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CANADIAN BREEDER

and
AGRICULTURAL REVIEW.

Vol. II.

TORONTO, DECEMBER 24, 1885.

No. 50.

THE CANADIAN BREEDER AND AGRICULTURAL REVIEW.

Weekly Paper, published in the Stock and Farming interests of
Canada.

SUBSCRIPTION, - - \$2.00 per Annum.

ADVERTISING RATES.

Per line, each insertion, 10 cents.
(Nonpareil measurement, 12 lines to one inch.)
Breeder's cards, five-line space, \$20.00 per annum; each additional
line, \$5.00 per annum.

Condensed advertisements under classified headings, one cent per
word, each insertion, for which cash must accompany order, as accounts
will not be opened for them.

Contract rates on application.

All communications to be addressed to

CANADIAN BREEDER,

COR. CHURCH AND FRONT STS.,
TORONTO.

S. BEATTY, MANAGER.

TORONTO, THURSDAY, DECEMBER 24TH, 1885.

Advertisements of an objectionable or questionable
character will not be received for insertion in this
paper.

THIS PAPER may be found on file at Geo. P. Rowell &
Co's Newspaper Advertising Bureau, 10 Spruce
Street, where advertising contracts may be made
for it in **NEW YORK.**

N. W. AYER & SON, Times Building, Phila-
delphia, are agents for this paper. Files may be
seen and contracts made at their office.

The CANADIAN BREEDER is represented in
Liverpool, England, by Mr. J. F. Reid, Chapel
Walks, where contracts for advertising may be
made and subscriptions sent.

PARTNERSHIP.

Messrs. H. Sorby, of Gourock, Ont., and Wil-
liam McCrae, of Guelph, have formed a partnership
for the purpose of importing and breeding live
stock. Alton Hall Stock Farm, Gourock P.O.,
Ont., is the address of the new firm.

A few head of Galloways belonging to this firm
were saved from the steamship Brooklyn and are
now quarantined at Quebec; they have since bought
Thos. McCrae's herd of Galloways, numbering
thirty-three head. Sorby & McCrae will be found
energetic and reliable people to deal with.

PACING FAMILIES.

The (Indianapolis) *Western Sportsman* takes us
to task in a very moderate and sensible fashion for
questioning the existence of pacing families, and at
the same time appears inclined to accuse us of
being a "crank" on the subject of running blood
in the trotter, while he for his part appears inclined
to the belief that it would not hurt a horse intended
for a fast trotter to have pacing, trotting, and run-
ning blood judiciously co-mingled in his veins.

Now, before we begin a defence of our theory
regarding "pacing families," we shall endeavor to
set ourselves right with our excellent contemporary
on the question of what should constitute the pedi-
gree of a trotter. We are not now and never were
in the habit of looking for the *ne plus ultra* of
trotting excellence from a purely running parentage,
but we have always contended that, in order to
breed a speedy trotter that would have the courage
and stamina to stay out a race of broken heats, a
certain amount of running blood would be highly
desirable. Just how much running blood would be
necessary for the purpose, and how much running
blood a trotting horse can carry with perfect safety
we would not pretend to determine. If it were the
blood of that grand old thoroughbred, imported
Messenger, we might incline to the belief that a
trotter would hardly have too much of it. "But,"
says the line-breeding theorist, "Messenger blood
is trotting blood." So it is when it comes through
the Hambletonian, Mambrino or Abdallah fami-
lies, but through Miller's Damsel Messenger blood
tells a different story. How much farther removed
from imported Messenger is Longfellow than half
the popular trotting stallions of to-day—Long-
fellow—Nantura—Brawner's Eclipse—American
Eclipse—Miller's Damsel—imported Messenger?
In estimating the amount of running blood in a
trotter, the line-breeding theorists include only the
crosses of race-horse blood that have been added
to the warm blood inherited from Old Messenger.
Our position is that it is only by continuing to take
in fresh infusions of warm blood that we can keep
up the proportion that courses through the veins
of such animals as Maud S., Jay-Eye-See, or Cling-
stone. We have no quarrel with trotting blood,
pure and simple, or with pacing blood, if it exists

outside of trotting families, but we contend that in
every trotting pedigree we look for more or less of
the blood of the race-horse to give courage, stamina
and speedy conformation.

But now as to the question of "pacing families,"
if they have an existence sufficiently marked to
entitle them to recognition. Our contemporary
alluded to says:—

"As to the Narragansett pacer their history may
or may not be 'purely mythical,' and whether there
ever was a 'pacing family in Canada' or not we
cannot say from personal observation, but we do
know that Canada furnished the founders of more
than one pacing family in the United States, and if
the editor of the CANADIAN BREEDER will come to
Indiana we promise to convince him beyond the
possibility of a doubt that there are pacing families
now in existence, and that pacing is NOT 'anything
but an inherited gift.' But as he may not have the
time or inclination to visit Hoosierdom we will give
him a few facts in support of our assertion.

"About 1812 Capt. Jowett, Solomon Law and
Jessie Win imported from Canada to Kentucky a
pacing horse called Copperbottom, and his colts
out of thoroughbred and common mares were gen-
erally pacers and saddlers. Among his get were
the trotting stallions Brutus and Hoskin's Cop-
perbottom, both pacers. Brutus got Fenwick's Cop-
perbottom, and he got Benton's Copperbottom, the
sire of a roan pacing stallion that was brought to Indi-
ana about 1830, and called Noah Day's Copperbot-
tom. The last named horse was kept for several years
in Putnam, Hendricks and Morgan counties as a stock
horse, where he left a large number of colts, nearly
all of which were pacers. Prominent among his
colts that were kept entire were Red Buck and Ben
Snatcher, and these two stood in the same region
of country for many seasons, their get out of all sorts
of mares being almost universally pacers. Red
Buck got Stone's Red Buck, Hymer's Buck, Chad's
Buck, Bald Hornet, Hale's Buck and Saddling
Buck, all pacing stallions, and the sires of pacers.
Ben Snatcher got Ben Snatcher, Jr., the sire of
Rowdy Boy and many other fast pacers. It would
require too much space to mention even the fas-
t *side-wheelers* that have descended from the old Day
Copperbottom, but we assert without fear of con-
tradiction that four-fifths of his immediate get and

the get of his male descendants up to the present day were and are natural pacers, especially those out of pacing dams.

"Now, if this does not constitute a Pacing Family, we do not understand the definition of the term. True, a natural trotter was occasionally got by a Red Buck, though all the members of the family that ever showed any trotting speed were converted pacers. But Hambletonians have sired a few pacers, yet they are denominated a trotting family."

If this sort of thing establishes the proof of the existence of pacing families to the satisfaction of the *Western Sportsman*, all we have to say is that he is easily satisfied. It would not be hard to trace two or three generations of pacers to any trotting stallion that ever became even locally famous. Copperbottom, himself a pacer, got colts that were generally pacers. This was in 1812, and as pacing has always been regarded as an eccentric gait, it is safe to say that had one colt out of every five got by Copperbottom turned out a pacer, or even broken gated, that those who talked about him in after years would have been quite sincere in the belief that his colts were "generally pacers." Later on some of the pacing sons of Copperbottom sired some other pacers, and these other pacers again, but there is no record furnished of a family that produced pacers with any degree of certainty. We do not dispute that pacers will sometimes sire pacers, and so will trotting stallions for that matter, but if a pacing colt would bring a hundred dollars, and a trotter would not sell for dog feed, the man who tried to breed pacers for a living from any of these so-called pacing families would soon go broke.

And again: "Still another importation from Canada, Old Pilot, sowed the seed for an army of pacers. He was the sire of Tom Crowder, foaled 1836, bred by Wm. S. Skinner, of Bourbon County, Ky., and he in turn got Tom Wonder, Long Tom Crowder, Gosnell's Tom Crowder, Brown's Tom Crowder (the sire of Jamison's Tom Crowder), a Tom Crowder that died our property two years ago at the age of thirty-one years, and several other stallions of the same name, all of which were pacers and sires of pacers. Their descendants for several generations are scattered all over the West, the majority of them 'born a pacing.' If the natural gait of a strain of horses determines their right to a 'family' name what shall we call the Crowders?"

"The Tom Hals, too, must not be overlooked. Away back close to 1800, Dr. Boswell brought to Kentucky from Philadelphia a pacing stallion bred in Canada and called Tom Hal. He sired Kittrel Hal, that was taken to Tennessee, where he got Tom Hal (the sire of Brown Jug), Brown Hal, Gen. Hardee (sire of Thunder, 2:22, and George Gordon, 2:27; sire of Nettle Kernan, 2:22)—all pacers and sires of pacers. Then this same Philadelphia Tom Hal was the progenitor of several other stallions of his name in Kentucky, one of which found his way to Indiana, where he was known as Shawhan's Tom Hal, and one of his best sons, Gray's Tom Hal, is now doing stud duty in Rush County, where a number of pacers from his loins may be seen."

The allusion to Old Pilot is rather an unlucky one, for were it not for the progeny of his trotting son "Pilot Jr." it is very doubtful if the name of Old Pilot would have lived to this day in turf history. There are many pacing stallions that have sired occasional pacers, just as there are trotting stallions that have sired occasional pacers, but of the very best pacers the turf has known how many are from pacing sires, and how many from trotting sires? What about Johnston, Richball, Jewett, Fuller, Sleepy Tom, Westmont, and a host of others that have shown extraordinary aptitude as side-wheelers?

SOWING GRASS SEED ON GRAIN STUBBLE.

A correspondent asks us our opinion as to the propriety of sowing grass seed on grain stubble in the fall. Under certain conditions we should certainly favor the practice, though, of course, something depends on the nature and condition of the soil, and the kind of grass seed used. Clover would be eminently unsuitable under any circumstances, and if it is desired to mix clover with Timothy, the latter might be sown after the crop is off in August or early in September, and the former the following spring. If, however, a clean crop of Timothy is desired, we would recommend the following plan of operations. As soon as the grain crop is removed, manure the land thoroughly, plough the manure under with narrow furrows, well over-lapped and not more than five inches deep. Then carefully harrow till the manure is completely worked in with the soil and the whole has become friable and mellow. Then comes a brush harrow, to smooth down the surface till every furrow, or harrow mark, is lost sight of, and then sow the grass seed both ways (lengthwise and crosswise), and then brush it again till the seed is smoothly and evenly covered to the depth of about half an inch. No roller should be used after the seed is sown, though if the ground should appear baked and lumpy after ploughing, a light roller before a thorough working with a heavy harrow may be found beneficial. It is presumable, however, that a good harrowing will sufficiently mellow the ground, and this, with the brush harrowing, will make the surface sufficiently smooth for a seeding surface. On no account, however, should the roller be used after the sowing, as it would pack a dry crust over the seed, through which the young grass shoots would fail to pierce in time to secure a good stand before winter sets in. By pursuing this course, the farmer practically saves a year as compared with spring sowing of grass alone, while it is in many respects preferable to sowing with a grain crop. When sown with grain, grass is liable to come in spots, and have less healthy and more scattering stands than when carefully sown in the manner described. With the comparatively short time intervening between harvest and the advent of winter in this country the young grass needs no shelter from the autumn sun, unless the soil upon which it is sown happens to be uncommonly warm and quick. Should any such protection be desired, a turnip crop will be found the most desirable for

the purpose. The broad leaves furnish an excellent shade for the tender shoots, and after the first hard frost they fall down, and, in a manner, blanket the ground and lessen the possibility of winter killing. In the spring both leaves and roots decay, and furnish no small amount of nourishment for the young plants. There are, however, few places in Canada where any protection for autumn sown grass will be found necessary.

SHORTHORNS.

The following standard of excellence and scale of points for judging breeding Shorthorns was unanimously adopted at the Kansas Breeders' Convention:

As adopted, the point of Color which in the scale as suggested had been counted at a valuation of two per cent. and "Breeding Condition" at a valuation of five per cent. were both stricken out and their percentage given to others deemed of more value, or rather, more easily estimated. One per cent. of the total was added to "Rump," "Loin," "Upper Line" and "Lower Line"; two per cent. each was added to "Thighs and Twist," "Ribs," "Crops," and "Heart-girth"; one per cent. each was taken from "Neck," "Horns," "Ears" and "Skin." The question of correctness as to any feature of the scale was on the standard of "weights for age." Messrs. Glick, Stone, McAfee and Huber felt sanguine they were quite too high, especially on the younger ages, while Messrs. Harris, Ellis, Shelton and White thought they were low; the latter gentleman maintaining that they were ridiculously low. Col. Harris argued with much earnestness and force that with lower weights at the ages given, with animals in good thrift and flesh, they ought not to be acknowledged as representative or standard Shorthorns.

STANDARD OF EXCELLENCE.

Scale of Points and Score Card for Judging Shorthorns, the perfect animal aggregating 100 points.

ENTRY NO. AGE IN DAYS	WEIGHT	LIBS	Standard of Perfection.	Mark No. of Points Lacking.
RUMP: Level, with good length and breadth.....			6	.....
THIGHS AND TWIST: Full and well down.....			5	.....
HIPS: Broad, level and well covered.....			5	.....
FLANKS: Well let down and full.....			3	.....
LOIN: Broad, level and meaty.....			8	.....
RIBS: Fleishy, and broadly sprung.....			7	.....
CROPS AND CHINE: Well filled—meaty and no depression.....			7	.....
HEART GIRTH: Full and large.....			7	.....
SHOULDERS: Smooth and well covered.....			5	.....
BRISKET: Well let down and forward, with little or no dewlap; broad between forelegs.....			3	.....
NECK: Clean and tapering.....			2	.....
HORNS: Medium size; clean, tapering and well formed.....			1	.....
EARS: Medium size, fine and lively.....			1	.....
EYES: Mild, but full and bright.....			2	.....
HEAD: Clean and fine. Masculine in bull.....			2	.....
BONES AND LEGS: Fine and shapely, medium length.....			6	.....
TAIL: Well set on, tapering and fine.....			3	.....
HAIR: Abundant and mossy.....			3	.....
HANDLING: Mellow, neither soft nor unyielding.....			6	.....
SKIN: Fine, elastic, loose and medium thickness.....			2	.....
UPPER LINE: Level and straight.....			4	.....
LOWER LINE: Low down, and even from brisket to twist.....			3	.....
WEIGHT FOR AGE: BULL, on basis of 1,000 lbs. at 12 mos.; 1,400 lbs. at 24 mos.; 1,800 lbs. at 36 mos.; 2,100 lbs. at 48 mos. FEMALE, 850 lbs. at 12 mos.; 1,100 lbs. at 24 mos.; 1,400 lbs. at 36 mos.; 1,600 lbs. at 48 mos.....			5	.....
SYMMETRY: Smoothness, style and general attractiveness.....			5	.....
Total.....			100	.....
Total Points Lacking.....		
Total Score of Valuable Points.....		

