make her tardy appearance. "It's too ridiculous for anything," said Mrs. Brownson to herself, impatiently brushing a fly off her book. "I believe Addy would flirt with a ploughboy, if she could find no one else. And the first thing she knows she'll be committing herself in some way or other. And Dr. Fenton's nephew

coming here in August too. It's outrageous, that's what it is." When Miss Adela at last emerged from the shadow of the woods, her broad gypsy hat trimmed with ferns and wild roses, her lips all wreathed with smiles, and Ernest Harcourt walking by her side, her lady mother received her with no particular graciousness of welcome. "I thought you were never coming!" snapped Mrs. Brownson. "We haven't been gone long, I'm sure," said Addy, innocently. "Not two hours," said Mr. Harcourt. "I should think," went on Mrs. Brownson, politely ignoring the young man's interpolation, "that you would know better than to go out on such a broiling day as this, and getting as brown as a berry." Adela laughed. She knew that a high color was becoming to her. "I shall cool off directly," said she, sinking gracefully upon a bamboo settee. "And in the meantime," said Ernest, who was one of those clear, dark brunettes whom no rise of temperature ever seems to affect, "I will go and get that volume of poems that we were talking about." Mrs. Brownson scarcely paused to hear the retreating ring of the young man's footsteps, before she opened all her verbal batteries upon her daughter. "Addy," cried she, wrathfully, "I am astonished at you!" "You're always being astonished at me, Mamma," pouted the young lady. "To spend your time flirting with a mere travelling photographer!" "It's so dull here," retorted Miss Brownson, "and one must do something." "Oh, yes!" scornfully spoke the matron. "But you'll find out presently, miss, that you're playing with edge tools. You will fall in love with him." "Mamma!" echoed Adela, contemptuously. "What do you take me for?" "Or he with you?" "That's a great deal more probable," interposed Miss Brownson, with a conscious toss of her head that set the ferns and roses to quivering. "And then," added indignant Mrs. Brownson, "what is to be the end of it?" "Yes, the end of it!" and Mrs. Brownson elevated her voice with some energy. "Well, you needn't shout," said calm Adela, placidly fanning herself. "The end of it will be that I shall amuse myself until Dr. Fenton's nephew appears on the scene, with his three hundred thousand pounds; and then—why, I shall go in for business." "Yes; but Adela—" "Mamma," angrily interrupted the daughter, "don't be a fool! Ernest Harcourt is very good-looking, and very agreeable, but I should no more think of marrying him than of allying myself to a chimney-sweep. Love in a cottage would never do for me. I have been expensively brought up; my tastes are luxurious. I must marry well." And all this little family discussion went on under the open casement of the second story apartment in which Mr. Ernest Harcourt was looking for the fugitive volume of poems. "A chimney sweep, eh?" muttered Mr. Harcourt, with a comical expression on his face. "And Dr. Fenton's rich nephew? I wish Miss Brownson joy of the wealthy match she has in contemplation—and I shall be most happy to make my bow and step aside." And he put the book back on the table. Yet with all the philosophy one can muster, it is not pleasant to wake suddenly to the fact that one has been made a plaything of; and Mr. Harcourt, in spite of the off-hand way in which he took the tidings, had a little sting yet smarting in his inner consciousness. As he went slowly down the back stairs a little sob reached his ears. It was Minnie, curled up in one corner, like a wounded kitten. "Why, Minnie, what's the matter?" kindly asked the travelling photographer. "I'm going away," sobbed Minnie. "I've broken Aunt Tabitha's best china tea-pot, and she says she won't have me in the house another day; and indeed—indeed it was cracked before." "Where are you going?" "I don't know," said Minnie. She looked so pretty and disconsolate, so like a rosebud that had been beaten down by the rain, that our hero paused in spite of himself. "But you have no home?" Minnie shook her head. "Then what is to become of you?" "I don't know," again uttered Minnie. "Minnie, look here!" Mr. Harcourt's heart, in its rebound, was very tender and susceptible. "I'll give you a home." "You, Mr. Harcourt? But you can't!" "But I can, if you consent to marry me," asserted the young man. "I?" "Yes, you." "But I am only Minnie," she persisted. "You are as beautiful as an angel, and as innocent as a white dove! Nay, do not shrink away, my little love. Answer me, yes or no. Will you give yourself to me?" "Oh, I love you so much, Mr. Ernest Harcourt—I love you so much." "Of course there were various criticisms when it was ascertained that Mr. Ernest Harcourt was actually married to blue-eyed Minnie May, the old maid's niece and drudge in general. "Tastes differ," said Miss Brownson, contemptuously. "What can you expect of those low-bred travelling tradesmen," said her mother. Just as the argument was waxing spirited, a carriage drove up, and a white-haired, patrician-looking old gentleman descended therefrom. "Dr. Fenton!" cried Aunt Tabitha. "My dear sir, I am delighted to see you here." "Many thanks, I'm sure," said the old gentleman, with the air of one who is accustomed to be made much of. "But, pray, don't trouble yourself. I've come to see my nephew." "Your nephew?" said the old lady blankly. "Is he staying in this part of the country?" "At this very house." "But there is no one of the name of Fenton here!" "Who said his name was Fenton? It's Harcourt—Ernest Harcourt. He's just got married, and I'm here to welcome his wife into the family." And the belle of the establishment realized with a strange, stunned sensation, that the match of the season had risen and set forever upon her matrimonial firmament.

