

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

VOL. XVII.

LONDON, ONT., SEPTEMBER, 1882.

No. 9.

REGISTERED IN ACCORDANCE WITH THE COPYRIGHT ACT OF 1875.

FOUNDED 1866.

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

WILLIAM WELD, Editor and Proprietor.

**The Only Illustrated Agricultural Journal
Published in the Dominion.**

TERMS OF SUBSCRIPTION:
\$1.00 per year, in advance, postpaid; \$1.25 in arrears.
Single copies, 10 cents each.

Subscriptions can commence with any month.
Remittances at the risk of the subscriber unless made by registered letter or money order.
Subscribers who desire to change their P. O. address will send both old and new address.

The FARMER'S ADVOCATE is continued until otherwise ordered. The name of a subscriber is taken off from our list with the same promptitude in all cases that it is put on, provided all arrears are paid up, but we cannot stop a paper unless the name of the Post Office, as well as that of the subscriber, is sent to us.

ADVERTISING RATES:
Twenty cents per line of nonpareil, with choice of position
Twenty-five cents per line; and Fifty cents per line for special notices.

Special contracts made for definite time and space.
Advertisements must be acceptable in every respect.

CONDENSED CASH ADVERTISEMENTS.

Farms wanted, for sale or to rent, under twenty words and not exceeding four lines, 50c. each insertion, in advance.

Live stock wanted, or for sale, under twenty words and not exceeding four lines, 50c. each insertion, in advance.
Stock Breeders' Cards \$1.50 per line per year, in advance.
Send for Advertising Circular.

Address—
THE FARMER'S ADVOCATE, LONDON, ONT., CANADA.

50,000 Copies.

THE ANNUAL EXHIBITION NUMBER OF THE FARMER'S ADVOCATE AND HOME MAGAZINE, for 1882, will be issued in three special editions. The second on the 15th Sept., and the third on the 15th Oct. About 25,000 copies will be mailed before the leading exhibitions and fairs to leading well-to-do and enterprising farmers only, throughout our Dominion.

Our friends will kindly forward copy for advertisements and communications as soon as possible for the second edition.

This issue affords special advantages to advertisers who wish to push their business in Manitoba and Maritime Provinces.

Our Fall Campaign.

**Grand Premiums for Workers.
Pushing Agents Wanted Everywhere.**

To every paid up subscriber, or any member of his family, to all post-masters and school teachers, for one new subscriber, paid for one year in advance, we will send per mail, post-paid, the charming lithograph, "Yes, or No," by Millais, or 2 plants (6 to 12 inches each) of the Russian Mulberry, and for two new subscribers we will send our beautiful chromo of "Balmoral Castle," or "The Curfew, or Homeward."

No prizes are given to subscribers, except for sending in one or more paid new subscribers.

"The best agricultural paper printed."
N. ANDERS, Oakland, Ont.

Our Prize Essay.

Our prize of \$5.00, for the best essay on "The most correct account of the apple blight, and the remedy or preventative for the same," has been won by "Lathrax," of Goderich, Ont.

\$100.00 Prize.

The FARMER'S ADVOCATE prize of \$100, given by William Weld, of London, Ontario, "for the best herd of five Cows for general purpose and profit," will be competed for at the Provincial Exhibition at Kingston, 18th Sept., 1882.

RULES FOR COMPETITION.

1. Pure-breds, or grades, may compete, and animals entered in other classes are eligible for this prize. A heifer in calf to be considered a cow, and may be one of herd.
2. Persons competing for this prize must furnish a statement showing the breeding of the animals, the product of milk, butter and cheese made from them during the past twelve months, together with a statement of the management, feed, &c., with cost, both in summer and winter, and an estimate of the yearly profit from them. These statements must be given to the judges before the prize is awarded, to be to their satisfaction, and will become the property of the FARMER'S ADVOCATE.
3. The herd to have been the property of the exhibitor for at least six months previous to exhibition.
4. Judges especially appointed by the Association will award this prize.
5. Entries can be made with the Secretary up to the 18th September, 1882.
6. The rules of the Association to govern all points except as above noted.