Correspondence.

RELATIVE VALUES OF FOOD.

To the Editor of the CANADIAN BREEDER.

SIR,—Whilst perusing the amended tables of alimentary and manurial values of different sorts of feeding stuffs which appear in your last number, with the greatest interest—it appeared to me that possibly your tables might bear more full examination than they received. I therefore converted all the gains of flesh into the proper proportional gain for a ton of 2,000 lbs., as these of course are tons of 2,240 lbs., and I also converted the manurial values into Canadian currency. I have also calculated the values of the gain in flesh at four cents a pound (a very low estimate), and have finally entered in a fourth column the combined value of each ton to the cattle feeder. Let me also state that my conversions into Canadian currency are only approximations, and not exact to a cent.

Description of Food.	Live Weight Increase per Ton of Food.	Value of In-crease at 4 cts.		Manurial Value.	Total.
		Lb.	\$ c.			$ c.
Linseed cake.....	333	13 32	18 75	32 07	39 28
Decorticated cotton seed meal.	307	12 28	27 00	39 28	39 28
Undecorticated cotton do.	250	10 00	15 70	25 70	25 70
Palm-nut meal.....	286	11 44	10 00	21 44	21 44
Peas.....	286	11 44	13 20	24 64	24 64
Indian corn.....	280	11 20	6 00	17 20	17 20
Wheat.....	280	11 20	7 00	18 20	18 20
Malt.....	286	11 44	6 40	17 84	17 84
Barley.....	280	11 20	6 26	17 46	17 46
Oats.....	266	10 64	7 16	17 80	17 80
Shorts.....	266	10 64	13 86	24 50	24 50
Bran.....	222	8 88	14 00	22 88	22 88
Clover hay.....	143	5 72	10 00	15 72	15 72
Meadow do.....	133	5 32	7 00	12 32	12 32
Pea straw.....	125	5 00	4 50	9 50	9 50
Oat do.....	111	4 44	2 75	7 19	7 19
Wheat do.....	95	3 80	2 50	6 30	6 30
Barley do.....	87	3 48	2 50	5 98	5 98
Potatoes.....	33	1 32	1 49	2 81	2 81
Carrots.....	23	0 92	1 00	1 92	1 92
Swedes.....	18	0 72	1 10	1 82	1 82
Mangolds.....	20	0 80	1 20	2 00	2 00
White turnips.....	13	0 52	0 96	1 48	1 48

I think that these figures in many cases will speak for themselves. I have only put in my list those feeds which are more immediately connected with Canadian agriculture, and have omitted those, such as beans, locust beans, rape cake, etc., which I have hitherto not heard much of in this country. Some of these results will, I fancy, considerably astonish the minds of many farmers who are in the habit of thinking that if they feed all their straw and most of their hay they are doing well by their farm. And yet if they enquire a little they will see that on a purchase of one ton of oil-cake at \$30 they can get six per cent. for their money and improve their farms at the same time. Bran also appears to be one of the cheapest feeds possible to use, and we have Professor Brown's experience to guide us as to its great value as a feed, and its manurial value according to the above table is greater than its average cost. If many of the farmers who are content to have their beasts rustling round their straw stack all winter, wasting the straw, half-starving themselves, and making very indifferent manure, would only sell half their straw and buy bran or

cake, and then feed the remaining half of straw chopped with some roots and either bran or cake, how their farms, their cattle and their pockets would benefit! Again, how often is pea straw wasted as "no good," whilst barley, wheat and oat straw is carefully saved, and yet the manurial value of pea straw is considerably greater than that of either of the others. Let us, as one more example, suppose a farmer has one ton of peas, which he is going to sell. This amount would be, roughly speaking, 33 bushels at 60 cents, or a money value of \$20. Let him change his mind and feed them; he saves hauling them to market and realizes \$24 in addition to feeling that his farm is improving—and his cattle being fed the ton of peas gain not only in weight but in appearance and value. Let me end this lengthy letter by quoting my own case as an example of the value of bran. I milk ten cows, and at present most of them have been calved some time, only two being recently calved. They fell off in their milk when put up for winter, and I despaired of getting a proper flow again. I tried potatoes, corn meal and barley meal, but without conspicuous success. I have during the last four days fed them 50 pounds of bran per day between them, and the milk has increased four gallons per day. Fifty pounds of bran costs me 30 cents, or 7½ cents per gallon, in addition to the enhanced value of the manure, and the cows appear to be still improving. I hope you will continue to constantly advocate more produce being fed on the farm it is grown on, even if feeding stuff is not purchased.

I am, yours, etc.,
G. B.

DRAUGHT HORSES FOR TEXAS.

To the Editor of the CANADIAN BREEDER.

SIR,—Some time ago, I noticed in the CANADIAN BREEDER an enquiry from some English breeders as to the best port in America to land draught horses. I know nothing of the merits of other ports, but I believe that the man who takes the field first in this business in our great State of Texas with a suitable kind of draught stock, will reap a rich harvest. I am a horse-breeder on a small scale, and am familiar with all classes of Texas horses. I do not believe in crossing our native mares with heavy-draught horses, but as I am in a hopeless minority, I must yield, and would like to see a compromise made on something more suitable than Percherons, which are now all the rage in Texas. I believe that our native mares should be bred to thoroughbreds, and after two or three crosses for horse (stamina), then we might successfully breed for what our breeders are getting from Percherons in Texas mares, *beef*. I have seen half bred Percherons sell for big prices, but I imagine the breeders never made a second sale to the same person. The few crosses I have seen from the English draught horses are far superior in stamina to those crossed from French horses. The conformation and temperament of the English horse and the Texan native are far more harmonious than the French and Texan, and the result is a more evenly balanced horse—one better calculated to raise the horses of Texas in the estimation of the horsemen of the world. As a horseman who expects to die a Texas horse-breeder, and with a jealous regard for the reputation of the horse product of our grand State, I will be pleased to see the English draught horse secure a firm footing here.

E. S. HUGHES.

Galveston, Texas, Dec. 12th. 1885.

THE CIRCUMSTANCES AND CONDITIONS INFLUENCING THE SEX OF OFFSPRING.

MR. J. SANDERS SPENCER'S PAPER ON THIS SUBJECT.

To the Editor of the CANADIAN BREEDER.

It was with considerable diffidence that I accepted the courteous invitation to introduce this most interesting subject of controlling the sex of our live stock. This hesitation did not arise from a feeling that the discussion of this question was not one which would prove of interest, and possibly of profit, to the immense number now engaged in the breeding and rearing of stock; but rather from a conviction that much of that which I should advance must of necessity be of a theoretical nature, whilst little would be the result of observation and experiment in this country, and comparatively nothing for which I could personally vouch; as coming within my own experience. My reluctance was eventually overcome by the assurance that such difficulties must naturally arise on the introduction of any subject, and that my pleasant duty would chiefly consist in introducing the question, so that a discussion might arise. Before proceeding further, I should like to express my sincere thanks to those gentlemen, not only in this country, but in the States, who by hints, and by the loan and gifts of books, have kindly assisted me in the attempt to study this subject, which is considered by some few persons as a new idea. So far from this being the fact, it can be most conclusively proved that the law, or laws, by which the sex could be controlled in human beings, if not in animals, have engaged the attention of physicians and others for hundreds of years. It may give some little idea of the keen interest which has been taken in the subject, when I state that a list has been compiled of over a thousand writers who have both studied the question, and published their ideas upon it. Still I feel bound to confess that all this labor and research appears to have been comparatively barren, so far as the elucidation of any fairly certain law or laws bearing on the subject.

Of theories there have been any number, and many of the propounders of these have been enabled, to their own complete satisfaction, to fortify their arguments with so-called facts, which, without much apparent trouble, have been proved by other theorists to be capable of supporting diametrically opposite conclusions. In this list of all those we find the names of Aristotle, Plato, Socrates, Buffon, Cuvier, Darwin and Spencer (the last-named is not the compiler of these few notes). Indeed, so great has been the enthusiasm of some of the writers on this subject that one is almost led to think that their desire was as much to prove the correctness of their theories as to enlighten their readers on the question. Lest I, too, should become an enthusiast, and fall into the same error, I will rather endeavor to describe some few of the theories, and the general grounds on which these were supported, than to bring forward any ideas of my own.

In the consideration of the question of controlling the sex of the offspring of our animals, we are placed at a disadvantage, as most of our scientists have taken the somewhat higher subject of controlling the sex of the human species, yet we may perhaps discover many points of similarity in the supposed laws which will apply equally to the human as to the animal world. I am perhaps wrong in using the word supposed, as there appears to be a consensus of opinion amongst those who have given the most thought and attention to the subject, that nature has not in this, any more than in any other of her works, left to chance the determination of sex. But what I would wish to convey is, that though there doubtless exist certain fundamental rules or laws which regulate the sex of

offspring, yet we are at the present time but very imperfectly acquainted with them. We are also at a loss for statistics which will correctly give the number of each sex of many of the various breeds of animals which we cultivate. It is true, Darwin asserts, that amongst racehorses slightly more fillies than colts are cast: that with Cheviot sheep a still greater proportion of ewes than ram lambs are dropped; whilst with greyhounds, ten per cent more dog than bitch pups are whelped. By a study of the register, it is possible to verify, to a certain extent, the figures as to the racehorses, but I fail to see how the figures as to sheep and greyhounds could be accurately arrived at.

Although some five hundred theories have been advanced on the subject of controlling the sex of human beings, yet those which have found most general support appear to be limited to the ovular—making sex an inherent quality in each ovum, independent of outward influences, the sire merely arousing its dormant powers; the spermatic, making it wholly dependent upon the seed of the sire, the epigenesian, which claims that the primitive germ is non-sexual, but that the sex is determined during the period of gestation. Metamorphosis is exactly the opposite of the former, as the believers in this theory assert that the entire chick, as a whole, really exists in the eggs previous to incubation, and the same with man and all other animals; and that the period of incubation or gestation is simply the expansion or unfolding of organs already existing in miniature: and the superiority theory, which claims that the sex is determined by the parent, which, at the time of mating, has certain qualities more strongly developed.

It will, perhaps, be more convenient, if I take the different theories in the order given, and endeavor to discover the probabilities in favor, or the reverse of each of them.

There appear to be two systems, or ideas, connected with the ovularian theory, the first is that the ova of the female are alternately male and female; and the second is that each ovum will produce a male or female according to the time of its fecundation. As to the former, I have tried in vain to find any extended and well-authenticated experiments which bear out the theory that, by allowing the female to miss one heat and mating during the second period, that the progeny will of necessity be of the same sex as the last foetus. There is no doubt that, in the majority of cases, the chances are very greatly in favor of a given number of females producing alternately males and females, providing that they are left in a state of nature; but this does not prove that a particular female can be made to produce offspring of either sex by simply selecting the period of oestrus. I am well aware that you will find many stock attendants who will assure you that this plan of regulating the sex of offspring is almost infallible, but I have hitherto failed to discover any carefully-conducted trials which go further than to prove that an animal is most likely to produce a male after having brought forth a female. This we may take as being simply an effort of Nature to equalize the number of each sex.

There will, of course, be found cases where certain cows will produce a much greater number of one sex than the other, and, indeed, some families of cattle, such as the Bliss tribe, have become scarce owing to most of the cows persistently producing only bull calves; on the other side we find the Mantalinis breeding a majority of heifer calves.

On this part of our subject, and on the heredity of the tendency to produce a certain sex, the late Lord Althorp wrote: "Are certain families more addicted to offspring of one sex than the other? Certain individuals assuredly are so, but is the tendency hereditary? Clearly, not invariably on the sire's side. Marmaduke, for example, was a remarkable heifer-getter in his first season or two;

Moss Rose, by Marmaduke, bred all bulls but one, and the exception was barren. Mr. J. G. Grove bred Bustle, of the Bliss tribe, and her produce was mostly, if not all, heifers; yet Bellona, her daughter, bred nothing but bulls, and Princess Maude, another daughter, all bulls with one exception. Mr. R. Booth's Windsor begat Mr. Booth's Lady Blithe and Mr. Carr's Windsor Queen. The latter bred all bulls, the former eight or nine heifers and one bull. All the last named four were of one tribe, and yet two of the dams recorded bulls only, and one all bulls with an exceptional heifer. And besides Lady Blithe, Stella (Lady Pigot's), a descendant of Princess Maude, had four heifers out of five calves. So that it cannot be said there is any variable rule or even assurance, one way or another.

"Among all kinds of live stock kept in confinement and under artificial treatment, we believe likewise we have found male offspring to preponderate. The only fact we have ever observed like a law is, that if there be any unusual difference in age between the parents, especially when the female is by far the elder, the produce are for the greater part female.

"Our own opinion is, that though sires and dams are often to be found, whose progeny are more of one sex than the other, no certainty exists that this progeny will differ in any other respect from animals otherwise bred. But we have frequently found that disparity of age produces five-sixths female offspring. A five year old game hen produced to a cockerel of the previous season, eleven chickens, and nine of them were pullets. An unusually old cow (as instances, see Mr. R. Booth's Modesty, Mr. H. Webb's Mayflower, Mr. Foster's Polly Gwynne) generally finishes off with a heifer calf, and we have noticed that these last fruits of an old tree are generally abnormal in their tendencies, and not unfrequently, like twin-heifers, if they breed at all, breed only one or two calves, and these often turn out to be barren."