Merry Santa C Now is With h Never Not a But a As he I Was S Now h Snaps All in Names Just o And h

MY DEAR years do jog soon be here like most other good old da know to be Christmas. almost all of minds fixed presents; s ing what while other ing what It is very who have p to purchase think those the giver a ceptible. I cle given th ness that p contriving not forget remember small the g thought of all for you vo'ume, ar

HURRA offers a be the best c number. which hav not exce awake; th of the pri

153.— am a piec ancient l 154.— sound; curtain a My fi struct; a vessel

Nucle Tom's Department.

Trouble Ahead.

Merry Christmas! girls and boys. Santa Claus, with team and toys, Now is starting on his way With his overladen sleigh; Never heeding cold or wetting, Not a single town forgetting, But a puzzled look he bears As he moves among his wares; And I doubt if ever yet Was Santa Claus in such a pet. Now he purses up his lips, Snaps his rosy finger tips; All in vain he scans his store, Names the children o'er and o'er; Just one boy deserves a switch, And he has forgotten which.

MY DEAR NEPHEWS AND NIECES.—How the years do jog along! The 25th of December will soon be here again, and my nephews and nieces, like most other folks, have a great fondness for that

good old date, which they know to be the time of Christmas. And probably almost all of you have your minds fixed upon Christmas presents; some are thinking what they will get, while others are considering what they will give. It is very easy for those who have plenty of money to purchase gifts, but we think those things made by the giver are the most acceptable. It is not the article given that is valued so much as the love and kindness that prompted the giving at all. While you are contriving some gifts for your young friends, do not forget the old folks; they like to feel they are remembered in the holiday times. Nomatter how small the gift is, it shows their happiness has been thought of. I must now conclude by thanking you all for your kind and never-tiring assistance to this volume, and wish you a merry, merry Christmas.

HURRAH! NEPHEWS AND NIECES.—Mr. Weld offers a beautiful chromo to the one who sends us the best collections of puzzles for our New Year's number. They must not be Theological, nor any which have appeared before. The number need not exceed six. Now, my little friends, be wide awake; there will be close competition. The name of the prize winner will be published.

152.—RIDDLE.

Two sisters on one day were born, Rosy and dewy as the morn; True as a sailor to his lass, Yet words between them often pass. At morn they part, but then at night They meet again and all is right; What seldom you in nymphs discover, They're both contented with one lover.

JAS. H. CROSS.

DECAPITATIONS.

153.—Whole I mean to chastise; behead and I am a piece of wood; behead again and I am an ancient king; curtail and I am a vowel.

J. E. LOVEKIN.

154.—Whole I am a prong; curtail and I am a sound; curtail again and I am an adverb; again curtail and I become a preposition.

E. E.

155.—DIAMOND PUZZLE.

My first a vowel; second, an insect; third, to instruct; fourth, an animal; fifth, a sluggard; sixth, a vessel; seventh, a consonant.

E. ELLIOTT.

156.—CROSS-WORD ENIGMA.

My first is in cat but not in dog, My second in shine but not in fog; My third is in roast but not in bake, My fourth in river but not in lake; My fifth is in stump but not in log, My sixth in mist but not in fog; My seventh is in mit but not in glove, My eighth is in hate but not in love; My ninth is in bells but not in chime, My whole is a very happy time.

V. S. MCCOLLUM.

157.—CROSS-WORD ENIGMA.

My first is in preaching but not in tales, My next is in boxes but not in bales; My third is in needle but not in pin, My fourth is in silence but not in din; My fifth is in Sarah but not in Jane, My sixth is in street but not in lane; My last is in year but not in month; My whole, if practised by all, The work of our judges much lighter would fall.

J. E. LOVEKIN.

158.—Whole, I am brittle mineral substance; behead me, I am a girl; again, I am an animal; once more, and behold two consonants.

159.—NUMERICAL ENIGMA.

I am composed of ten letters:

My 1, 2, 3 is to drink. My 3, 5, 2, 7 is a kind of fruit. My 4, 6, 9 is a useful article. My 1, 6, 10 is to place. My 7, 8, 9 is a sex. My 3, 2, 4 eats. My 10, 8, 9 is a number. My whole is seen in the FARMERS' ADVOCATE.

FRED NILES.

On sea I never ventured yet, nor into fields of buttle; But I'm the first in honor's cause, e'en when great guns do rattle. All human aid is used by me, mechanics' skill I favor, Machines and telegraphic wires, the hand with which you labor, I own all these, and many more; now put your brains in motion And try and find a name for me out of this wild commotion.

PUZZLE BOY.

164.—ANAGRAM.