Texan Cattle Fever.

The great spread of this disease in the States is causing much alarm, and has now infected valuable herds in most of the Northern States. The importation of all American cattle, whether in bond, or even into our quarantine, should be prohibited, if not altogether, at least till after winter has well set in, as frost destroys the germs of this disease, for in no other way can our cattle remain healthy and be accepted the world over as absolutely free from infectious disease. As the disease is unpleasantly near to our borders, we should like to know what steps our authorities are taking to prevent its introduction into Canada.

This disease arises in the low, malarious grounds bordering on the Gulf of Mexico, and is communicable to cattle on the elevated lands of the other States in a more fatal form. Contagion takes place through the bowel discharges, and roads, pastures, watercourses, etc., are efficient bearers of the virus. It takes from four to five weeks for the disease to develop itself, ending in high temperature, 103 to 107, followed by dullness, languor, drooping of the head till the nose reaches the ground, arched back, hind legs advanced under the belly, coughing, muscular trembling about the flanks; soon weakness compels lying down, by choice, in water; eyes glassy and fixed; dung hard and coated with mucous or blood; urine dark red or black. As the symptoms become aggravated weakness becomes extreme. Treatment should never be called for; the animal should be destroyed immediately.

The Coming Exhibitions.

Mr. Wade, Secretary of the Ontario Provincial Exhibition, reports that for this exhibition entries are coming in daily in large numbers. The time for taking entries of live stock has been extended. Entries in all classes from the principal herds of Ontario have already been made, and also a considerable number from Quebec. Many of the animals have been imported this season, and will be very interesting to the agriculturists of this country. The entries for heavy draught, agricultural and carriage horses are numerous. Sheep and pigs will also be largely represented. There are already indications that the exhibit of poultry will be very large. The entries for cheese and dairy produce and appliances are also extensive, as well as machinery, both agricultural and industrial. There will be a special building for the Manitoba exhibit. R. R. Keith, Seedsman, of Winnipeg, Man., expects to leave Winnipeg on the 10th inst. with exhibits of Manitoba products for the Ontario Exposition in Kingston. The Kingston people are determined to make the exhibition in every way a success, and to show that the proverbial hospitality of the

THE INDUSTRIAL EXHIBITION IN TORONTO.—The directors are determined to make this a success. In addition to the attractions usually to be seen at other fairs, they intend having special novelties, among which will be a grand display of modern naval warfare by the shelling and blowing up of large vessels on the lake in front of the grounds. There will also be a grand display of fireworks, and other amusements too numerous to mention. Limestone City is greater than ever. The time for entries has been extended to the 16th Sept.

WESTERN FAIR IN LONDON.—Everything in connection with this exhibition is being pushed forward as speedily as possible. The entries are numerous. The display of machinery and implements, as usual, will be the finest in the Dominion. There will be many specialties, including a bicycle race; the grounds will be illuminated each evening with electric light. The directors intend doing all they can to render the fair as attractive as possible.

THE GREAT CENTRAL AT HAMILTON—has always been celebrated for its excellent display of fruit, flowers, &c.; it is expected that the forth-coming exhibition will be equal to any of its predecessors.

THE QUEBEC PROVINCIAL AT MONTREAL.—The entries are very numerous. There will be special attractions, and the Exhibition promises to be a success. Captain Matthew Webb, the famous English swimmer, is to be in Montreal during the Exhibition.

In the Maritime Provinces it is expected that the Exhibitions at Charlottetown and Truro will be very good.

We have received a circular from the Secretary of the Manitoba Board of Agriculture stating that there will be no Provincial Exhibition there this year.

Secretaries of township shows are particularly requested to remember that the FARMER'S ADVOCATE for one year is given to each Society as a special prize, to be selected by the Directors.

At this season of the year our subscribers are particularly requested to send short, chatty and practical accounts of their visits to the township and other shows. Let the boys and girls also try and send in their notes of points of interest, improvements and novelties observed by them.

On the Wing.