With mares the same law doubtless applies. Turning to the stud-book, I find that the thoroughbred mare Rosemary produced two males from two different sires; next she produced three females, two of them by the same horse that got the males; then another male, and then eleven females in succession from nine different sires. Scythia produced six females and no males, from three different sires. Another mare, by Scythian, on the same page, produced four females by as many sires. Arrolite produced six males to successive covers of imp. Australian; while Dolly Carter, bred to the same horse, produced nothing but females. Mary Lewis began with two male foals, the second being by Glencoe; her next foal, also by Glencoe, was a filly; and all her foals after that (six more), by four other sires, were females.

Olivia produced seven males in succession from four different sires before she dropped her first filly. Neither Jack Malone, Muggins, John Morgan, nor Bonnie Scotland could get anything but fillies out of Lantana. Mollie Hambleton produced six fillies in succession, three of them by Planet, and then she faced about, and threw two male foals to Planet. In short, the pages of the stud-books and herd-books furnish a complete refutation to any rule that has yet been formulated upon this subject.

(To be continued.)

Half the people of the world live almost exclusively on rice. It contains 88 per cent. of nutriment, while roast beef contains but 26.

The Boss Zinc and Leather Collar Pads are the best. Leather or Soft Pads hold dirt, mat the mane, and chafe the neck. Use the Boss, the cheapest, and most durable, and save all trouble. Sold on 60 days' trial by all Harness Makers. Manufactured by Dexter Curtis, Madison, Wis.

CANADA SHORTHORN HERD BOOK — TRANSFERS.

FROM NOV. 20TH, 1885.

- B. Elmsley Duke, 13430, by Gambetta, 13056. E. Frizell, Perth; Wm. L. McVeety, Perth.
- F. Irish Lady, 15228, by Turk, 11178. Thomas Treharne, Denfield; B. Harkett, Denfield.
- B. Manitou, 13433, by Royal Heir, 7805. A. McIntosh, Guelph; John Routledge, Hilly Grove, Algoma.
- B. Young Prince 2nd, 13437, by Hardy. Andrew Aitkin, Park Hill; Robt. Hudson, Park Hill.
- B. Coleman, 13438, by Bruce, 10824. A. C. H. & H. McCormick, Paris; R. P. Irving, Glenmorris.
- B. Cato, 13440, by The Cavalier, 7944. John Glenn, Lumley; John Stafford, Walton.
- F. Primrose, 15240, by Elma Prince, 11727. Jno. Shearer, Listowel; J. G. Campbell, Molesworth.
- B. Duke of Riverbank, 13444, by Waterloo Champion, 11554. Edward Hoolscher, Kossuth; Elias Weber, Breslau.
- F. Russeldale Beauty, 15251, by British Crown, 9720. Robt. Clark, Russeldale; Alex. Roy, Russeldale.
- B. Lobo Duke, 13454, by 2nd Duke of Moundale, 13022. E. W. & G. Charlton, Duncrief; Sam. Dinamore, Cranton.
- B. Pride of the West, 13451, by Earl of Dumfries. Geo. Reck, Mitchell; Wm. Troeger, Brodhagen.
- F. Catharine, 15253, by Lord Elcho, 10154. Geo. Rock, Mitchell; Pat. DeCorsey, Bornholm.
- B. Rhine, 13450, by Lord Elcho, 10154. Geo. Rock, Mitchell; Aug. Eckmeir, Brodhagen.
- B. Shamrock, 13440, by Lord Elcho, 10154. Geo. Rock, Mitchell; Ferdinand Quenengesser, Brodhagen.
- B. Duke of Elgin, 13445, by Hero of Kingsmill, 10070. E. J. Hutchison, Luton; M. Charlton. Aylmer.
- F. Snowball, 13466, by Hero of Kingsmill, 10070. E. J. Hutchison, Luton; Wm. Leeson, Iona.
- F. Lal, 15267, by Baron Rowton, 8112. H. W. Peterson, Hawksville; C. D. Bowman, Montrose.
- F. Maude, 15266, by Baron Rowton, 8112. H. W. Peterson, Hawksville; Alex. Peterson, Hawksville.
- F. Psyche, 15260, by Baron Rowton, 8112. H. W. Peterson, Hawksville; Alex. Peterson, Hawksville.
- B. Louis Riel, 13455, by Sir William, 11374. L. D. Misener, Wellandport; M. Robins, Candaville.
- B. Prince Nimrod, 13468, by Prince Sirod. Jas. Pole, Appin; D. B. Black, Appin.
- B. Duke of Caradoc, 13467, by Duke of Argyle, 6663. Jas. Pole, Appin; Henry Hardy, Longwood.
- F. Maud's Duchess, 15280, by Ed. Hanlan, 7040. Wm. W. Macallister, Stony Mountain, Man.; D. McDonald, Greenwood, Man.
- B. Kildonan Chief, 13404, by Lord Byron, 8810. Wm. W. Macallister, Stony Mountain, Man.; H. J. Cunn, Kildonan, Man.
- B. Donald's Duke, 13463, by Ed. Hanlan, 7040. Wm. W. Macallister, Stony Mountain, Man.; D. McDonald, Greenwood, Man.
- B. Highland Lad, 13477, by Lord Albert Nyanza, 11000. Jno. Buchanan, Branchton; Wm. Menzies, Kirkwall.
- B. Duke of Middleport, 13470, by Royal Briton, 13469. Henry Hammond, Cainsville; D. Deagle, Tuscarora.
- B. Duke of Braemar, 13475, by Roan Duke, 11249. T. C. Rowe, Hickson; N. Murray, Braemar.
- B. Rob Roy, 13478, by Earl of Goodness 5th, 8514. W. Douglas, Caledonia; Wm. Reith, Hensall.

HOW TO STOCK THE FARMS.

Prairie Farmer.

This was the subject of Father Clarkson's paper at the late Iowa Stock Growers' Convention. His first point was that it makes no difference whether a man be a graduate direct from the agricultural college or a refugee from defeats and disasters in nearly all departments of industry, he is not necessarily the rough block which is to be wrought into a live agriculturist, if he has not the inbred and inborn love of rural pursuits, backed by an industry which will lead him to rise early and lead his employees afield. . . . If one expects by energy and industry to convert a native or exhausted soil into a successful, diversified farm of grain, grass and stock, select land, which by the agency of wise husbandry, can be converted into a rich and prolific farm. . . . Then determine what class of animals shall be used. In deciding this question, recollect that no farm was ever large enough, nor a lot so contracted, as to breed and raise successfully two breeds of any one class of animals or birds. Let there be no dividing the efforts on different breeds. And it is well to warn the inexperienced against purchasing stock of breeding farms where one man's knowledge of breeding feeble at best, is divided and diluted by a variety, or even two kinds of cattle, horses or chickens. A man who grasps at so much has but a limited idea of his own powers, or the full scope and compass of the meaning of a "fine-stock breeder." . . . Having determined these preliminaries, what shall be the process of stocking the farm? A part, at least, must be suitably prepared before the stock is introduced, and whether it be when but a small portion of the farm is ready, or when it is fully developed, with grain, grass, and comfortable buildings, guard studiously against over-stocking. This is one of the greatest errors in stock-farming. If it be intended for a breeding farm, get the best to be had, without regard to price, even if the number be not one-fourth of your previous ideas. The animal must not only have all of the points to the nearest perfection, but he must "be able to read his title clear." . . . The whole pith and point in a code of instructions, "How to Stock a Farm," is in grading up as fast as possible. . . . No man, however poor or rich, can afford to use a male animal of any kind but thoroughbred.

The next most important thing is to study the great lessons of breeding and feeding until you understand your business. But few men do. A good farmer and eminent politician of Iowa truly says, "It takes longer to learn how to raise a calf well than it does to learn how to draw up an indictment that will hold water. When a man has once solved the problems of breeding, feeding, handling, and elevating above its ancestors, an animal of any class, he has mastered the business, and can claim to stand in that noblest class of men—an advanced farmer. Then only will you know how to stock a farm."

Every well-ordered farm, whether large or small, ought to have a suitable number of horses on it; among the rest a few choice brood mares. And it should be borne in mind that all animals kept for breeding, the progeny of which are intended for work or high stepping, should be worked regularly, but suitably. It is the only way to perpetuate and improve the activity and strength of the muscles. If Providence had imposed idleness on the human race, long ere this the earth would be as desolate as the face of the moon, so far as humanity is concerned. The race would have become too effeminate to perpetuate its species.

In stocking the farm with horses there is another crying evil practised. It is worse, if possible, than the prevalent evils in breeding cattle. It is the use of mongrel stallions. In grading up the classes of stock it is known that it can be done fifty times

faster by the male than the female branch, hence farmers should look mainly to improvement through male domestic animals. The horses in Iowa have been greatly retarded in improvement by unwise and unscrupulous owners contending that half-breed Percheron or Clyde stallions do very well. This is on the untenable and fallacious position that a half-breed is half as good as a pure blood. This foolish idea has been, and will continue to be for long years to come, one of the curses and blights upon agricultural prosperity. "What can be hoped for a horse whose dam's breeding is entirely unknown, or of the very opposite type to that of the thoroughbred sire? This is making breeding a mere lottery. It is a loss of valuable time, of which humanity has none to spare, and which will only bring disappointment to those who are foolish enough to engage in a system of breeding that actual experience has shown can only end in wretched failure. Never use a half-breed or mongrel male animal, no matter how handsome his appearance. Blood which has been perfected and purified by a long line of care, if breeding has a potent power which no mixture with inferior blood has."

A SHARP SWINDLER—LOOK OUT FOR HIM.

It is the duty of every stock raiser, as well as papers interested in stock, to give all possible assistance in detecting rascality and defending each other against imposition. Breeders of Jersey cattle especially have their attention directed to the following from the *National Live Stock Journal*:—

Perhaps some of our readers may have made the acquaintance of a young man during the recent fash in Chicago, who gave the name of R. S. Chapin, and said he was from Enterprise, Kas. He has proved to be a swindler of rare ability, and our readers are cautioned to be on the watch for him. He went east from Chicago, and visited breeders of Jersey cattle, some of whom he succeeded in swindling. He claimed to own a large tract of land in Kansas, where he was breeding Polled-Angus cattle and Poland China hogs; said he had come east for the purpose of buying Herefords and other beef cattle, but had become interested in Jerseys, and was visiting the large herds for the purpose of making purchases, etc. His scheme appears to be to tender payment in drafts, purporting to be drawn by the Enterprise Bank, of Kansas, on a Chicago bank, for more than his purchases amount to, and receive the difference from the seller. One of these whom he has visited gives the following description of him:—

He is the most accomplished scoundrel it has ever been my fortune to meet; about five feet five or six inches tall, slender build, weight about 135 lbs., light-brown hair, cut rather short, very thin moustache, and no other whiskers; eyes, light-brown; round shouldered, walks with toes turned in slightly. He wore a black Derby hat that seemed too large for him (pressed well down), black diagonal cloth suit, and pants with a narrow dark stripe, dark vest; carried a fine gold watch with vest chain with square charm. His overcoat was of finest material, brown in color, handsomely trimmed with green and red satin, lined with brown silk or satin. These things, of course, he could substitute for other articles of wearing apparel, for he had with him an elegant valise, fair leather, which perhaps contained changes of clothing, but his general appearance, when once seen, could not be forgotten. His manner is mild, talks in a low tone, is very polished in speech, being highly educated and refined. A smile lurks about his mouth while in conversation, and there is a very slight stoppage or quivering to the upper lip occasionally while talking. Shows upper row of teeth quite prominently when talking and those in front are somewhat

larger than the others, and one of them, at least, gives the impression of being artificial; is well posted on general subjects, but not very well "up" on Jerseys. He buys at prices asked, and depends more upon pedigrees, as he reads them from the books, than he does on individual qualities of the animals. He is a very easy man to sell to, but the seller must be on his guard about giving change for his drafts. He does not seem at all concerned about getting the funds, but has his plans laid so systematically that the result seems inevitable. Part of his system consists in carrying drafts signed by an imaginary cashier, so if caught he cannot be punished for forgery. In manners he is perfectly self possessed, and is never at a loss for an explanation. He is a very dangerous crook, and is wanted badly by Ohio breeders, I hear.

This fellow will doubtless try to swindle breeders in other sections, and our readers should be on the lookout for him. He ought to be caught and put where he belongs—in the penitentiary.

EDUCATION IN DAIRYING.

Farm, Field and Stockman.

The importance of educating the coming generation in the art of dairying is attracting attention in all quarters. In Great Britain and continental Europe dairy schools have been established, and it is now stated that the market reports show that the best butter is being produced in those districts where the farmers' sons and daughters have had the benefit of tuition at dairy schools. Strange to say, although the Island of Jersey is the source from whence is derived our best butter-producing breed, but, not having as yet realized the benefits to be derived from dairy schools, she is behind Denmark, England and Ireland, in the quality of butter produced, which demonstrates that the "gilt-edge" article is not an exclusive production of the Jersey cows, but depends largely upon the skill applied in its manufacture.

There is much to teach the rising generation. The best breeds for the purpose are, of course, to be considered, but the best methods of feeding, quality of the feed, construction of stables and stalls, cleanliness, care of the milk, manner of churning, preparation for market, and many other details enter into the manufacture of butter, the whole being a science which must be understood to be fully applied. The majority of dairymen do not seem willing to make innovations on long-established customs, but when practice demonstrates certain advantages they will be adopted. The younger classes are always eager to learn, and hence the establishment of dairy schools opens a new avenue to the acquisition of knowledge, which, considering the importance of this great industry, is destined to revolutionize methods long in vogue, and when the errors of the past are laid bare we will no longer record the fact that creamery butter is superior to that of the dairy. At the present time the creameries are forced to adopt the most approved methods, and have the advantage of greater facilities, but as the masses are educated, the butter produced on the farms will not only improve in quality but will be greatly enhanced in price, assuming the highest position in the market.