Sit na odl daamm ni het sclohos taht faytelrta si eth dofs fo olfso tye wno dan ehnt uyro nme fo twi liwl odscoednen ot saett a tbi.

EDITH J. HEAD.

165.—HIDDEN FRUIT.

- 1. Stop, Lu, mother has prepared a lunch for us. 2. The ugly cur ran too fast to be caught. 3. Rolf, I grant your request. 4. Richard ate something that made him sick. 5. A do not care a snap, please your honor. 8. Give me a glass of water, Melony.

166.—HIDDEN COUNTIES.

- 1. Do not run or folks will think you a coward. 2. While the pastor preaches sexton Jones sleeps. 3. What a loss, O me! R set fire to the barn. 4. Is the skating rink entirely finished?

M. J. WARREN.



160.—GEOGRAPHICAL PUZZLE.

161.—ENIGMA.

Though banished from heaven and sentenced to hell, The world still contains me, and owns I excel; The virgin disdains me, and maids disapprove; But both must acknowledge I'm useful in love; To evil I'm known, and saintships all flout me; Yet angels and devils are nothing without me; To the wind I'm not useful, yet blow with the gale;

I'm nothing to women, yet much to female; Though far from a hero, and farther from brave, I scorn a base coward and still am a slave; I'm first as a lover, though nothing to kiss, Yet married and single owe to me their bliss; I'm cold to good nature, though gentle in whole; I'm hardened in malice, but gentle in whole; I'm nothing yet all, and all must confess, Without me they're nothing, and with me they're less.

162.—A GOOD OLD PROVERB.



163.—ENIGMA.

I'm always found at home, no matter when or where, In houses large, or harbors small, you'll find me always there; I am no kindred of the great, nor care I for the small; I visit not the parlor, but I'm always in the hall! In kitchens I can find a place, and there I'm quite at home; Of beauty I can't boast a bit, yet its no disgrace you'll own. In heaven I shall find some rest; in hope I take delight; I'm out all day, nor am I tired, but always in at night. With holy reverential care, in churches I am found; But visit not the grave-yard, nor consecrated ground. Inside the chests of merchants bold, you'll find me 'neath the lid, But I will shun the miser's gold, in fact I always did. Honest friends I dearly love, though I commit some havoc—I'm never in the soldier's cot, but in sailor's hammock.

Answers to November Puzzles.

Table with 4 columns: 134.—WRIST, ROVER, IVORY, SERFS, TRYST; 135.—BLEAT, LADLE, EDWIN, ALIVE, JENET; 136.—SNARE, NAVAL, AVOID, RAISE, ELDER; 137.—DAMAS, ALERT, MELEE, ARENA, STEAM

138.—Pulling hard against the stream. 139.—Up with the lark in the morning. 140.—Bear it like a man. 141.—Not for Joseph. 142.—Where there is a will there is a way. 143.—Box. 144.—Antrim, Aleppo, Rheims, Ouse, Naples.

145.—ICE, LATIN, OCTOBER, TIBER, MEN, R

146.—Mind your business. 147.—A shoe. 148.—That box 149.—Foxtail, oxtail, all, ale, la, a.

150.—Oh bid me not so soon decide, 'Twould grieve me much to part, I never can become your bride Till you have won my heart.

151.—Envy is a self-executioner.

Names of Those Who Have Sent Correct Answers to Puzzles in Nov. No.

E. Elliot, H. Piper, Minnie Learens, Mrs. Mary Ann Hepworth, Wm. Gorsline, Sarah J. Turner, John McCowan, A. J. Taylor, Arch. J. Goodall, Edith J. Head, William Broughton, Jas. Mattice, George Whiting, Alice Sherck, Minnie Hyde, J. E. Lovekin, Thomas J. Miller, Elizabeth A. Shier, Frank Smith, Wm. N. Snyder, Janet Davidson, Thomas M. Taylor, Edith H. Cutten, John G. Bobson, Thos. M. Taylor, Jas. H. Cross, Frederic H. Bell, Minnie Morris, A. FitzGibbon, J. Winlow, Stephen Glover, Louie Hairbrother, Fred. James, Wm. Gould, Sarah London, Jane Marshall, Eliza Cook, L. Sifton, J. Chambers, Charlotte Smith, J. Johnson, Thos. Jones, L. Jarvis, Frank Heat, Saml. Hunt, J. Pierce, Eleanor West, Corbin North, Sarah J. Sharp.

Arch. J. Goodall, Edith Head, and William Broughton, sent in the tree first answers to puzzles—pictorial rebuses.

HUMOROUS.

A husband having arrayed himself elaborately with gaiters, game-bag, and gun, accompanied by his faithful dog, goes forth to hunt, but shoots nothing. Unwilling to return empty-handed to the house, he stops at the market and buys a hare, which he presents to his wife. The hare was terribly high—not alone in price. "Ah!" said his wife with a snuff, "so you killed it. You were right. It was high time."

A beautiful answer was given by a little Scotch girl. When her class at school was examined, she replied to the question, "What is patience?" "Wait a wee, and dimma weary."