After reading the reports of the great injury done to the wheat crop by the Hessian Fly, we decided to make further personal examination. We therefore took a trip to Chatham, in the County of Kent. This is the centre of the greatest wheat producing section in Ontario. We have not yet seen any land on this continent to equal this for wheat raising; and not only is it adapted to either winter or spring wheat, but fruits and flowers that will not thrive in any other part of Ontario will do so here. The soil is of a deep, rich, clayey nature. The country is very flat and level, and has been low and wet, but draining has effected a wonderful change. It was formerly so unhealthy that settlers could not go on the land without being liable to the fever and ague. A deal of the best land in this and the adjoining County of Essex had been taken up by French settlers, and during the time of slavery in the States, these counties being the most southern points of Canada, were sought by runaway slaves, and a large number of these negroes afterwards formed the Buxton settlement near Chatham. Neither the ague nor this mixed population were considered desirable by European or American settlers who desired general progress. The lack of good water in some localities is a drawback, and the superabundance of it in others will always be an unsurmountable obstacle. The absence of stone or gravel to make good roads is also a serious drawback. Canada thistles are not as thick here as in some parts of Ontario, but there is no lack of them. The rag weed gives the sturdy tiller vexation enough to make up for the shortage in thistles. No one could impute want of sense in the native Indian, the runaway slave or the French pioneer for locating here; consequently this part of the country, though unequalled in fertility, was shunned by those who wished for progress.

Time has wrought great changes. The march of progress has been rapid here, and the obstacles above mentioned are rapidly disappearing, and we know no place on the continent where we would rather settle than this part of Ontario. In some parts of this fertile county the golden wedge of enterprise is gradually upheaving the old tardy settler, and rapid improvements are being made. Large drains or ditches have been dug; we might, from the size of some, almost call them canals. Stock, grain and fruit now occupy the place where mud turtles and wild ducks formerly disputed the ownership.

To give an instance of this great change we called at the residence of Mr. William Irvine, who resides on what is called the Harwich Plains. He has a fine farm of 200 acres of excellent land—as fine crops as can be found of wheat, oats, barley, corn, beans, peas, apples, cherries, grapes and peaches. A good avenue of maple trees along the road side; a lawn with flowers and evergreens; a well finished and furnished brick house. We were informed that ten years ago this farm and many thousands of acres like it could have been purchased at 50c. per acre. What is the value of this land at the present time, when we see five times the quantity of wheat produced per acre that we observe in some parts of Canada where land formerly brought from \$60 to \$100 per acre? Mr. Irvine informed us that eight years ago, when draining this land, he used to bring up lots of mud turtles, and that it was quite a bother to get them out of the way even with the scraper, as some of them would weigh from 50 to 57 lbs. each. We mention this to show the recent improvements and the class of land in this locality. The land was for many years flooded and received the rich washings from the fertile lands of Western Ontario, the deposit having been made by the River Thames, which empties itself a little below this into the St. Clair

River, and is navigable to Chatham, the market town, and which will ere long claim the appellation of a city. Within the corporation we were shown a field of winter wheat containing 100 acres, enclosed in one fence. We presume no such a sight could be seen in any other town or part of the world. Chatham is not a mere town by name, as many hundreds of western towns and cities are; it has 8,000 inhabitants.

HESSIAN FLY.

Here we made enquiries for the largest wheat growers. We were directed to McGarvin Bros. as being the most extensive, and we directed our course to their river farm, about five miles from Chatham. On the way the first farmer we met was Mr. R. Pollard, from whom we made enquiries in regard to the Hessian fly or the midge, the different varieties of wheat and the apple crop. The principal information received was that he got a sheaf of wheat from a Mr. Wallace's farm, the name of which he did not know, but he said it was the best wheat and the brightest straw he had seen this year, and informed us that the crop surpassed anything in the neighborhood. Upon it being produced we immediately recognized it as the Democrat variety. He said we might call at the farm of Mr. Smith. He thinks there is most Fultz wheat raised in that locality, but he does not like it as it is too apt to rust; he considers the Scott wheat is a better variety. He had not seen or heard of the Hessian fly doing any injury in that locality.