England is noted for producing better horses, says an exchange, than the Continent simply because her breeders invariably reject those animals which are defective in the required good points. French breeders act on the fallacy of seeking a good sire, but, they say, "the mare is indifferent; she is a sack; if gold is put in, gold will come out." Feeding, locality, and judicious selection of parents on both sides are powerful factors in producing good stock of all descriptions; and there are soils on which good, useful stock cannot be profitably raised

TREADS OR CALKS FROM OVERREACHING, AND QUARTER CRACK—WHAT TO DO TO EFFECT A CURE.

Western Sportsman.

A tread or calk is an injury inflicted on one foot by the "calkin"—or, as it often happens, the edge of the shoe—on another foot, producing a contused wound, which is often troublesome to heal. This sort of injury differs from any incised wound, inasmuch as it is a sort of bruise by which the surrounding parts are lacerated and violently torn from their horny attachments, and the wound, although simple in appearance, is of such a complicated nature that it often requires several weeks to restore the parts to a healthy state.

The treatment consists in allaying irritation, removing the dead parts and promoting granulation. First apply a poultice of carrots, then, with a pair of scissors, remove any partly separated portions of skin or hoof. The wound is then dressed with balsam, having first sprinkled the chasm with a portion of finely pulverized myrrh. This substance forms a coating over the newly-formed granulations and protects them from injury.

In the winter season a calk, unless attended to early, often becomes a serious affair. A foot disease of a very malignant character has prevailed of late. It sometimes appears without any apparent cause except slight febrile symptoms; at others a calk seems to be the exciting cause, the disease speedily extends above the coronet and within the hoof. It is a species of inflammatory gangrene, and is generally attended with sympathetic and occasionally typhoid fevers. The best local remedy is a mixture of pulverized charcoal and fir balsam; the constitutional treatment according to the nature of the case. Whenever a horse is calked the chasm should be cleansed and filled up with fir balsam.

QUARTER CRACK.

All horsemen understand what is meant by quarter crack. It consists of a loss of continuity in the fibres of the hoof, leaving an opening through its substance. It generally occurs in the fore, although often in the hind feet. A fissure of this kind is not considered of much importance; yet, after the cure has been effected, there remains a cicatrice, which is by some horse dealers looked upon as an eyesore; and they often refuse to purchase an otherwise perfect animal solely on this account. If the crack be only a simple fissure and does not extend to the sensitive parts of the hoof there is no perceptible lameness; hence, when such a fissure is first observed it should be at once attended to, in order to prevent lameness, which, however, is generally slight.

THE CANADIAN STAND AT THE BIRMINGHAM SHOW.

At stand No. 107 a most comprehensive and interesting collection of samples of produce from Manitoba and the Canadian North-West was arranged by Mr. Alexander Begg. The exhibit comprised several varieties of wheat in the straw and threshed, oats, barley, beans, peas, 50 varieties of prairie grasses, turnips, mangolds, beets, pumpkins, squashes, carrots, radishes, parsnips, as well as potatoes, several of the latter weighing over 2½ lbs. each; tomatoes, peaches, prairie hen, wood (several varieties), soil in glass cases, and coal from the Saskatchewan district; interspersed with photographs of Canadian scenery. Attention was drawn to the fact that the grain, roots, vegetables, etc., had been raised from the soil without any artificial aid whatever. A very fine pair of buffalo heads was shown to advantage, forming, together with the Royal Arms, a centre piece to this unique display.

OATS.

Spirit of the Farm.

There is not among all our cereal crops a more important or a more neglected one than oats. The impression prevails generally that the crop does not pay. In the first place, the farmer selects the most indifferent land he has to sow it on; then the preparation for it is of the most meagre kind. Again, there is not, except in rare instances, seed enough put in the ground. It is unreasonable to expect good crops or paying crops under such conditions. A farmer generally selects good ground for wheat or corn, or for any other crop, but gives what is left to oats. A natural sequence is poor returns. If he will change matters somewhat, select good soil and proper preparation, as in other crops, oats will give just as satisfactory returns. *They will not grow to do any good on poor land*; they require rich, porous soil, or even a heavy, clayey soil does well if manured. A gentleman sowed the red chaff variety, and got eighty-two bushels per acre. The land he sowed was black loam, on a very steep hill side. Another sowed the same variety on a red, clayey soil, rich with clover culture, and received sixty five bushels. Either crop was a good yield, and the same can be done on any good land suitable for that grain. Do not sow on poor ground—do without rather; but on first-class land no cereal will make better returns.

As stock food oats are superior to corn, or, indeed, to any grain. It supplies within itself all a horse demands—the grain for support, the straw as an adjunct. It is cooling and refreshing, and a horse after hard service is not likely to injure itself from overeating. No one sees a horse founder on oats. It is the great reliance of the older countries. *Only in the south are horses confined to corn.* Its usual yield is from forty to sixty bushels per acre, though the almost universal way of feeding it is to cut it in a straw cutter. In Europe it is always fed as grain, being threshed and generally crushed or ground. Wheat at the average crop and price, 15 bushels at \$1 per bushel, gives \$15 per acre, while oats at 50 bushels and 40 cents per bushel, yields \$20; or at its minimum, 40 bushels and 30 cents per bushel, makes \$12, and wheat is as often 10 bushels per acre as the other is at 40 bushels. So, in any aspect, either to sell or feed it is equal to the much-vaunted cereal, while it is far more reliable as a sure crop. The quantity per acre for seed should on good ground be never less than two bushels per acre, and on very rich land two and one-half bushels is better. Never sow on bottom land, for it is almost certain to fall down and be lost.

OIL MEAL AND CORN.

Chicago Breeders' Gazette.

A Kansas subscriber asks whether he can profitably pay \$30 per ton for oil meal to feed two-year-old native steers, on cut sheaf oats, cut millet, and corn meal, corn being worth 20 cents per bushel, or about one-fourth the cost of oil meal. He wants to push these cattle and get them in market in February.

We think the difference in price is too great. Oil meal is too expensive to feed with 20-cent corn. The advantage of the oil meal would be largely in promoting the health of the steers, keeping the stomach properly cleansed. We should advise our correspondent to buy a few bushels of flaxseed, boil a small quantity of this, and give each steer, twice per week, one-half pint of flaxseed mixed with its feed. This will prevent constipation, promote digestion, and be worth all it costs as food. The feeder might find it better to give this small amount of flaxseed three times per week. Another and better way is to grind the grain and flaxseed together, mixing one bushel of flaxseed with nineteen bushels of oats and corn; but, as our corres-

pondent does not grind his oats, he might grind one bushel of flaxseed with fifteen bushels of corn, and feed this meal on the cut sheaf oats. It requires fifteen bushels of other grain to grind with one bushel of flaxseed to absorb the oil, so as not to clog the mill. One-twentieth part, or even one-thirtieth part of flaxseed will regulate the stomach and keep the skin in a soft, velvety condition. It will take less flaxseed to give a half-pint, boiled, three times per week, and will answer every purpose, requiring only one-fortieth part of flaxseed. It has a little better effect after being boiled in four to six times its bulk of water.

The cut sheaf oats and millet should be moistened and then the meal mixed in, so that the meal and cut fodder must be eaten together. In this case the meal will be well digested, and produce the best effect. Each steer should be fed six quarts of meal upon two bushels of cut feed per day. Of course, this feed should not be allowed to freeze. It is better mixed some twelve hours before using, and, by lying in mass, it will warm up and commence a slight fermentation, and this will assist in its digestion. With this slightly laxative ration, the steers can be pushed on to maturity for market rapidly, but the feeder should always be careful not to overfeed, or feed more than can be fully digested and assimilated, for this will retard, not hasten maturity.

POTATO CULTURE.

At the winter meeting of the Massachusetts State Board of Agriculture, Edmund Hersey, of Hingham, read a paper on potato culture, in which he gave the results of certain investigations as follows:—

1. The shape of the potato cannot be changed by the continued selection of any particular form of the seed planted.
2. The crop may be increased by selecting for seed healthy, well-kept potatoes, and diminished by selecting for seed diseased and poorly-kept potatoes.
3. Hard potatoes that have sprouted but little are better for seed than those that are soft or have long sprouts.
4. Long-continued planting of any variety gradually changes its character, often improving it during the first twenty years after it comes from the seed; it then frequently begins to lose its good qualities and to become more susceptible to disease.
5. Large crops are only obtainable on rich soils well prepared by being thoroughly pulverized.
6. In ordinary field culture the size of the potato should be sufficient to give the young plant a vigorous start; whole potatoes, or pieces weighing from one to two ounces, are not too large.
7. Neither the size nor the form of the potato for seed is of so much consequence as its healthy condition or its vital powers.
8. No rules can be laid down in regard to the quantity of seed per acre, the amount of manure or the particular method of cultivation that will apply to all farms.
9. One of a half-dozen experiments are not sufficient to establish any particular facts. It is only by numerous experiments, covering a long period of time, and tried on different farms, that it is safe to settle down to any results as undeniable facts.
10. While the successful cultivator may gather from others much valuable information to assist him in his investigation, for the details, if he would produce large crops at the least possible cost, he must rely principally upon the experience he has obtained by working on his own farm.

The London *Live Stock Journal* says:—"The noted horse, Crown Jewel, 2708, has been sold to Messrs. Brooks and Colquhoun, Mitchell P. O., Ontario, Canada. These gentlemen two years ago exported the horse Commander, 2029, which they had the misfortune to lose, and Crown Jewel is to take his place.

TRANSFERS OF THOROUGHBRED STOCK.

American Berkshire Record.

Royal Beauty V., 13552. John B Thompson, Plattsburg, Mo., to N. H. Gentry, Sedalla, Mo. Florence, 14587. H. D. Nichol, Nashville, Tenn., to Mrs. Hal Murfree, Murfreesboro, Tenn. Mary, 14588 and Levi, 14589. H. D. Nichol to Mrs. V. J. Morton, Union City, Tenn. Vigor, 12377, and Venture, 14598. W. W. Bugbee, El Dorado, Kan., to P. H. Finley, same place. Augustus, 14643. Wm. H. Matson, Augusta, Mo., to W. A. Harris, Dardenne, Mo. Handsome Duke, 14568. N. H. Gentry, Sedalia, Mo., to W. A. Harris. Sovereign Duke XV., 14559. N. H. Gentry to J. F. Brooks, Hume, Mo. Sovereign Duke XVI., 14560. N. H. Gentry to J. H. Butler, La Junta, Col. Sovereign Duke XVIII., 14561. N. H. Gentry to J. A. J. Shultz, St. Louis, Mo. Beauty Duchess II., 14564, and Jumbo, 14565. N. H. Gentry to R. A. Tussey, Slater, Mo. Silenus 11389. C. R. Robert, Oakdale, N.Y., to Bradish Johnson, New York, N.Y. Black Jack, 14631. T. R. Procter, Utica, N.Y., to W. W. Godding, Washington, D.C.

THRIFTON NOTES.

The counsel given by the live stock papers to sheep breeders ever since the last tariff revision has been much like music from a harp of one string. The song has been "Hold on to the sheep; they will pay better after awhile."

The few farmers who could endure such music, and stand the pressure financially, are now in fair position to make sheep-raising profitable.

Of late a new string has been placed in the harp, and the burden of the song now is, "Although swine plague, and low prices for pork may be discouraging to hog-raisers, there is no reason why they should give up and quit."

No, take all the better care of what you have, and if others are needed for their improvement, buy now, while hogs are low, the very best your means will allow. In spite of all that can be said, hundreds of men will go out of the business, or so neglect their stock that those who remain, and keep in the line of improvement, are sure to be well repaid for so doing.

Hon. John L. Mitchell, Milwaukee, Wis., bought of J. H. Potts & Son, Jacksonville, Ill., the recorded 3-year-old Southdown ram, Harry Webb 97, for \$100.

James Long, of England, in his new work, *The Book of the Pig*, says: "It has frequently been stated that the Berkshire was made by a cross with the Neapolitan, but we are inclined to doubt the statement that the true Berkshire, the animal so famous for the large proportion and streakiness of its lean, owed such a remarkable and valuable quality to a race which imparted fat so generally to British pigs."

"SMALL THINGS" IN LIVE STOCK.

Helena, Montana, Live Stock Journal.

A million dollars is a vast sum of money, yet every day we hear people talking or read in the papers about millions and millionaires. But very few people comprehend how much money it is, or what a million means. If one could lay by or save up a dollar an hour, night and day, it would require 120 years to accumulate a million dollars. It is not strange, perhaps, that people are not able to comprehend the significance of these round numbers, since so few have experience in dealing with such large sums. It is strange, however, but nevertheless a fact, that there are thousands of people who have no better comprehension of the significance of small sums that come within the range of

their every-day business experience. For instance, we read in the markets that steers are selling all the way from 3 to 5 cents. It seems a trifling, commonplace matter, which most people read about without comprehending that each cent's difference in the price, represents a difference of \$10 in the value of a 1,000-pound steer, and that, taking the 3 cent and the 5-cent cattle as they come, the heavier grades will carry an additional \$10 worth of meat for each cent difference in the price. Some one has said that half a loaf is better than none, but there is a difference between a whole loaf and no bread. Then there are farmers who have cattle which they know are not capable of giving as satisfactory returns for the food they consume as could be secured by cattle of a more improved character, but never stop to think what this difference in feeding quality amounts to, or what it costs them during the life of a steer. There are mouthful of grass gathered in the pasture as the hours lengthen into days, and these into months; there are forkful of hay night and morning, and measures of hay as the sun goes down and as it rises, and no adequate comprehension of the fact that a little of each is lost by not being turned to the best account, and what all these little amounts to in the end, or the frightful aggregate of these little wastes, which go on hour by hour and day by day, extend through years and years. There may be small occasion for educating most people to a real appreciation of what the millions mean, but there is certainly a crying necessity on all sides for a better conception of the true meaning and importance of the small things which are continually occurring in the every-day life of almost everybody, and especially those who have to do with live stock management.