Minnie May's Department.

Christmas!

WITH THE GOOD THINGS OF THE SEASON.

What, Father Christmas, here again,
With good things on your back,
With mighty store of welcome gifts,
Well stuffed with your pack!
Hail, cheerer! blessed be your face,
You king of frost and cold;
For notwithstanding all your beard,
You're only twelve months old.

Spring, with its bursting emerald leaves,
And Flora's promised store,
With feather'd songsters warbling notes,
Say, what could charm you more?
Why, Christmas, with his frost and snow,
Much choicer gifts he sends;
For can your songs and flowers compare
With hosts of loving friends?

Summer may come with all its warmth,
And earth's rich produce fill,
Or tempt us with its purple fruit,
But I love Christmas still.
He turns the heart from feud and gall,
And drowns the last year's strife;
The shattered circle joins again,
That should endure for life.

Rich autumn comes with blushing fruit,
With promises rare fulfilled;
We welcome it with boisterous mirth,
We reap where we have tilled.
Thus these three seasons but provide,
For Christmas each one sends,
That he may spread the store about,
And welcome all his friends.

When winter comes with glistening robes,
And shudders at itself,
Its breath is fog, its touch is ice,
A melancholy elf.
But Christmas brings the brave yule log,
The laugh, the song, the jest;
Then parts his robes, and there you see
The friends that you love best.

He brings that figure fair that stands
With modest, downcast eyes,
Who is, and is not, like a dream,
And scrutiny defies.
Ah! by the hiding of her serip,
'Tis charity I see,
Who doing good by stealth alone,
True charity can be.

ALFRED CROWQUILL.

MY DEAR NIECES.—As Christmas approaches, and our thoughts run ahead to preparations for the pleasure of our own beloved families, let us see how comfortable we can make everything around us for the happiness of those who will join us in that glorious time. Let us try and get through with the principal part of our sewing and knitting "by that time;" also, to have our Christmas cheer in readiness, it is not too soon to make our plum pudding and cakes, as age improves them both. We can also make our mince-meat; it will keep for a length of time. Dear nieces, by exercising our power of forethought we can manage to have a little spare time for enjoyment with our brothers, sisters, and friends—some who, perhaps, can only spend a few days at home during their vacation. Come, nieces, let us be up and doing, and we will accomplish a great deal. And now to you all, wherever our paper may find you, I send you a merry Christmas greeting. May your Christmas tree be loaded with joyous fruit, and your hearts filled with thankfulness to Him who gives us every good gift.

MINNIE MAY.

DEAR MINNIE MAY.—It is a long time since your niece, L. Sifton, has had an opportunity of sending any receipts to you. I have noticed a great many good receipts; although not being engaged in cooking of late, have not had the pleasure of trying them. I take pleasure in offering Mamma's receipt for making beef sausage and turkey stuffing, as the plentiful season for those good things is again with us.

STUFFING FOR A TURKEY.

Crumble fine about a half of a loaf of stale bread; add a quarter of a pound of butter, a tablespoonful of thyme and sweet marjoram, or parsley, one grated nutmeg, and a teaspoonful of pepper and salt; mix all thoroughly together with one beaten egg and a little sweet milk.

BEEF SAUSAGES.

Take a pound of lean beef and a half a pound of suet chop, very fine, and season highly with mixed spices, add salt and pepper, make into round flat cakes about an inch thick and fry them a light brown; or they may be rolled in puff or pie paste and baked.

FRENCH POLISH FOR BOOTS AND SHOES.

Mix together two pints of best vinegar and one pint of soft water, stir into a quarter of a pound of

glue broken up, half a pound of logwood chips, a quarter of an ounce of finely powdered indigo, a quarter of an ounce of the best soft soap, and a quarter of an ounce of isinglass. Put the mixture over the fire and let it boil for fifteen minutes; then strain the liquid and bottle and cork it, when cold it is fit for use. Apply with a sponge.

LEMON CAKE.

One cup of sugar, one of flour, four eggs and a piece of butter the size of an egg, one teaspoonful cream tartar, half teaspoonful soda, beat eggs separate, bake in layers. For jelly, grate the peel of one lemon with the juice, beat with two small eggs, one cup of sugar, butter, the size of a walnut; stir over a fire till it boils.

BREAD AND APPLE PUDDING.

Butter an earthen or tin pudding dish, and place in it alternate layers of bread crumbs and thinly sliced apples, over which sugar should be sprinkled, that is sugar should be sprinkled over each layer of apples; when the dish is filled let the last or top layer be of bread crumbs, over which two or three tablespoonfuls of melted butter should be poured. Bake in a moderately hot oven.

MINCE MEAT.

Take seven pounds of currants, of finely chopped beef suet, the lean of a sirloin of beef, minced raw and finely chopped apples, (Kentish or golden pippens) each three and a half pounds, citron, lemon, and orange peel cut small, each half a pound, fine moist sugar two pounds, mixed spice one ounce, the rind of four oranges and lemons, mix well and put in a deep jar. Mix a bottle of brandy and white wine, the juice of lemons and oranges that have been grated together in a basin pour half over and press down tight with the hand, then add the other half and cover closely. Some families make this one year so as to use the next.