At McGarvin's we found the threshing machine running, one of the brothers acting as fireman, engineer and greaser. Brother No. 2 was standing on the feed table feeding the wheat. On the straw stack was a puny negro and Indian boys keeping it out of the way. A third brother drove up to the machine a load of wheat from the field, as they could thresh it as fast as hauled and save all the trouble and risk of stacking. A fourth brother was on another part of the farm driving a self-binding reaping machine; he was just finishing the last acre when we were there. After enquiring about the Hessian fly, the different varieties of wheat, etc., we asked which variety of wheat appeared to answer best this year. The reply was that Mr. Wallace had the best piece of wheat he had seen this year, much cleaner in the straw than the wheats they raised for a general crop. They had a very small piece of the Democrat, but this year they intended to sow it pretty largely.

"How do you like

YOUR HARVESTER?"

"First-rate—would not do without it on any consideration; in fact, I would not farm or raise wheat and depend on hands to do the work. I do all I can by machinery. We have just finished cutting 200 acres, and consider that we have the best harvester made; it is the Globe Twine Binder, made at the Globe Agricultural Works in London. We first imported one of the machines from the States. They will do the work; you can see they have done it. You can find numbers of the other binders lying in the fence corners broken. We have seen them all, but there are none that equal this."

The McGarvins have an appliance on one of their farms by which the loaded grain rack is elevated to the top of the barn, thus enabling the pitcher to unload much quicker, and often saving one or two hands. Their land is not all in one block. They have large barns, but their crops are too heavy for the barns to hold them. For instance, the field that was being threshed had 90 acres of wheat on it, and this is the sixth consecutive crop of fall wheat taken off this field. Many fields can be pointed out where a continuation of cropping every year, without manure of any kind, has been kept up for the past half century.

THE WHEAT FIELD.

We called at the farm of Mr. W. Wallace, as from all accounts his wheat appeared to stand at the head of the list. Mr. W. had procured a half bushel of this wheat from a neighbor on shares, and this yielded 21 bushels. He returned the half, disposed of a little, and sowed last autumn nine bushels on 10½ acres of land. He says he expects it will turn out about 50 bushels per acre. We saw this crop; it was partly cut and partly standing. The only difficulty appeared to be that it was far too heavy. We enquired about the land. Mr. W. said the farm starved the former owner of it, not from the poverty of the land, but from bad management. This field, he was informed, had been cropped 35 years successively before he got it; he put in clover on part of it, and plowed it under. Mr. Wallace said he found that kind of farming would not answer in Romney. The land is too rich. Now that field would produce 10 to 15 bushels more per acre with this crop, were it not so rich. It would be better if three more crops of wheat in succession were taken off it. He said: "I have tried manure on wheat land here; it will not do, the land is so rich." What do you think of these statements, the land having been successively cropped for nearly half a century, and this without manure? Mr. Wallace is a Lowland Scotch farmer who had been for some years on Bow Park Farm, and he says this land is still too rich. Where is there land that can compare with it?

We proceeded to Crow's Ferry, nine miles from Chatham, and crossed the river in a scow. Mr. Crow has 900 acres of land at this point.

In returning to Chatham we called on some of the leading wheat growers. At Mr. Dalson's we noticed an unpacked binder in the yard. We enquired the cause and were informed that several had been ordered in that locality. The agents had attempted to run them, but the grain was too stout; they could not take it off the ground. He said he felt sorry for the manufacturers. He was using his old reaper, and informed us that most of the farmers had to take to them for lodged grain, but in standing grain some of the other machines were doing pretty well.

In Chatham we spent the evening with Mr. Stephen White, with whom we conversed about crops, exhibitions, etc.

The conclusions we have arrived at are that there is very little, if any Hessian fly in this part of Canada; that the rust has injured the crop from 5 to 10 per cent.; that the Scott wheat appears to be again coming to the front, as many now prefer it to the Fultz, which variety appears to be most extensively cultivated here. The Egyptian wheat appeared to be liked by many. Very little Clawson sown; it did not answer as well as the Scott when tried. The Democrat promised very well, and is becoming popular.