RAISE GOOD COLTS.

South and West

How many farmers there are still to be found in different parts of the country, who imagine it a clever thing to breed from aged and exhausted dams! Intent upon the aged beasts paying their way, and knowing that their work is far less profitable than that of the younger mares, these farmers give little heed to the fact that poor, unsound colts are produced by this manner of breeding. Everything does not depend upon the stallion. He should, to be sure, possess qualifications of a high order, to be of a rugged constitution and have a good degree of vital energy; but even such a sire cannot impart all the desirable qualities. The dam should be, to say the least, a sound, vigorous animal, and not just ready to drop in her tracks.

Then, again, if good colts are wanted, do not depend alone upon the general appearance of the stallion or mare. Insist upon good pedigree; the further back this can be traced, the greater assurance of obtaining the desired results the breeder will have, based upon the principle that "like produces like."

Above all things take no stock in the saying, however old it may be, "so the father, so the son." If the father is a perfect type of health and beauty, and you want similar progeny, see that the mother is the same.

But much depends upon the treatment the colt receives, even though you have a thoroughbred or unquestioned antecedents. Blood will not ensure a good horse if the youngster is allowed to shift for himself. Good food and shelter are indispensable.

Buy the Boss Zinc and Leather Ankle Boots. (Others become worthless soon as wet.) The zinc lined bowl keeps the boot in shape and place in wet weather, and lasts a lifetime. Sold by Harness Makers on 60 days' trial. Manufactured by Dexter Curtis, Madison, Wis. 50-13t

PHRENOLOGY AND FARMING.

Bill Nye.

Much harm has been done by a long haired phrenologist in the West, who has, during his life, felt over a hundred thousand heads. A comparison of a large number of charts given in these cases shows that, so far, no head examined would indicate anything less than a member of the lower House of Congress. Artists, orators, prima donnas and statesmen are plenty, but there are no charts showing the natural born farmer, carpenter, shoemaker or chambermaid. That is the reason butter is so high west of the Missouri river to day, while genius actually runs riot.

What this day and age of the world needs is a phrenologist who will paw around among the intellectual domes of free born American citizens, and search out a few men who can milk a cow in a cool and unimpassioned tone of voice. When a long-haired crank asks you a dollar to tell you that you are a young Demosthenes, stand up and look yourself over at a distance before you swallow it all.

There is no use talking, we have got to procure provisions in some manner, and in order to do so the natural-born bone and sinew of the country must go at it and promote the growth of such things, or else we artists, poets and statesmen will have to take off our standing collars and do it ourselves. The time will surely come when America will demand less statesmanship and more flour; when less statistics and a purer, nobler and more progressive style of beefsteak will demand our attention.

PERHAPS HE WAS!

I heard a good story on a West End minister one day last week. He is a vegetarian of the strictest order, and in course of his pastoral career he was invited out to a Sunday dinner by one of the sisters of his flock, whose name for the nonce shall be Smith. Old man Smith didn't go to church that morning. His wife told him to expect her to bring home company to dine, and he, with the aid of the cook, laid the foundation for a superb repast. Mrs. Smith came home but all the company she brought was the minister. They were seated at the table when this sort of a conversation ensued:

"Mr. Jones,"—meaning the minister—"what part of the chicken do you like best?"

"Really, Mr. Smith, I don't care about any chicken."

"Well, here is some extra fine roast beef; try some of this."

"Excuse me, Mr. Smith. I will forego the beef."

"I have some tender lamb here, how will that suit?"

"I never eat lamb."

"Well, now, I know you can't refuse this boiled ham."

"Pardon me, but ham I never touch."

During all this time, Smith's father, an old gray-haired sinner, had been seated near him watching operations, and standing it as long as he could, squeaked out in a piping voice:

"John, maybe the fool will suck an egg."

The enjoyment of that dinner was spoiled.

The *Drovers' Journal* reports some late sales of horses in Chicago as follows:—

"Carriage team, \$950; carriage team, \$600; carriage team, \$375; coupé horse, \$250; coupé horse, \$250; road horse, \$500; road horse, \$250; bay driver, \$100; bay driver, \$120; bay driver, \$175; chestnut driver, \$175; chestnut driver, \$150; chestnut driver, \$300; black driver, \$125; black driver, \$175; draught team, \$400; draught team, \$425; draught team, \$430; draught team, \$425. This is the golden harvest that is in store for breeders who raise and handle the best stock."

HOW TO GRAFT.

Tribune and Farmer.

It appears to us that if farmers generally realize how easily grafting may be done with successful results, there would be much less of poor fruit and much more of good. It is not a difficult matter to set scions so that they will grow; with a little care and adjustment, and good scions and wax, failures will be rare exceptions.

The outfit necessary for doing the work consists of a small, fine saw, a sharp pocket knife, wax, light mallet, and a hard-wood narrow wedge. After selecting the limb to be grafted, saw it off—your own judgment will guide you as to best point—but before the saw gets quite through the limb, cut the bark on the under side of the limb to prevent the liability of peeling down.

Next split the stub with knife and mallet and insert the wedge in the centre of the cleft to hold it open. Whittle the scion wedge-shape, so that it will fit nicely down into the cleft. To do this, hold it in the left hand with the bud at the ball of the thumb, then cut the side towards you, as will be natural, turn it over, and cut opposite side in same way, making the wedge a little thinner on the edge opposite the bud than the other. This will ensure a firm pressure at the points where the barks of scion and stalk meet.

When set, the bud of the scion will be on line with the outer long portion of the graft. The point to be closely observed in adjustment is to have the inner or sap bark of the scion connect with the same of the stock. If a trifle too far in, or too far out, the work will be a failure. Some people set the graft a little out at the top and a little in at the bottom, so as to be sure of a connection at the crossing point, but there will be firmer hold if there is a union the whole length. Our rule has been to have the wood of the scion come exactly even with the surface of the stock wood, and we seldom fail in getting firm adhesions and solid limbs after years of growth.

After the scions are set, and two should be put into one limb if large, carefully withdraw the wedge and apply the wax, so that every part of the wood and bark cut and split is well coated. In doing this use extreme care not to move the scions at all from their sittings.

Scions that have been kept in sand in the cellar or those cut fresh from desirable trees may be used. As to the time for grafting we prefer the season when the buds on the trees are swelling rapidly, for at that time there is a lively flow of sap. It is the practice of many who are not confident as to their success to put two grafts into even quite small limbs, as there is a double chance for getting a growth, and one may be cut away if both live.

As to grafting wax we have never followed any strict rule, further than to use about two-thirds as much beeswax and tallow mixed as we have of resin. If too stiff, a little more tallow can be easily added, and if too soft, add more resin. It can be tested by putting a little of the mixture into cold water, and after it has cooled, working in with greased hands. The wax should be well worked before using it on the grafts.

In the absence of material for making wax, we have had good success in using clay mud, packing it nicely around the cleft and then winding with tow or strips of thin cloth. The whole object is to coat the cut wood so that it is not exposed to the influence of the air, and it makes but little difference how it is done. Adhesive rags we do not like as well as wax. Not more than two buds should be allowed on a scion.

Veterinary Department.

F. A. CAMPBELL, V. S., EDITOR.

[All communications desired to be answered through this column should be addressed to the "Veterinary Editor, CANADIAN BREEDER, corner of Front and Church Streets, Toronto."]

ANSWERS TO CORRESPONDENTS.

T. J. W.—I have a five-year old horse that has been going lame in his off hind leg for about a month. He is worse when he first comes out of the stable, and gets some better after he goes a little. He rests his leg while standing. Will you kindly advise me through the veterinary column what to do for him? *ANS.*—Your horse is lame in the hock; perhaps he will throw out a spavin. Clip the hair off the joint all round, and rub in half of the following blister:—Pulverized cantharides, 1 oz.; lard, 8 oz. Tie his head up for twenty-four hours, and wash off with hot water and soap, and smear over with lard after washing. Wash and grease every day for two weeks, and then apply the balance of blister, washing and greasing as before.

H. J.—I have a good cow that has broken out in lumps and blisters; some of them break and discharge a bloody matter. What is the trouble, and what would you advise? *ANS.*—Your cow is suffering from a skin-disease called pemphigus. Give her a tablespoonful night and morning of the following mixture:—Sulphate of iron, 3 oz.; pulv. gentian, 2 oz.; arsenious acid, 1 drachm; and rub on the sores a little nitrate of silver ointment, which can be obtained at the druggist's.

T. M.—A Mastiff bitch-pup of mine, five months old, some weeks ago showed symptoms of round worms. I gave her a dose of areca nut, with very good results, and after an interval of two days gave a second dose, but with no effect. Her appetite is good, and she is lively, but has some irritation of the skin which causes her to bite and scratch herself; she has got very thin. *ANS.*—The pup has got some form of eczema, caused by worms, but she cannot have any more of the parasites in her after all the vermifuge she has taken. Try the following mixture:—Fowler's solution of arsenic, 80 minims; compound syrup of phosphate of iron, 3 oz.; cod liver oil, 5 oz.; dose, a tablespoonful twice a day. Apply the following wash to the irritated spots:—Boracic acid, 1 drachm; salysilic acid, 1 scruple; water, 1 quart.

L. F. G.—I have an Irish Setter pup, four months old, that has got diarrhoea. She strains very much and sometimes passes blood and slime. You will greatly oblige if you will prescribe for her through the BREEDER. *ANS.*—The diarrhoea is no doubt caused by the presence of worms in the intestines. Give half a drachm of pulverized areca nut and two grains of santonine; in an hour after give a tablespoonful of castor oil, and if the diarrhoea continues the succeeding day, give a dessert spoonful of the following four times a day:—Aromatic chalk and carbonate of bismuth, of each 1 drachm; water, 3 ounces.

L. R.—I have an English Setter pup, seven months old, that has been quite sick for over a week, with the following symptoms:—A discharge from eyes and nose, dull and languid, diarrhoea, appetite variable, the eyes and mouth yellow, hair falling off in a few places, coat rough and staring. Have given him sulphur in his water, but he seems to get no better. What is the matter with him? *ANS.*—Your pup has got distemper, which is not very common in this country. Try the following mixture:—Salysilicate of soda, 2 drachms; compound tincture of gentian and tincture of cardorudus, of each 3 drachms; water, 6 oz.; dose, one tablespoonful three times a day. If the diarrhoea continues add 10 grains each of aromatic chalk and pulverized catechu. Keep him in a warm and

thoroughly clean and well ventilated kennel. Feed him on soft and easily digested food, such as oatmeal porridge made with milk instead of water. Allow him plenty of fresh water, with a pinch of pulverized hyposulphate of soda dissolved in it. Write again.

CARBOLIC ACID FOR VETERINARY PURPOSES.

Carbolic acid is now deservedly considered an invaluable remedy for the treatment of external injuries and diseases, says the journal of the National Agricultural Society of Victoria, Australia, from the strength of a weak eye-lotion to that of a powerful caustic. The pure crystallized acid only, should be used for medicinal purposes. The crystals are readily dissolved by placing the bottle containing the acid in warm water, and may be retained in a liquid state ready for use by adding a small quantity of water, oil, glycerine or vinegar, or made into an ointment with lard, or into a putty or paste with chalk and carbolic oil. Carbolic soap and the various preparations have a remarkable power of cleansing foul wounds, correcting viscous discharges, stimulating the healing process, and effectually killing verminal insects infecting the skin of animals, such as ticks, lice, acarus, mange, ringworm, etc. They have a remarkable effect in soothing irritation and allaying pain, as met with in severe sprains and bruises, diseases of the skin, etc. In diseases of the feet the carbolic oil or ointment is generally used as a caustic-dressing for proud flesh (excessive granulations), poisoned wounds, the stings of insects or the bites of venomous animals; the acid may be used without being diluted. Where too much acid is accidentally spilt or applied to the skin, oil will check the caustic action. The addition of glycerine to carbolic lotions will be found useful when used in cases of sore back, cracked heels, etc. As an internal remedy it effectually eradicates worms, corrects offensive discharges met with in many chronic diseases, such as fistulas, withers, quilters, caries of the bones, etc. As a disinfectant and deodorizer it stands unequalled; and one of the best plans for fumigating stables is to evaporate the commercial acid by placing it in a jar and applying a spirit lamp, or pouring it on a hot brick, taking care not to ignite the acid. It is now generally used in England to disinfect stables, cow-houses, drains, etc., and towels saturated with the solution are hung in front of animals suffering from contagious diseases, such as pleuro, it is said, with good effect; also sawdust, saturated with the solution, is spread over the floors, etc. In India it is extensively used as a disinfectant, and medicinally as a dressing for unhealthy wounds, sores and skin diseases, which are very common there; also in the foot and mouth disease, and rinderpest, internally, with apparent benefit in checking, if not curing the disease, when taken at an early stage. I do not mean to say that carbolic acid will cure all diseases, but from its powerful disinfecting properties, and poisonous action on insectile life, it does good service in all those diseases where blood poisons are concerned. Recent researches tend to show that high cultivation and excessive stimulation of the vegetable food of animals has its counter effect in introducing into their bodies the germinal ova of entozoa, which become developed and deposited in vital organs, exciting disease and producing fatal terminations. In a country like Australia, where valuable stock are scattered over thousands of miles, and professional advice cannot be readily obtained, carbolic acid has proved itself a useful remedy, and stockowners and farmers will find it to their advantage to use it in preference to the various compounds of vitriol and oil for external use, sold at high prices and under attractive names.

Live Stock & Kindred Markets.

OFFICE OF THE CANADIAN BREEDER
AND AGRICULTURAL REVIEW.

TORONTO, Dec. 23rd, 1885.

This week's cables report a break in the prices of Canadian cattle in the British markets. Receipts from Canada and the States have not been large but from home sources offerings of Christmas cattle have been heavy. Values are fully 1c. per lb lower than last week, best Canadian steers being quoted at 12½c. per lb. Sheep continue steady and are cabled at 12c. per lb.