MOUNTAIN BREAD.

Two pounds of flour, with a quarter of a pound of butter and the same of lard rubbed through it, add a little salt, mix with a pint of sour milk, and stir through it a teaspoonful of soda, roll out very thin, bake on tins, mark it with a knife, and break in squares. Serve hot.

HOUSE GIRL.

MY DEAR MINNIE MAY.—Being a constant reader of your worthy department, and not having observed a receipt for frosting, I take pleasure in contributing mine, which may be of use to some of your readers who will undoubtedly be making their Christmas cakes, as merry old Xmas will soon be with us.

NEICE LIZZIE.

FROSTING.

Beat up the whites of five eggs to a froth, and put to them a pound of double refined sugar, powdered and sifted, and three spoonfuls of orange flower water or lemon juice. Keep beating it all the time the cake is in the oven, and the moment it comes out ice over the top with a spoon. A nice way to trim it is to take a square of thick writing paper, form in a cornucopia, fill with frosting, and squeeze so that it comes out at the small end, you form a vine around the edge of the cake, bunches of grapes, mottoes, and many devices. The frosting must be stiff beat sugar and whites together, add a little corn starch to make it whiter.

TO RAISE THE PILE OF VELVET WHEN PRESSED DOWN.

Cover a hot smoothing-iron with a wet cloth, and hold the velvet firmly over it. The vapour arising will raise the pile of the velvet, with the assistance of a little whisk.

TO SALT BEEF.

For a piece of beef of eight pounds, rub well in half an ounce of saltpetre and half a pound of salt; strew over the top two ounces of brown sugar; turn and rub the meat every day with the pickle. Ten days will be sufficient to salt it in. When it is to be cooked, put in warm water and allow it to simmer for two hours.

GOOSE OR DUCK STUFFING.

Take four ounces of stale bread, crumble fine; one onion, a spoonful of pulverized sage, a teaspoonful of pepper, a little salt, and butter about the size of an egg. Some add minced apple. MYRA.

ENGLISH PUDDING.

One cup of chopped suet, one cup of chopped raisins, one cup of molasses, one cup of sweet milk, five cups of flour, one teaspoonful of soda. Steam three hours.

SAUCE FOR DRESSING.

Two eggs, $\frac{1}{2}$ cup of sugar, butter the size of an egg, 4 table-spoonfuls of boiling water. Flavor with wine or brandy.

TO "FARMER'S WIFE."—LEMON PIE WITHOUT EGGS.

Roll or bruise two lemons until the juice will squeeze from them. Then strip off the rind and shred the remainder of the lemons, casting out the seeds. Grate one-half of the rind of one lemon and mix with one cup of sugar and one of molasses. Beat three table-spoonfuls of flour and one of melted butter into the mixture, and bake as custards. Light bread crumbs may be added instead of flour.

OUR MORNING MEAL.

Breakfast should be the most enlivening meal of the whole day, for then we are nerved for another day's duties and cares, and perhaps for great sorrows also. Let there be no exciting argument from which personalities may crop up around the breakfast-table. Let there be only pleasant topics and affectionate salutations, that all may go forth their separate ways with sweet, peaceful memories of each other; for some foot may never again cross the family threshold, some eye never witness another day's dawning. This thought, if the busy world were not so clamorous as to stifle it, would often arrest the impatient, fretful words that pain so many hearts.

GOOD MANNERS.

Every household should cultivate good manners. They are indispensable even to the young; a childish, rude deportment bespeaks a low unfeeling mind; no position, wealth, or education can make amends for it. Good manners are attractive and winning, and should be carefully observed in every family circle.

Parents should never indulge themselves in careless manners or coarse language, much less to their children or domestics. The feelings of those in inferior stations should be regarded as well as those of the highest. The smile, the pleasant tone, and the courteous bow, is quite as highly appreciated at home as abroad.

If we wish a free and easy code of manners, we must cultivate them at home, by being courteous and polite to those who surround us, and we will not only add to the happiness of those we love, but be at ease in society.

LAUGHTER.

This often shows the bright side of a man. It brings out his happier nature, and shows of what sort of stuff he is made. Somehow we feel as if we never thoroughly know a man until we hear him laugh. We do not feel "at home" with him till then. We do not mean a mere snigger, but a good, hearty, round laugh. The solemn, sober visage, like a Sunday dress, tells nothing of the real man. He may be very silly or very profound, very cross or very jolly. Let us hear him laugh, and we can decipher him at once, and tell how his heart beats.

Col. Sanford's Lecture.

As many of my nephews and nieces live on farms more remote from the city than I do, they cannot enjoy the many privileges that those have in one. We recently heard a good lecture delivered by Colonel Sanford, an American officer, who was engaged by the Y. M. C. A. of London, and think a brief outline of some parts of the lecture will interest some of you.