Upon our journey we met Mr. J. Goodyear, who farms about 250 acres near Woodstock. He has about 50 acres of winter and spring wheat. He is of opinion that, where land is at all well cultivated, we need be under no apprehension respecting the Hessian fly. He considers superphosphate and salt to be not only the best fertilizer, but also a preventative of the fly.

FERTILIZERS.

Three years ago he had a piece of land so poor and useless that it would not grow a decent crop of white beans. He put on 200 lbs. of superphosphate and salt to the acre, and now the land is giving 25 bushels of wheat per acre. He has used superphosphate for eight years, and where properly applied, it will increase the yield fully 40 per cent., and the grain will be 8 to 10 days earlier. About 300 lbs. of each per acre is

the proper quantity. Formerly he sowed it by hand, but now used an excellent fertilizer and sower manufactured by J. O. Wisner & Son, of Brantford; it has a force feeder, and cannot be choked even by wetting the superphosphate. We asked him if he was an agent for these things he so strongly advocated, but he replied that he had never sold a machine, and that his time was too well occupied in farming.

Around Paris and Brantford very little had been seen of the fly, and the same might be said of the neighborhood of Delaware. On light land in the township of Westminster some slight damage had been done, but in the township of London the losses by the fly are greater than in any other places that we have examined; the damage in the latter township will be about two per cent. On the whole, the excitement we believe to be greater than our investigations warrant.

REMEDIES FOR THE HESSIAN FLY.

In the FARMER'S ADVOCATE, vol. 12, pages 172 and 178, we gave a description of the Hessian fly, with an illustration and the remedies then found to be most effectual. The Hessian fly is described by Harris in "Injurious Insects" as follows:

"The head, antennae and thorax are black; the hind part is tawny, more or less widely marked with black on each wing, and clothed with fine grayish hairs. The egg-tube of the female is rose-colored, the wings are blackish, except at the base, where they are tawny and very narrow; they are fringed with short hairs and are rounded at the tip. The legs are pale red or brownish, and the feet are black. The body measures about one-tenth of an inch in length, and the wings expand one-fourth of an inch or more. After death the hind body contracts and becomes almost black."

The remedies most recommended are (1) destruction of the insect in the stubble, and (2) sowing the next crop of fall wheat as late as can be done in autumn—late in September. The way to accomplish their destruction in the stubble is twofold: first, burning the stubble, which in cutting the wheat with the reaper, is cut so high that the insect is left in it to mature into the fly, and burning the stubble necessarily destroys the entire brood. A serious objection to this method is that in destroying the flies we destroy with them their parasites. They are our most efficient allies, destroying, as has been computed, nine-tenths of every generation of the fly. Another method recommended is as follows: If we see that the fly has laid her eggs on the wheat leaf, turn in a flock of sheep of sufficient numbers to eat the crop close to the ground in a few days. The efficacy of this method is doubted by some. In its favor an American farmer relates his experience as follows:

"I think that when wheat comes up spindling, there is nothing better than to pasture it down with sheep; and if you find the fly in wheat and will turn in enough sheep to pasture it down close within a few days, your wheat will not be injured. Last fall I had a piece of early-sown wheat, 11 acres, that was nicely up and looked thrifty. I went to examine it and found the fly very numerous. I turned 80 sheep on it and they cut it close to the ground, when I turned them out. The wheat came on and now looks splendid, and no fly to bother it."

The second method is sowing the wheat late in the fall, and thereby preventing the parent flies from having any wheat plants on which to lay eggs at the laying time, thus destroying their prospects of another season. A Canadian farmer, having tested this plan himself with success, recommends its adoption by others. He says:

"If fall wheat is not sown until after a frost, the danger is tided over. The fly must deposit her eggs before this occurs, and if farmers will stop sowing wheat in the very early days of September and wait until say the 10th or 15th—the plant will make as vigorous growth before winter as if sown earlier, and escape the danger spoken of."

Wheat sown by him on the 31st August, as a

test, only yielded five bushels to the acre, while that sown on the 17th Sept. returned from twenty-five to thirty bushels.