Quotations at Liverpool on Monday, being calculated at \$4.80 in the £, were:

Cattle—	\$ c.	\$ c.	per lb.
Prime Canadian steers.....	0 12½	to 0 00	per lb.
Fair to choice grades	0 12	to 0 00	"
Poor to medium.....	0 11	to 0 00	"
Inferior and bulls.....	0 08	to 0 9½	"

TORONTO.

There is not much to be said in connection with the live stock trade this week. The receipts have so far been very light, being about half a dozen loads. This will probably be the quietest week of the year, although the receipts give promise of being larger than for the corresponding date last season. Yesterday, which is the principal market day of the week, the yards were almost deserted by ten o'clock. Values as a rule are almost nominal.

CATTLE.—Shipping cattle are nominal; there was one load on the market yesterday but it was not for sale, being intended for through shipment; reports from Great Britain are less favorable and there is consequently a weaker feeling among buyers here; with the present low prices at which good American cattle are selling it is not likely that more than 4 to 4½c. per lb. could be realized here for good shippers. Butchers' cattle are almost nominal at 3 to 4c. per lb. with common at 2½c.; the demand is limited; butchers want a few head to fill up, and common cattle are being picked up by peddlers; a few weighing from 900 to 1,200 lbs. were bought at equal to 3 to 4c. per lb. yesterday; offerings were quite equal to the demand and if any more had come in they could not have been sold; business is not likely to improve before the first week in January, at least. Milch cows are in good demand; a comparatively fair trade was done yesterday; no choice, however, were offered; sales were made at \$30 to \$42 per head with a stripper at \$26.

SHEEP AND LAMBS.—Nominal; a few were on the market yesterday—left over from last week—but no transactions were made.

HOGS.—Easier, in sympathy with the American markets; demand continues good, however; stores and light fat would sell readily at 4c.; mixed at 3½ to 3¾c. per lb. and heavy at 3¼ to 3½c. per lb.

POULTRY.—Nominal. Turkeys are wanted at 9c. per lb. and geese higher at 6½c. per lb.

Quotations are:

Cattle, export, 1,200 lbs. and upwards, heifers and steers, choice	4	to 4½	per lb.
" Mixed.....	3½	to 4	"
" Butchers' choice	3¾	to 4	"
" " good.....	3½	to 3½	"
" " inferior to common.....	2½	to 3	"
" Milch cows, per head.....	\$25	to \$50	
" Stockers, heavy	2¾	to 3½	per lb.
" " light.....	2	to 2½	"
" Bulls	2	to 3	"
" Springers, per head.....	\$25	to \$45	
Sheep, export, choice	3¾	to 3½	per lb.
" " inferior and rams.....	2¾	to 3	"
" Butchers' per head	\$2.50	to \$3.50	
" Lambs, choice, per head.....	\$3.00	to \$3.50	
" " inferior to common per head.....	\$2.25	to \$2.75	
Hogs, heavy fat, weighed off the car..	3¾	to 3½	per lb.
" Light fat, " " " "	4	to 0	"
" Store " " " "	4	to 0	"
Calves, per head, choice.....	\$5.00	to \$8.00	
" Common.....	\$2.00	upwards.	

The receipts of live stock at the Western market here for the week ending last Saturday, with comparisons, were as follows:

	Cattle.	Sheep and Lambs.	Hogs.
Week ending Dec. 19	1,555	1,187	564
Week ending Dec. 12	1,059	1,291	837
Cor. week 1884	1,473	1,185	163
Cor. week 1883	455	704	1,047

Total to date.....	57,325	63,687	18,565
To same date 1884.....	42,192	60,371	13,870
To same date 1883.....	34,604	48,880	11,299

MONTREAL.

Dec. 21.—The following were the receipts of live stock at Point St. Charles by the Grand Trunk Railway:

	Cattle.	Sheep.	Calves.	Hogs.
Week ended Dec. 19... ..	1,460	3,769	45	520
Previous week.....	625	1,268	21	99
Since May 1.....	71,905	55,571	4,509	12,698

At Point St. Charles this morning a lively trade was done in cattle, the offerings of stall-fed cattle being large, which met a good demand from butchers at ¼c. lower than last Thursday's market, sales being made at 5¼c. per lb., live weight, for choice. In export stock there was little or nothing doing, as there were no sales heard of during the morning, but prices were quoted at 4½c. per lb. Inferior butchers' stock was fairly enquired after at 3c. per lb. A large supply of sheep was on the market, and choice lots were picked up quickly at 3½c., while common stock sold slowly at 3c. per lb. There was a good demand for lambs, there being some very fine stock offered, which were well looked after at from 4 to 4¼c. Hogs were in good supply, and met a fair demand at 4½ to 5½c.

EAST BUFFALO.

Dec. 21.—Cattle—Arrivals light for opening of week, only 125 loads being offered; market opened slow; attendance of buyers being light, regular New York and Philadelphia buyers took hold better though than for several days past, and prices for good shipping cattle of 1,400 to 1,600lbs. a trifle better than at close of last week. Sales—Choice to extra, 1,400 to 1,615lb. steers ranged from \$4.80 to \$5.65, a few extra Christmas steers at \$6.10 to \$6.25; for fair medium to pretty good steers, of 1,150 to 1,375lbs., trade dull, \$3.9 to \$4.50, while mixed butchers' stock, old cows, oxen, etc., were a drag on trade. Stockers and feeders in very light demand; one or two loads of feeders being picked up at \$3.40 to \$3.60, the supply of this kind was light but fully equal to the demand; fat bulls dull, at \$2.40 to \$3; for good to choice stock bulls, \$1.90 to \$2.25; good milch cows and forward springers steady at \$35 to \$50 per head; common cows, \$20 to \$30, and quite a number of old, shelly lots sold at \$12 to \$18 per head. Veals steady, at \$5.75 to \$6.50; coarse, heavy calves, \$2.50 to \$4, as to quality. Sheep and lambs—Only 6,000 head on sale; light run for Monday; the market was active, and 15c. higher on good to choice grades than last week, but culls and common stock slow as ever; reports from New York and New Jersey unchanged, however, and the only cause for better prices here was the limited supply. There was the lightest run in Canada lambs we have had for several weeks, only four loads in all. Prices ranged as follows: Good to choice sheep, weighing 110lbs., at \$3.75 to \$4.25, with one load of fancy Indiana wethers at \$4.37½; fair to good at \$3.35 to \$3.60; culls and common at \$1.75 to \$2.75; premium Canada wethers weighing 260lbs., the best ever seen in Buffalo, were sold for 8c per lb., and will be shipped to Washington, D.C., for New Year's dinner; choice to extra Western lambs, \$4.75 to \$5.25; fair to good, \$4 to \$4.50; culls and common, \$3.25 to \$3.75; good to choice Canada lambs, \$5.50 to \$5.75; sales of Canadas included a lot of ewes, averaging 130lbs., at \$3.50; a lot of choice heavy lambs, averaging 90lbs., at \$5.70; and a lot averaging 79lbs. at \$5.25.

PRODUCE.

The close of navigation, the approach of the holiday season and continued dullness in outside markets, have kept the local produce trade very dull since our last. There is scarcely any demand heard, and, on the other hand, holders are not inclined to push sales, but seem confident that grain of all sorts is good property. Under the influence of this feeling stocks have continued to increase, and stood on Monday morning as follows: Flour, 500 barrels; fall wheat, 129,831 bu.; spring wheat, 76,166 bu.; mixed wheat, 2,994 bu.; oats, nil; barley, 146,463 bu.; peas, 7,016 bu.; rye, nil; corn, 8,985 bu. Wheat in transit for England had decreased on the 10th inst. to 1,700,000 quarters, against 1,750,000 in the preceding week. In the States the visible supply of wheat stood at 58,761,000 bushels on the 19th inst., against 58,149,000 in the preceding week.

PRICES AT LIVERPOOL ON DATES INDICATED.

	Dec. 15.	Dec. 22.
Flour.....	os. od.	os. od.
R. Wheat.....	7s. 3d.	7s. 2d.
R. Winter.....	7s. 3d.	7s. 2d.
No. 1 Cal.....	7s. 4d.	7s. 2d.
No. 2 Cal.....	7s. od.	6s. 11d.
Corn.....	4s. 9½d.	4s. 8d.
Barley.....	os. od.	os. od.
Oats.....	os. od.	os. od.
Peas.....	5s. 6d.	5s. 6d.
Pork.....	49s. od.	49s. od.
Lard.....	32s. od.	31s. 6d.
Bacon.....	30s. od.	29s. 6d.
Tallow.....	26s. 3d.	26s. 6d.
Cheese.....	45s. 6d.	47s. od.

FLOUR.—The previous dullness has been unabated and the tendency of prices has been downward. There has been scarcely anything doing all week; at the close superior extra sold to a small extent at \$3.70, and extra was offered at \$3.60.

BRAN.—Scarce, firm and wanted; a car of bagged sold at \$12.00.

OATMEAL.—Inactive and weak; cars have been obtainable at \$3.75, but no sales quoted; small lots as before at \$4 to \$4.25.

WHEAT.—Has remained very quiet, there being very little inclination manifested either to buy or sell. No. 2 fall, for May delivery, sold on Saturday at 90¼c.; the same grade brought 85c. f.o.c. last week, but at the close 84c. was the best bid; spring, purely nominal, at about 85 to 86c. for No. 2, but none offered. On the street receipts have been considerable; prices closed at \$2 to \$4c. for fall, at 70 to 84c. for spring, and at 69 to 72c. for goose.

OATS.—Have shown very little change in value. Cars on track sold in the latter part of last week at 33 to 34c. for feeding, and at 35c. for milling; cars of feeding, to arrive, sold on Monday at 32½ and 33c. Market closed quiet with values unchanged and street prices from 33 to 35c.

BARLEY.—The movement has been very small, and prices seem to have been easier. No. 1 very scarce; sold last week at 92c. f.o.c., and since then at 94c. for inspected; No. 2 has brought \$1 to 82c. f.o.b.; cars and extra No. 3 has sold at 70 to 71c.; lower grades nominal, with No. 3 offered at 58c. without buyers. Street prices 58 to 92c., the latter for No. 1 only.

PEAS.—Easier, with sales of cars at 60c. on spot, at which it is probable that more would have been taken. Street prices 59 to 61c.

HAY.—Pressed, quiet and easy at \$12 to \$13 for car lots. Market receipts have been sufficient and prices rather easier at \$10 to \$12 for clover and \$13 to \$14.50 for timothy.

STRAW.—Supplies have been on the increase and prices closed rather easier; loose has sold at \$7.50 and sheaf at \$9.50 to \$12.

POTATOES.—Quiet, closing with car lots offered at 50c. and street receipts unchanged at 60 to 65c. per bag.

APPLES.—Steady; two cars of greenings sold at \$2.25; and street receipts have gone off as before at \$1.25 to \$2.

POULTRY.—Closed with a heavy rush of supplies and weak prices at 9 to 10c. for turkeys, at 5½ to 6c. per lb. for geese; with ducks 50 to 60c. and fowl 25 to 40c. per pair.

TORONTO MARKETS.

Flour, p. brl., f.o.c., Sup. extra ..	\$ 3 70	to \$ 0 00
" " " Extra.....	3 60	to 0 00
" " " Strong Bakers'...	0 00	to 0 00
" " " S. W. Extra.....	0 00	to 0 00
" " " Superfine.....	0 00	to 0 00
Oatmeal.....	3 70	to 3 80
Cornmeal.....	0 00	to 0 00
Bran, per ton.....	11 50	to 00 00
Fall wheat, No. 1.....	0 00	to 0 00
" " No. 2.....	0 83	to 0 85
" " No. 3.....	0 00	to 0 00
Spring wheat, No. 1.....	0 00	to 0 00
" " No. 2.....	0 85	to 0 87
" " No. 3.....	0 00	to 0 00
Barley, No. 1.....	0 92	to 0 93
" " No. 2.....	0 80	to 0 82
" " No. 3 Extra.....	0 70	to 0 71
" " No. 3.....	0 56	to 0 58
Oats.....	0 33	to 0 34
Peas.....	0 60	to 0 00
Rye.....	0 60	to 0 00
Corn.....	0 00	to 0 00
Timothy seed, per bush.....	0 00	to 0 00
Clover.....	0 00	to 0 00
Flax, screened, 100 lbs.....	0 00	to 0 00

PROVISIONS.

BUTTER.—The movement has been small, as the only sort wanted has been choice Christmas butter; this has been readily taken at 15 to 16c. and sometimes at 17c., but medium and inferior qualities have been without buyers and stocks of them accumulating. Rolls abundant; good average qualities have sold at 12½ to 14c. and choice at 15c. On street large receipts have reduced prices of pound rolls to 20 to 24c.; tubs and crocks of good to choice, 14 to 17c.

EGGS.—Receipts increased and prices lower at 19c. for fresh and 16c. for pickled in round lots; fresh on the street, 20c.

CHEESE.—Small parcels in fair demand for fine at 9 to 9½c., and inferior to medium slow of sale at 6½ to 8c.

PORK.—Small lots firmer at \$13.50, but sales few.

BACON.—The demand has been very slack and the small supplies fully sufficient to meet it; long clear has sold slowly at 7c.; rolls unchanged at 8¼ to 9½c., and bellies at 10½ to 11c., and 11½c. for boneless.

HAMS.—In fair demand at former prices, or 11 to 11½c., the former being for lots not less than 50, sales of which have been rather few.

LARD.—Still in good demand and steady, at 9 to 9½c. for pails, which are the only sort of package offered.

HOGS.—The previous advance has been lost, latest sales of rail lots being at \$5 to \$5.12; and of street receipts at \$5 to \$5.50; offerings large.

SALT.—Inactive and entirely unchanged all over. No Liverpool coarse on hand and cars to arrive held at 65c.; fine selling slowly at \$1.45, and dairy in 50 lb. bags at 40c. Canadian inactive at Soc. for car lots and 85c. for small lots.