Colonel Sanford has travelled around the world two or three times, and has been in nearly every country. His mother died when he was quite young, and having a step mother who he could not agree with, was obliged to travel.

The chief topics of his discussion were China and Japan. He went to the latter country with missionaries, mechanics and engineers, many of whom were in high glee in regard to the instruction they were to impart to those "benighted" people, but on arriving there the mechanics had much to learn from the Japs. They have a Suspension Bridge that was built four hundred years ago, of a far greater span and height than our Suspension Bridge across the Niagara River. In building a house they put on the roof first, just contrary to our mode of procedure. In sawing and planing they draw the wood over the tools. The honor and honesty of the Japanese were found higher than that of our country. Debt and paper money were unknown previous to their introduction by Europeans and Americans. Now they have both, much to the injury of the country. The magnificence of the Temple of Sheba can hardly be described.

It cost about 100,000 dollars to build the house it is imperishable. The last have their teeth prostrate them earth and then that he had seen at one time.

The Great Wall of China is fifteen hundred feet high, and reaches to the age of the wall the Chinese of the thousand. It was a marble wall, and the spirits were kept. The death, and the spirits were supposed to be in him never killed. He saw 26 heads many minutes of this lecturer country. Murders and other countries a minister a mince to now leave do not much heads, but introduced ther our land some land kites? H The Col when twer

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Patrons of Husbandry.

Meeting of the Executive Committee, Dominion Grange.

At the last meeting of the Executive Committee of the Dominion Grange, held in Toronto, commencing Nov. 15th, some important business was transacted which will be looked upon with interest by many, and, we trust, will meet with the approval and hearty support of all our members everywhere. The secretary was instructed to advertise the application for incorporation of the Dominion Grange, which application will be made at the next session of the Dominion Parliament. The advertisement was made a year ago, but the matter was not then proceeded with, in consequence of its not being considered at the time prudent to do so, for reasons that will be understood by our Patrons. It will, however, now be forwarded, and we have no hesitation in believing will meet with success; being a society of farmers associated together for the purpose of advancing the cause of agriculture, to dignify the calling, to elevate and improve the standing and condition of the farming community, and place their profession among the first, in a social and intellectual, as well as financial standing. There can certainly be no objection to granting the Act of Incorporation, which will place us in a better position before the world, besides giving us the legal right to transact the business affairs of the Order, which will be of much advantage to us.

The Committee on Insurance appointed at the last annual meeting having completed their scheme for conducting a fire insurance company under the auspices of the Dominion Grange, presented their report, which, after some slight revisions, was adopted, and the committee instructed to proceed with the organization of the company, in the manner, and according to the Act governing mutual insurance companies in Ontario. While this will at first only give us the privilege of doing business in Ontario, further steps will be taken upon the completion of the organization to extend it to the other Provinces; thus placing before our members a means of protection against loss by fire, which will be safe, reliable and cheap, securing protection at its true value.

The association will only insure property belonging to "Patrons of Husbandry," and confined to buildings and property situated on farming lands; which will secure a class of property the least liable to fires. The plan adopted, while being purely mutual, will require a small cash deposit with the application, in proportion to the amount insured, which deposit will be placed in some chartered bank on interest, to be used only (or such portions of it) as required for actual losses, the balance remaining on interest to the credit of the insurer, and be payable to him at the close of his term of insurance. This plan will give the association control of cash to meet losses as they occur, and save the vast expense of labor, postage, &c., connected with collecting so many small amounts by the usual mode of assessment.

By adapting our present organized condition to the situation, thus doing away with some of the heaviest expenses generally connected with insurance companies, and paying for the risk in cash, enabling sufferers to be paid promptly on adjustment of claims, we believe will be placing before our members a means for insurance that will meet with their hearty approval, as offering the best possible protection at its true value. It is therefore hoped that every member (in a position to do so) will take hold of the matter and help to make the association a strong one, and to reach a grand result in this direction. W. PEMBERTON PAGE, Dom. Secretary.

New Granges.

531, Avonmore—John McLaughlin, M., Avonmore; D. McDermaid, S., Avonmore. 532, Cameron—Thos. Blezard, M., Villiers; J. H. Cameron, S., Peterborough. 533, Rochester—John Smith, M., Comber; George Smith, S., Comber. 534, Selwyn—E. J. Bell, M., Selwyn; W. C. Manning, S., Selwyn.

Corrected List of Deputies.

Division Grange No. 2—A. Clifford should be A. Gifford. Division Grange No. 4—T. Connel should be T. Conely. Division Grange No. 7—J. S. Varcow should be J. S. Varcow. Division Grange No. 9—S. Duncan should be J. Duncan. Division Grange No. 12—John Levi should be John Livie. Division Grange No. 14—J. D. Gould should be J. I. Gould. Division Grange No. 20—R. Dixon, Ninesing, P. O. Division Grange No. 22—E. J. Palmer, New Durham. Waterloo Grange No. 29—Robert Williamson, Preston; James Willson, Galt. Prince Edward Co.—J. A. Spencer, Rednersville.