This insect generally passes through two generations annually. The eggs of the first brood are deposited in September in a crease of the leaves of the young wheat plant. The young insects are hatched out in a few days and they crawl down to the first joint, where they pass the winter. They do not gnaw the stalk nor enter into it, but adhere to it lengthwise, head downwards, and live on the sap. When two or more larvæ are thus imbedded in a stalk, it becomes weakened, falls down and withers or dies. About the 1st of March, the pupæ having completed the winter stage of existence, come forth full fledged flies, and they immediately deposit eggs for the second brood, which occupies the remainder of spring and summer, being nurtured in the lower joints of the straw. Crops of winter wheat are liable to two attacks of the Hessian fly, one generation producing another, which occupies the lower joints of the stalk. Spring wheat can rear but one brood, and is therefore comparatively safe from its attacks. The fly cannot sustain itself in districts where winter wheat is not cultivated. We would add that a fertile, well-cultivated soil is itself a means of the crop escaping comparatively safe from damage by the Hessian fly. Weak, poor plants will at once succumb to the attacks that might be withstood by plants that are in healthy, thrifty condition.

OUR QUARANTINE AT QUEBEC.

Having heard from a reliable source that an infected animal had been allowed to enter Canada within the past four months, and still lived on a farm in Canada, we deemed it to be our duty to examine more fully into our quarantine regulations. We have given a report on the quarantine at Point Edward, and shortly we hope to give another on that dangerous hospital. We now purpose to enlighten you about the one at Point Levis, in Quebec. You may think it a long journey for us to take, but when duty calls, we go.

We applied to Mr. D. McEachran, the Government Veterinary at Montreal, who has full charge of the quarantine of Quebec. He very courteously gave us the permit and a letter introducing us to Mr. Couturie, the V. S. who has local charge of the quarantine. We presented our introduction at Quebec on the morning of August 12th. Mr. C. very courteously drove us to the quarantine, and showed us every animal, answering all questions as far as he was able. The grounds are situated about two miles from Quebec, on the opposite side of the river, and one of the large Levis forts is included in the ground occupied. We drove directly into the fort without opening any gate or seeing any one near. We got out of the calache and stepped over a piece of scantling that was laid across the road from one fence to the other; on one side it was higher than the other, so that some beasts could walk under, and larger ones could easily get over. We walked to a shed, pulled out a pin and entered; this shed is nicely white-washed and littered, ready to receive another consignment. The next shed we entered in a similar manner, and any other person could do so, from all we saw, that is, merely pull out the wooden pin and enter. On entering this shed Mr. C. said: "This is the worst lot of cattle we ever had in the quarantine; they are imported by Mr. Craig, of Brampton." The lot consisted of ten Shorthorn bulls, and we have no hesitation in saying that the average seven-cross animals that are thrown out of both herd books would be a better lot of bulls, and would be of better service to our country than this lot, without the danger of introducing disease. There is danger in importing the best, but one of these bulls was badly crippled, its legs were swollen, and it kept moving its feet in

a very painful-looking manner. We noticed a rough, scaly appearance on one of the front feet, between the hoof and the dewlap; it had been dressed with some kind of ointment. We enquired of the V. S. what was the matter with this beast, and the reply was, "Rheumatism." We tried to get more satisfactory information, but must wait for some one to give us more light about this rheumatic animal. This animal was not separated from the others.

In another herd we noticed an animal having a lot of red, bare, almost raw spots on its shoulder, side and neck, perhaps 20 or 30 of them, from a half inch to an inch in circumference. We never saw an animal like it. The V. S. at first said he did not know what it was, but afterwards said it must be Ring-worm. In another herd we noticed a large lump under a cow's belly, and the veterinary informed us that it was Tumor; he also informed us that her calf had one, which he pointed out to us, and sure enough, there was a lump. We asked what they were doing for these animals. Answer: "We do not think much of it." These are running with the other cattle in the same shed. In another herd we noticed a beast with a bandage on its leg; this was necessitated from a hurt received on the ship. This we think of no consequence.