DRIED APPLES.—Steady; trade lots have changed hands at 4c., and dealers have been selling barrelled in small lots at 4¼ to 5c.

WHITE BEANS.—Still in good demand; hand-picked have been steady at \$1.15 for lots, and average qualities worth about \$1; dealers' prices for small lots \$1.15 to \$1.30.

HOPS.—Nothing doing and prices unchanged at 7 to 10c. for single bales, which is the only way in which anything at all is done.

TORONTO MARKETS.

Butter, choice dairy	\$ 0 14	to \$ 0 16
“ good shipping lots	0 10	to 0 12
“ inferior, etc.	0 03½	to 0 04
Cheese, in small lots.....	0 06½	to 0 09½
Pork, mess, per brl.....	13 00	to 13 50
Bacon, long clear	0 07	to 0 00
“ Cumberland cut.	0 00	to 0 00
“ smoked	0 00	to 0 00
Hams, smoked	0 11	to 0 11½
“ cured and canvassed.....	0 07	to 0 10
“ in pickle	0 00	to 0 00
Lard, in tinnets and pails.....	0 09	to 0 09½
“ in tierces	0 00	to 0 00
Eggs	0 16	to 0 19
Dressed hogs	5 00	to 5 12
Hops.....	0 07	to 0 10
Dried apples	0 04	to 0 05
White beans	1 00	to 1 30
Liverpool coarse salt.....	0 00	to 0 00
“ dairy, per bag 50 lbs.	0 40	to 0 00
“ fine.	1 50	to 0 00
Goderich, per barrel.....	0 85	to 0 90
“ per car lot	0 80	to 0 00

THE HORSE MARKET.

TORONTO.

There is no improvement in the horse business this week. About 25 cheap work-horses were sold at Grand's yesterday at prices ranging from \$50 to \$115. There are no special sales to report.

MONTON.

There is a fair demand for business horses weighing from 1,100 to 1,450lbs., for all kinds of draught. Good express horses are wanted at \$200 to \$225 per head, if of good style. J. C. Richardson had 60 head the past week, a mixed lot, some draught, and a good many so-called streeters, or for car horses; the latter were sold at \$150 per head. Draught horses weighing 1,150 to 1,400 lbs., at \$175 to \$225. Hodges & Morse had on sale a car load of 20 head. L. N. Pitcher, of Iowa, had in 18 business horses of large size, selling at \$175 to \$250 per head.

CHICAGO.

Current receipts of horses are very small, and but little trading is being done. The cold weather has interfered somewhat, but the chief cause of depression at present is the nearness of the holiday season.

Chicago prices for horses are illustrated in the following sales:—Carriage team, \$400; bay driver, \$150; bay driver, \$135; bay driver, \$115; grey driver, \$150; grey driver,

\$140; grey driver, \$140; grey driver, \$150; draught team, \$390; draught team, \$375; draught team, \$325; draught team, \$325; draught team, \$325; draught team, \$340; grey horse, \$150; grey horse, \$200; grey horse, \$165; black horse, \$150; ten streeters, per head, \$125; thirty-six horses to go east, per head, \$150.

HIDES, SKINS AND WOOL.

HIDES.—Green have shown little change, having been in fair supply and of good quality, and selling at former prices. Cured in good demand, with sale of car lots at 9½c., and steers at 10c.

CALFSKINS.—Nominally unchanged, with scarcely any offered.

SHEEPSKINS.—Prices steady at last week's advance; the best green going at \$1, and country lots at 75 to 90c., with a good demand for all offered.

WOOL.—Steady and readily taken, but very slowly offered. In fleece there was one lot of 10,000 lbs. of fair average sold for 21c., at a point east, and some few very small farmers' lots here at the same figure. Super has been selling at 22 to 23c., and extra at 26 to 27c., but only to a small extent; combing inactive.

TALLOW.—Very dull, and any selling going at former prices.

Hides and Skins—		
No. 1 steers	\$ 0 09½	to \$ 0 09¾
Cows, No. 2 and No. 1	0 07½	to 0 08½
Cured and inspected.....	0 09½	to 0 09½
Calfskins, green	0 11	to 0 13
“ cured	0 13	to 0 15
Sheepskins.....	0 65	to 1 00
Lambskins	0 00	to 0 00
Pelts	0 00	to 0 00
Tallow, rough.....	0 03	to 0 00
“ rendered	0 06	to 0 00
Wool—		
Fleece, comb'g ord	0 19	to 0 21½
“ Southdown.....	0 22	to 0 23
Pulled combing	0 18	to 0 19
“ super	0 22	to 0 23
Extra	0 26	to 0 27



Brewster's Patent Bein Holder.
Your lines are where you put them—not under horses' feet. One agent sold 12 doz. in 5 days, one dealer sold 6 doz. in 15 days. Samples worth \$1.50 FREE. Write for terms.
E. E. DREWSTER, Holly, Mich.

J. H. BONNELL & CO.
BLACK AND COLORED

Printing Ink Manufacturers,
7 Spruce St., Tribune Building,
NEW YORK CITY.

Factory: Long Island City.

JOHN S. WILSON,
General Agent.



Welland Canal Enlargement.

NOTICE TO CONTRACTORS.

Sealed tenders addressed to the undersigned and endorsed "Tender for the Welland Canal," will be received at this office until the arrival of the Eastern and Western mails on MONDAY, the 25th day of JANUARY next (1886), for raising the walls of the locks, weirs, etc., and increasing the height of the banks of that part of the Welland Canal between Port Dalhousie and Thorold, and for deepening the Summit Level between Thorold and Itaney's bend, near Humberston.

The works throughout will be let in sections. Maps of the several localities, together with plans and descriptive specifications, can be seen at this office on and after MONDAY, the 11th day of JANUARY next (1886) where printed forms of tender can be obtained. A like class of information relative to the works north of Allanburg will be furnished at the Resident Engineer's office, Thorold, and for works south of Allanburg, plans, specifications, etc., may be seen at the Resident Engineer's office, Welland.

Contractors are requested to bear in mind that tenders will not be considered unless made strictly in accordance with the printed forms, and in the case of firms, except there are attached the actual signatures, the nature of the occupation and place of residence of each member of the same; and further, an accepted bank cheque for the sum of Two Thousand Dollars or more—according to the extent of the work on the section—must accompany the respective tenders, which sum shall be forfeited if the party tendering declines entering into contract for the works, at the rates stated in the offer submitted.

The amount required in each case will be stated on the form of tender.

The cheque or money thus sent in will be returned to the respective parties whose tenders are not accepted.

This Department does not, however, bind itself to accept the lowest or any tender.

By order,
A. P. BRADLEY,
Secretary.

Dept. of Railways and Canals,
Ottawa, December 9, 1885.



NOTICE TO CONTRACTORS.

Sealed tenders addressed to the undersigned, and endorsed "Tender for Engine House, Toronto, Ont.," will be received at this office until MONDAY, next instant, for the erection and completion of
AN ENGINE HOUSE,
AT THE EXAMINING WAREHOUSE, TORONTO, ONT.

Plans and specifications can be seen at the Department of Public Works, Ottawa, and at the office of D. B. Dick, Architect, Toronto, on and after WEDNESDAY, 9th instant.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures.

Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honorable the Minister of Public Works, equal to five per cent. of the amount of the tender, which will be forfeited if the party decline to enter into a contract when called upon to do so, or if he fail to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department does not bind itself to accept the lowest or any tender.

By order,
A. GOBEIL,
Secretary.

Department of Public Works,
Ottawa, 9th December, 1885.

"TUBMAN" FOR SALE.

The Thoroughbred Stallion "TUBMAN" will be sold for below his value.

Tubman, by War Dance, dam Lass of Sidney. For further pedigree see American Stud Book.

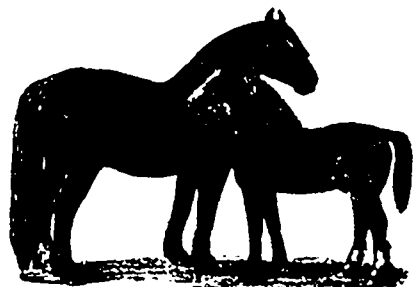
F. A. CAMPBELL, V.S.,
32 Richmond St.,
TORONTO.

SEDGWICK STEEL WIRE FENCE



Is the best general purpose wire fence in use. It is a strong net-work without barbs. Don't injure stock. It will turn dogs, pigs, sheep and poultry, as well as horses and cattle. The best fence for Farms, Gardens, Stock Ranges and Railroads. Very neat, pretty styles for Lawns, Parks, School-lots and Cemeteries. Covered with rust-proof paint, or made of galvanized wire, as preferred. It will last a life-time. It is better than boards or barbed wire in every respect. Give it a fair trial; it will wear itself into favor. The Sedgwick Gates made of wrought-iron pipe and steel wire, defy all competition in lightness, neatness, strength and durability. We make the best, cheapest and easiest working all-iron automatic or self-opening gate, and the nearest cheap iron fence now made. The best Wire Stratcher, Cutting Hires and Post Augers. For prices and particulars ask Hardware Dealers, or address, mentioning paper.

SEDGWICK BROS., Richmond, Ind.



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BREEDERS AND DEALERS IN
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STALLIONS & MARES,

OWNERS OF

Manfred, Cheviot, and Doubtnot,
All First Prize Winners.

Have always on hand, Stallions of the now
most fashionable breeds for sale.
Correspondence solicited. Address,

GRAHAM BROS.,

Clydesdale Horse Importers,

CLAREMONT, Ontario, Canada.

PERCHERON HORSES.



Island Home Stock
Farm, Grosse Ile,
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veniently located for
Canadians, being on
an island in Detroit
River, ten miles below
Windsor, Ont. Pur-
chasers will find a
large number of pure
bred and grade stal-
lions, brood mares
and colts of all ages
to select from. All
pure bred stock, reg-
istered in the French and American Stud Books.
Prices reasonable, stock guaranteed. Large illus-
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E. & A. STANFORD,

STEYNING, SUSSEX, ENGLAND,

AND

MARKHAM, CANADA,

Breeders and Importers

OF
CLYDESDALE HORSES, PONIES,

Sussex Cattle, Southdown Sheep,
Sussex Pigs. Game and
Dorking Chicken.

A good selection of either now for sale.

Enquire of

E. STANFORD,

Markham, Ont., Can.

J. & W. B. WATT,

BREEDERS OF

Shorthorn Cattle, Clydesdale Horses,
Southdown Sheep, and
Berkshire Pigs.

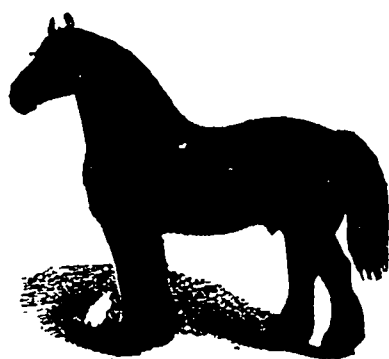
"Barnpton Hero," 278-55313, and Imported "Lord
Lansdowne" at head of herd.

Herd numbers 60 head of choice animals.

Address

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Salem P. O., Ontario.



JAMES FORSHAW,

BREEDER AND DEALER

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English Shire Horses,

STALLIONS AND MARES,

OWNER OF

"What's Wanted," "Bar None," "London
Tom," "St. Ives," all Islington Winners.

Has always on hand Stallions and Mares of
the now most fashionable breed, suitable for
exportation.

Correspondence solicited. Address,

JAMES FORSHAW,

SHIRE HORSE STUD FARM,

BLYTH, near Worksop,

ENGLAND.



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ENGLISH SHIRE

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Cleveland Bay Horses,

STALLIONS & MARES.

During the last twenty years, has won over
\$00 prizes, at all the leading Agricultural Shows
in England.

Has always on hand, STALLIONS, MARES
and FILLIES, selected with great care from
the best strains in England.

Mirfield is on the direct line between Liver-
pool and Leeds. Address,

SHIRE HORSE STUD FARM

MIRFIELD,

Yorkshire, England.

N.B.—Five minutes walk from the station.

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Will Have It.

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UTTOXETER, ENGLAND,

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Corn, Frozen Wheat,

AMERICAN,

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PRODUCE,

IN EXCHANGE FOR

SHIRE CART HORSES,

AND ALL OTHER BREEDS DOWN TO A SHET-
LAND PONY.

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ALL CORRESPONDENCE ANSWERED.

REFERENCES ON APPLICATION ON BOTH SIDES.

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Commission 3 per cent. on business. Pedigree re-
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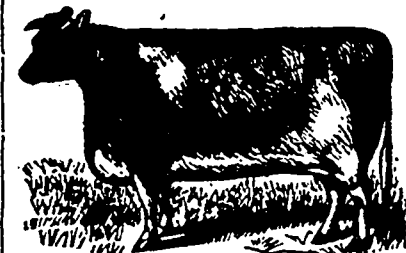
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HEREFORD CATTLE

And Shropshire Down Sheep.

Herd headed by the Imported Bulls Corporal, 4176
and Earl Downton, 12797.
Choice Herefords and Shropshire Sheep for sale.
Address,

THE PARK, WESTON, ONTARIO.

Ten minutes' walk from Grand Trunk and Can-
ada Pacific R'y Stations. Eight miles from Toronto.



BOW PARK

Thos. Nelson & Sons

Have always on hand a very fine
selection of

BULLS and BULL CALVES.

PARTIES ON BUSINESS WILL BE
MET AT THE DEPOT.

For further information apply to
JOHN HOPE,
Bow Park, BRANTFORD, Ont.

Jersey Bulls For Sale.

American Jersey Cattle Club

Herd Register.

ACTOR, \$250.

First prize two-year old class, and Silver Medal best
Jersey Bull any age, Toronto, 1884.

CARLO, OF GLEN STUART, \$150.

First Prize Toronto, 1885, eleven animals in the
ring.

BULL CALF, \$40; 9 months old.