Prizes Awarded to Canadians.

The following prizes were awarded by the Centennial Commission for agricultural machines, implements of agriculture, &c.—

David Maxwell, Paris, Ont., Power Chaff Cutter. Massey Manufacturing Co., Sharpe's Patent Dumping Horse Rake. L. D. Sawyer & Co., Hamilton, Ont., Mowers and Reapers. Peter Grant, Clinton, Ont., Hay Fork and Conveyer. Thomas Yeandle, Stratford, Ont., Single Plow. Munroe & Agar, Seaford, Ont., Common Plow. C. Duperrow, Stratford, Ont., Iron Diagonal Harrow. Acton Ploughing Co., Acton, Ont., General Purpose Plow. Thomas Wilson, —, Ont., Fanning Mill. Clegg, Wood & Co., Horse Rake.

Hogart Bros., Brampton, Ont., Threshing Machines and Horse Gear. Jacob Bricker, Waterloo, Ont., Little Champion Thresher. John Abel, Woodbridge, Ont., Portable Engine and Threshing Machine. Rowland Dennis, London, Ont., Combined Potato Digger and Ridging Plow. John Watson, Ayr, Ont., Collection of Agricultural Implements.

G. Wilkinson, Aurora, Ont., Double Plow. John Abel, Woodbridge, Ont., Portable Engine and Threshing Machine. A. Anderson, London, Ont., Hand Chaff Cutters. Geo. Sylvester Tiffany, London, Ont., Brick and Tile-Making Machine.

As we go to press, we have been favored by Mr. John Watson, of Ayr, with a pamphlet containing the most complete list we have yet seen of the Centennial awards. Our representatives should have forwarded the list to this office ere this. Mr. Watson will accept thanks for his advance information. We have not space left to list in this issue.

The "Offer" is worth the price of the *ADVOCATE*; by all means get it. The portrait is only given to old subscribers that send in one new one. See first page.

Anderson's Straw Cutter.

We saw this implement at the Centennial Exhibition. It was cutting straw and hay in the presence of a lot of admiring spectators. It did its work efficiently and well. It is made on a new principle, cutting the straw diagonally instead of straight across. The machine is easily worked, and will cut a lot of feed in quick time. It is for hand use. The knife blade is waved, and appears to cut better than the straight edge. The implement is very cheap, costing only \$7. The sales made at the Centennial Exhibition may show in what estimation it is held. The total number sold there were 3204, of which 410 went to Australia, and 217 to Stockholm; Mr. W. Wilkes, of Wellington, New Zealand, purchased 162; 88 went to Brazil, 42 to Newfoundland; 26 to Donald Smith, Hudson's Bay. Some were sent to Buenos Ayres, Valparaiso, Rio Janeiro and other places. Messrs. Manville and Brown are the agents for it in this city. Their advertisement appears in this issue.

To persons wishing to purchase or dispose of land, we would direct their attention to the advertisement of Mr. G. B. Harris & Co. and Mr. Thomas Churcher, of this city. They are reliable gentlemen with whom we are personally acquainted; they will act honorably with you, and furnish you with the most reliable information in regard to lands and property.

We must request some of our exchanges, when they do us the favor of transferring to their columns articles from the *FARMER'S ADVOCATE*, to give us due credit. The omission, we are aware, is often from inattention more than design, and needs only to be referred to to prevent its recurrence.

Col. J. B. Taylor, of London, Ont., purchased from H. P. Thompson, Ky., Princess of the Valley for \$2,450. The Hon. H. M. Cochrane, of Compton, P. Q., purchased 2nd Princess of the Valley for \$2,500. There were only two animals that brought higher prices at the recent Kentucky sales.

If you wish a prize, say if it is to be the very fine picture "The Offer," or if you prefer new seed or new plants.

If you are wanting to procure first-class Shorthorns, see Col. Taylor's advertisement in this paper.

The annual meeting of the American Breeders of Shorthorns will be held this year at St. Louis, Mo., on the 6th December, when the election of new officers will take place, and some changes in the constitution will be introduced. Headquarters at the Southern Hotel.

Mr. Levi Jones, of Markham, is prepared to locate lands for settlers in Thunder Bay, and Mr. A. Young, of Toronto, will furnish information in regard to land in Manitoba.

A prize will be given for the best article on Artificial Manure, written from practical experience by a Canadian farmer, the article to be in by the 20th of the month.

Rennie's Root Show.

Mr. W. Rennie, of Toronto, has established an annual Root Show; the plan is a good one, and might be extended to other localities. The awards for 1876 were as follows for six roots of each variety.

Rennie's Prize Swede Turnip.—1st prize, cash \$5, Wm. Burgess, Etibicoke township (weight of root, 126 lbs.); 2nd, cash \$3, Francis Peck, Amliaburg township, Prince Edward county.

Long Red Mangel Wurzel.—1st prize, cash \$5, Simpson Rennie, Scarborough township (weight of root, 169½ lbs.); 2nd, cash \$3, William Burgess, (weight of root, 168 lbs.).