There are 24 buildings in the quarantine grounds. Each shipment of cattle is kept separate from the others. The buildings are all good, light, airy, well-ventilated, well-whitewashed, and kept very clean, the manure being carted away from the ground and the yards in which they roam, for each building has a nice boarded yard of a few acres around. The buildings are all that could be desired in regard to cleanliness and comfort. We must confess that we were astonished, after having read such glowing accounts of this quarantine as being the best in existence, to find it as above described; also that only one single board fence separates it from the road and from the adjoining farms, and that the cattle are allowed to smell noses with the outside stock.

The largest lot owned by one individual was the importation of Mr. Whitfield, of Rougemont, P. Q. This importation numbered 103 animals. There were ten Sussex cows and heifers and one bull; this is a very fine class of animals, the beef of which commands a higher price than that of the Shorthorn in England. They are red animals of fine quality, somewhat resembling the Devons, but are larger animals and better milkers. If we had our choice, we should take this lot in preference to all others; perhaps this may be because we were highly pleased with this class when a school boy in England, and we are apt to return to the old love. This herd also contained 10 Shorthorn cows and 2 bulls, very fine stock; 33 Polled Aberdeen, with 2 bulls, a fine lot on the whole, and having what is considered the best cow of this class; 7 Ayrshires, of which we thought the cows the best we have ever seen; perhaps some breeders may consider them too large, but the Ayrshire bull really appears to us to have a dash of the Durham in him, he is so large and what breeders would consider too coarse for an Ayrshire; 7 very good Devons; 10 Galloways, the bull being considered the best that has ever been imported into Canada; 5 Shetland cattle, 3 cows and 2 bulls. These are the most diminutive and mean-looking cattle we ever beheld; in fact, we could scarcely believe that such were to be found—not only small, but awkward, unsightly looking objects. No real Canadian farmer would like them as a present, still there is no accounting for taste. They would excite about as much curiosity as a whale or bear in the streets. The V. S. estimated the bull would weigh 125 lbs. alive and dress 50 lbs. of beef if killed; the cow was heavy in calf

estimated to weigh 200 alive or 70 in beef. There were seven good Jerseys; also seven West Highland or Kelso cattle; the latter are good sized stock, having very long hair, much longer and rougher to look at than the coat of a bear, as the hair, 5 inches long, appears to stick out or blow about all over the animals. They are of a grizzly-brown color, long horns, and look as wild as hawks; they are pretty wild, too, but we walked into the yard in which they were, and as we approached the bull the V. S. cautioned us to look out. We did, and soon left that yard. Mr. Whitfield's importation were selected by Mr. John Grant, of Strathspey, Scotland.

D. McCrae, of Guelph, Ont., has 39 good Galloways and 2 bulls; also 4 Polled Angus. One of his Galloways has a white ring round its body; we presume Mr. McCrae has bought this one to make people talk more than for any idea of improving his stock; we do not admire his choice in this particular, and consider he must be what he is very fond of calling anybody who does not think just as he does, "a little daft," or "gane gite." "Weel, puir mon, he maun hae his whims," but he has stock which show that he knows what he is about for all that.

The Cochrane Rancho Co. have 25 Polled Aberdeen bulls, good, useful stock; one of these animals had to be removed from the rest of the herd for about two weeks after landing, but when he was returned to the herd the other bulls set on him and would have killed him, had not the men prevented them. They have tried several times since to let him run with the herd, but they will not have him, despite all attempts to pacify them.

Hon. M. H. Cochrane, of Compton, has 25 cows and heifers, and 9 bulls, for himself, independent of the Rancho Co. There will be a strong contest for honors for the prizes between Mr. Cochrane and other importers. Some say Mr. C. has paid the highest price for his prize cow, "Blackberry." Others contend that Mr. Whitfield's cow is the best animal. We will let them fight it out, and only trust that the judges will be capable to decide.