For full particulars as to pedigree, etc., apply to

A. McLEAN HOWARD, Jr.

Toronto, Ont.

J. G. WRIGHT,

BREEDER OF

Pure-Bred Shorthorn Cattle.

SENATOR, 1783, at head of herd. Has always a
few choice animals of both sexes for sale.

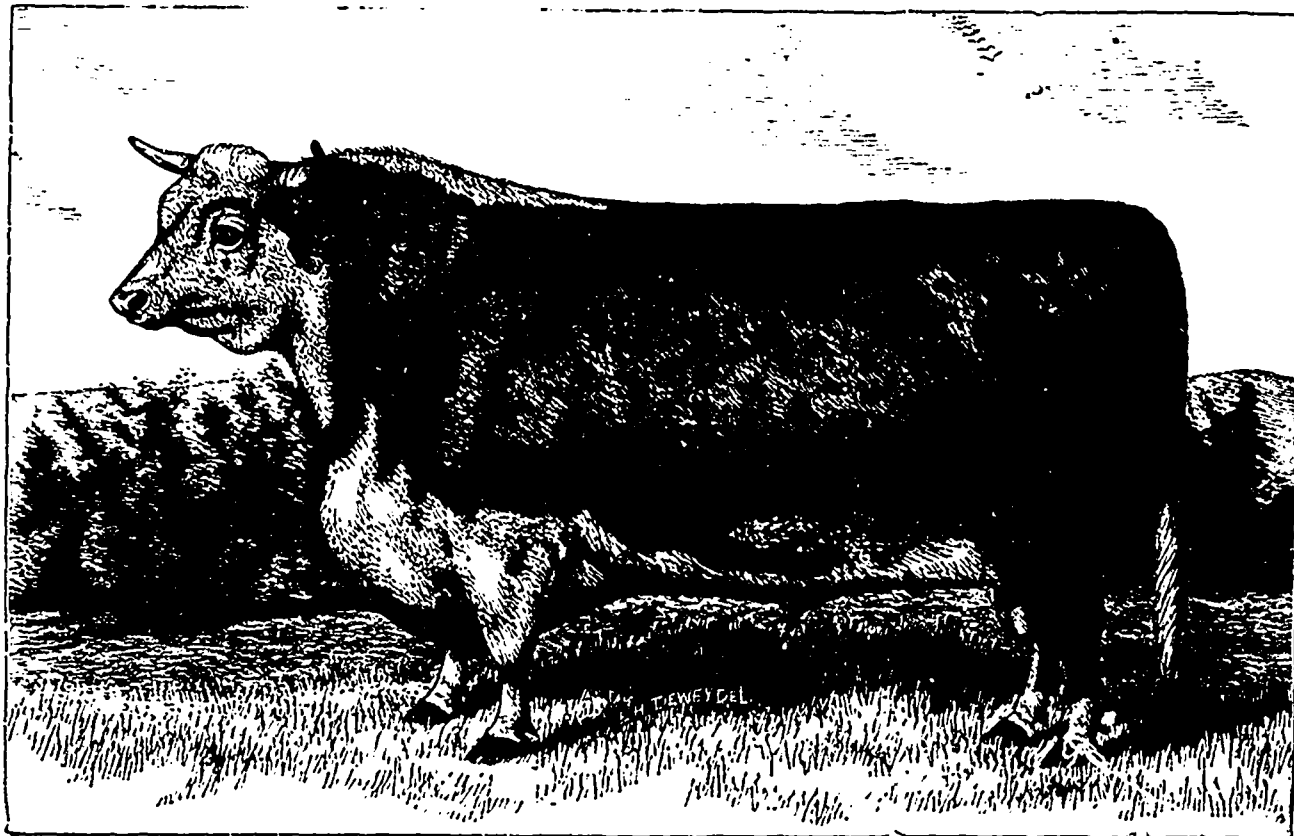
Address

J. G. WRIGHT, Shorthorn Breeder,

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THE PARK HEREFORD HERD.

PRIZE HEREFORDS.



PRIZE HEREFORDS.

PRIZE HEREFORDS.

I have still for sale a few young HEREFORD BULLS from recently imported stock, all eligible for or already entered in the American Hereford Record. Stock Bulls in use now are CORPORAL, 4175 (A.H.R.), 1st prize Ontario Provincial Exhibition, Ottawa, 1884, and my last importation EARL DOWNTON, bred by Mr. Thomas Fenn, Stonebrook House, Ludlow, Herefordshire, England, and sired by his grand bull "Auctioneer."

FRANK A. FLEMING, Importer and Breeder,

THE PARK, WESTON, ONT., NEAR TORONTO, CAN.

In replying to this advertisement mention the Canadian Breeder.

W. HERON & SON, JERSEY CATTLE.

Breeders and Importers of

SHORTHORNS, CLYDESDALES

AND

SHROPSHIRE SHEEP.

A NUMBER OF RAMS AND EWES FOR SALE

Correspondence Solicited.

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ASHBURN, ONTARIO.

FRANK L. GASTON

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TWO DOLLARS A YEAR.
POSTAGE FREE.

BEST STRAINS

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Breeding Farm established by the Hon. D. REESOR.

Young animals of both sexes for sale.

FRED. LEATHERS,

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THE ALLODIAL ARGUS.

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WE CARRY THE LARGEST AND BEST ASSORTED STOCK IN THE DOMINION.

Look at our Prices—

Maud S. Harness,	\$23.00	worth	\$45.00
Blue Ribbon do.	18.00	"	35.00
Single Strap	18.00	"	35.00
Blue Rib'n Double	36.00	"	45.00
No. 2	11.50	"	20.00
No. 2 Double	25.00	"	35.00
No. 3	9.00	"	15.00

All Hand Stitched No. 1 Stock used. Call in and examine or send for catalogue.

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HARNESS! HARNESS

40 years in the country is the test that tells.

No Cheap Yankee or Auction Work.

Send for a set of our \$12.50 Nickle Harness on trial. Privilege of inspection.

Harness at all prices. Send for price list.

Stevenson Manuf. Co.,
No 55 Jarvis Street



NOTICE TO CONTRACTORS.

Sealed tenders addressed to the undersigned and endorsed "Tender for Public Buildings, at Peterborough, Ont.," will be received until TUESDAY, the 20th day of January next, inclusive, for the erection of Public Buildings, for the

POST OFFICE, AND THE CUSTOMS AND INLAND REVENUE OFFICES, AT PETERBOROUGH, ONT.

Plans and specifications can be seen at the Department of Public Works, Ottawa, and at the office of J. E. Belcher, Architect, Peterborough, on and after FRIDAY, the 18th day of December next.

Persons tendering are notified that tenders will not be considered unless made on the printed forms supplied, and signed with their actual signatures. Tender for each building to be separate, and forms will be supplied for each.

Each tender must be accompanied by an accepted bank cheque, made payable to the order of the Honorable the Minister of Public Works, equal to five per cent of the amount of the tender, which will be forfeited if the party declines to enter into a contract when called upon to do so, or if he fails to complete the work contracted for. If the tender be not accepted the cheque will be returned.

The Department does not bind itself to accept the lowest or any tender

By order,
A. GOHEIL,
Secretary.

Department of Public Works,
Ottawa, 7th December, 1885

Sibley's Tested Seeds
Catalogue free on application. Send for it.
WILLIAM SIBLEY & CO.,
ROCHESTER, N. Y. AND CHICAGO, ILL.

High Grade Jersey Cows FOR SALE.

FROM THE CELEBRATED
OAKLANDS JERSEY STOCK FARM.

We have a few Choice
HIGH GRADE JERSEY COWS,
Fresh in Milk, of good individual merits, which
we can offer for sale to those anxious to improve
their dairy stock.

PRICE \$100 EACH.

The Jersey is the great Cream and Butter Cow.
Apply to

H. H. FULLER,
Manager of Oaklands Jersey Dairy,
131, Yonge St., Toronto.



J. R. BOURCHIER,
BREEDER OF

Shorthorn Cattle & Berkshire Pigs.

A FEW YOUNG BULLS FOR SALE.
Pedigrees on application.

SUTTON WEST, ONTARIO, CAN.
H. SORBY. WM. McCRAE.

Alton Hall Stock Farm.

SORBY & McCRAE,
Importers and Breeders of

Galloway and Hereford Cattle.

A Choice Lot of Bulls and Young Cows
for Sale.

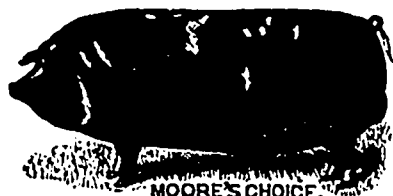
BERKSHIRE PIGS,

Young stock of all ages for sale.

Plymouth Rock Fowls,

Choice young birds for sale.

SORBY & McCRAE,
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Near Guelph, Ont.



MOORE'S CHOICE.

THOROUGHbred POLAND-CHINAS,

As produced and bred by A. C. Moore & Sons,
Canton, Ill. The best hog in the world. We
have made a specialty of this breed for 38 years.
We are the largest breeders of thoroughbred
Poland-Chinas in the world. Shipped over 750
pigs in 1884 and could not supply the demand.
We are raising 1000 pigs for this season's trade.
We have 160 sows and 10 males we are breeding
from. Our breeders are all recorded in *American
P. C. Record*. Photo card of 43 breeders
free. *Siene Journal*, 25 cents, in 2-cent stamps.
Come and see our stock; if not as represented
we will pay your expense. Special rates by
Express.



SUFFOLK PIGS.

Bred from imported stock—the boar in use
was bred by the Earl of Ellesmere, and won
first prize in his class at the chief shows in
Canada this Year.

SEVERAL PRIZE WINNERS

in stock. Address:

GEORGE BUNBURY,
SUFFOLK LODGE, OAKVILLE,
Ontario, Canada.

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OF

POLAND CHINA HOGS,

BENSON & WIKOFF, Proprietors.

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All stock recorded in C.P.C.R. Our Motto:
Individual Merit and Gilt-Edge Pedigrees.
All stock guaranteed to be as represented.
Low rates by Express. Send for Illustrated
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BENSON & WIKOFF.

LOOK! LOOK!! LOOK!!!

Look at these Bargains!



O. E. COZZENS,

Breeder of all kinds of

Fancy Poultry, Geese, Ducks and Turkeys.

All Stock of the Very Best and Most
Fashionable Strains.

Offers the following bargains till February
15th:—6 trios Brown Leghorns, \$5.00 a
trio; 5 trios White Leghorns, \$5.00 a trio;
10 trios Plymouth Rocks, \$5.00 a trio; 3
trios Houdans, \$1.00 a trio; 4 trios each, Light
and Dark Brahmans, \$6.00 a trio; 5 trios
Wyandottes, \$6.00 a trio; 2 trios Rose
Comb Brown Leghorns, \$4.00 a trio. Orders
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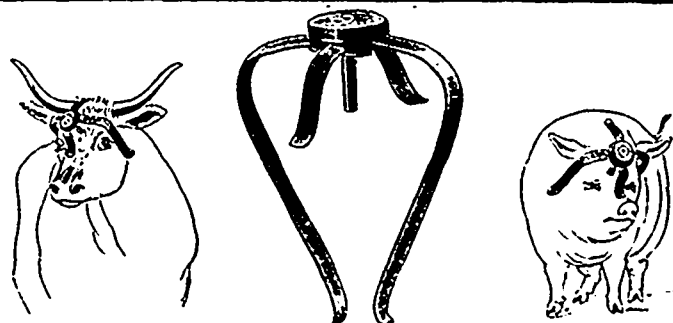
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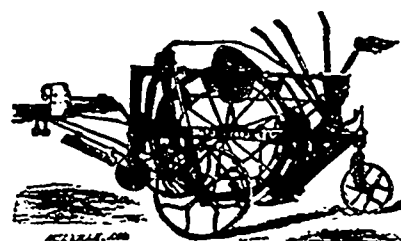
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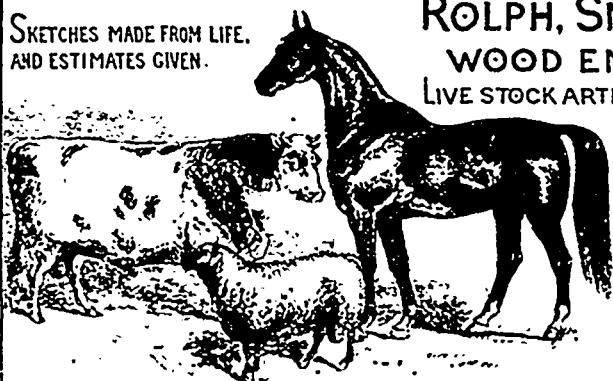
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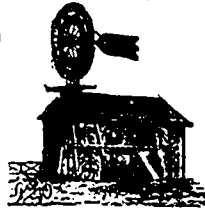
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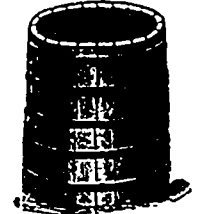
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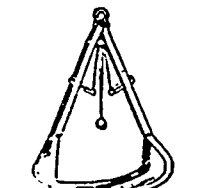


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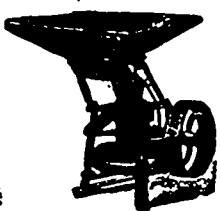
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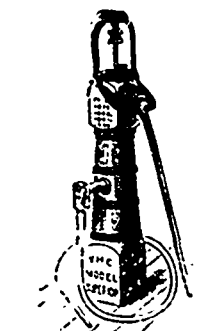


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- 3. Reminiscences of Clydesdale Horse Breeding, by D. Riddell, Blackhall, Paisley.
- 4. Agricultural Depression.
- 5. The Law of Horses, by a member of the Faculty of Procurators, Glasgow.
- 6. The English Cart Horse.
- 7. Report of the Select Clydesdale Horse Society of Glasgow.
- 8. General Agricultural News.

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Sec. of the Dept. of Agriculture,
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