Yellow Globe Mangel Wurzel.—1st prize, cash \$5, Wm. Burgess (weight of root, 211 lbs.); 2nd, cash \$3, S. Rennie.

White Belgian Carrot.—1st prize, cash \$5, Wm. Burgess (weight of root, 37½ lbs.); 2nd, cash \$3, John Mills.

Long Red Carrot.—1st prize, cash \$5, John Mills (weight of root, 27 lbs.); 2nd, cash \$3, Wm. Burgess (weight of root, 25 lbs.).

Sweepstakes for the heaviest collection, a handsome gold medal valued at \$25, won by Wm. Burgess (total weight of collection, 567½ lbs.). All the roots on exhibition were cleaned and trimmed.

Mr. Burgess showed six roots of each, grown from seed supplied by Mr. Rennie, weighing as follows: White sugar beet, 149½ lbs.; parsnips, 28 lbs.; long mangel wurzels, 144 lbs.; red globe mangel wurzel, 157½ lbs.

The judges were Messrs. James Speight, President East Riding of York; Robert Marsh, President Markham; and Philip Armstrong, Toronto. Subsequently the judges and exhibitors were entertained by Mr. William Rennie at dinner.

FRANK MILLER'S HARNESS OIL received the highest and only award at the Centennial Exhibition. DL-3

GREGORY'S SEED CATALOGUE.—Our readers will find the catalogue of J. J. H. Gregory's well known house advertised in our columns. For freshness and reliability of the seed sent out and enterprise in introducing choice new vegetables to the public, Mr. Gregory is endorsed by the prominent agriculturists of the United States; as recommendations from over forty states and territories, to be found on the cover of his catalogue, amply attest. DL-1

PERSONAL.—E. M. Freshman & Bros., the well known advertising agents, of Cincinnati, Ohio, have opened a branch establishment in Pittsburg, Pa. This indication of increased business will be very gratifying to their numerous patrons and friends. They are prompt, honorable and pushing business men, and well entitled to their great measure of success. We can cordially recommend them to advertisers, and trust their new venture will prove eminently successful.

EDUCATIONAL.—Mr. N. CURRY, late manager of the Komoka Seminary, is now manager of the London Commercial College in this city. He is an energetic instructor, and gives his personal attention to his pupils. Farmers sons desirous of obtaining a knowledge of actual business would find their time and money beneficially expended by taking a course under him.

FRANK MILLER'S LEATHER PRESERVATIVE and Water Proof Blacking received the highest and only award at the Centennial Exhibition. DL-3

Commercial.

ENGLISH MARKETS.

The grain trade has been very dull; prices having tended still lower as the hopes of continued peace have increased. There have also been larger arrivals, and the trade has continued very quiet. From the *Economist* of the 11th we learn that this dullness has prevailed throughout the markets of the Kingdom, and prices have further given way. From 47s. to 51s. were the ruling figures.

Liverpool, Nov. 25.—Flour, 23s. to 25s.; red wheat, 9s. 2d. to 10s.; red winter, 9s. 8d. to 10s.; white, 10s. to 10s. 6d.; club, 10s. 6d. to 10s. 9d.; corn, 25s. 9d. to 26s.; barley, 3s. 6d.; oats, 3s. to 3s. 6d.; peas, 30s. 6d.; cheese, 63s.

NEW YORK MARKETS.

Wheat, \$1.20 to \$1.40; corn, 58c. to 60c.; oats, 33c. to 51c.; pork, \$16.75; butter, 20c. to 25c.

DETROIT MARKETS.

Flour, \$6.25 to \$6.75; wheat, \$1.21 to \$1.33; corn, 55c.; oats, No. 2, at 31c.

MONTREAL MARKETS.

Flour, \$5.55 to \$5.60; middlings, \$3.50.

TORONTO MARKETS.

Wheat, \$1.05 to \$1.20; barley, 60c. to 75c.; oats, 45c. to 47c.; peas, 72c. to 75c.; butter, 18c. to 25c.; potatoes, 75c. to 85c.; apples, \$1.25 to \$2.00; hay, \$9 to \$15; cheese, \$61 per 100 lbs.

LONDON MARKETS.

Deild, \$1.90 to \$2.00; Treadwell, \$1.75 to \$1.95; red winter, \$1.75 to \$1.85; spring, \$1.75 to \$1.95; barley 80c. to \$1.30; peas, \$1.15 to \$1.18; oats, \$1.15 to \$1.18; corn, \$1.00 to \$1.10; beans, \$1.00 to \$1.37; rye, \$1.00 to \$1.10; buckwheat, 80c. to \$1.00; roll better, 20c. to 24c.; keg do, 17c. to 22c.; cheese, 9c. to 10c.; fleece wool, 27c. to 28c.; hay, \$8 to \$10; straw, per load, \$2 to \$4; potatoes, per bag, 70c. to 90c.; turnips, 25c. per bush; cordwood, \$3.50 to \$5.00.

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