Geary Bros., of London, Ont., have 22 Polled Aberdeens and 3 good Herefords. We were pointed out a fine calf, for which, we were informed, \$300 was paid. Simon Beattie, of Annan, Scotland, has 9 head; Messrs. J. & T. Dawes, of Lachine, Q., have 5 cows, one extra good; R. Gibson, of Ilderton, has 14 Shorthorns; R. Hay, M. P., of Toronto, 5 Polled Aberdeen, the bull a very fine one; J. J. Davidson, of Balsam, Ont., and Jno. Dryden, of Brooklyn, Ont., have 20 head of really choice Shorthorn heifers, the majority of which belong to Mr. Davidson; these animals are from the Cruickshank herd. Mr. Fuller, of Hamilton, has 7 handsome Jerseys; C. C. Brydges, of Shanty Bay, Ont., has 12 Herefords, one of which is remarkably handsome and will make a mark. Mr. Stone will not carry off all the prizes at exhibitions for Herefords, as formerly. More anon.

After having been to the quarantine, we saw Mr. McEachran and had some conversation with him in regard to the quarantine. We made some suggestion which we believe he will endeavor to carry out, as he admits the quarantine is not as efficient as it should be. He considers there is no danger from the animals in quarantine at the present time, but if any danger should arise, he has the power to quarantine the whole Point. We learn that the Ayrshire bull we objected to was one of the prize animals at the Royal Highland Society Exhibition.

The Whitfield Model Stock and Dairy Farm.

Having heard of this farm, and that \$500,000 had been expended to establish it, we concluded to pay it a visit. The farm is situated at Rougemont, P. Q., about 38 miles from Montreal. It consists of 800 acres. The buildings and part of the land are located on the slope of the mountain from which the place is named. The mountain or hill is not too steep for cultivation, and orchards and fields of grain and pasture lands are on the slope.

On the summit the soil is rather stony, and a lake is to be seen there. From the slope and summit a very fine view is obtained of a large level plain of some 20 miles in extent. In the valley below here the soil is very rich, producing fine crops of hay, wheat, oats, etc. The soil is deep, rich clay loam, and is said by some to be of inexhaustible fertility. In this fine fertile plain is seen

a large portion of the Whitfield estate. The crops are excellent, and the land belonging to the estate appears to show much more cleanly, neat and better management than that of many other farms. The fences are straight and excellent, and appear well constructed, and the buildings are in good order.

Mr. Whitfield was born on this farm, but has resided many years in Bermuda, where he is extensively engaged in mercantile business. He is a plain, unassuming gentleman, very sociable and friendly, and well liked by his employees and acquaintances. He is but seldom in Canada, and had just returned home after an absence of two years when we saw him. In his youth he had noticed a marked improvement made in stock from an importation in his locality. He appears to be enraptured with his farm, and delights in having fine stock. He says that his object is to improve the stock of the country, and having herds of different breeds, he is enabled to supply just such animals as are suitable to the requirements of all localities and all purposes in Canada, whether for the barren, rocky regions, the rich portions, or for the roaming herds of the North-West. To try the results of the crosses of different breeds, and show the results from such, he has now twelve different breeds, namely, the Polled Aberdeen, Galloways, Herefords, Shorthorns, Kyloes or West Highland, Sussex, Jersey, Shetland, Kerry, and one Brahma cow, over 400 head in all. His Polled cattle have all either been imported or bred on the farm. No expense has been spared to procure the best. Mr. W. Grant, of Strathspey, Scotland, has made these selections for him. In conversation with Mr. Grant, he informed us that he experienced great difficulty in securing this stock, as there are so many Canadians and Americans looking up the best, and British breeders are constantly having the best picked out, so that at the present time the best cattle are to be found in America, as the Americans will have them if money can buy them. There are but two or three breeders who will not sell their choice animals at any price. As soon as a price is set on any first-class animal, it is pretty sure to be picked up by an American. In selecting the Jerseys, he said he had travelled over every farm on that island three times to select the best.

Mr. Whitfield commenced this enterprise five years ago, and has not offered any stock for sale to the public up to this time. Among the Polled Aberdeen, Mr. Grant pointed out several Ericas of Keillor, from the Ballindalloch herd, which is the premier herd of Polled Aberdeen in Scotland, and belongs to Sir George McPherson Grant, M. P. This herd in 1879 and '80 gained 42 first prizes, 4 special money prizes, 13 cups and 7 medals, besides 18 second prizes. Mr. Whitfield has been offered four times as much as he had paid for them three years ago, by parties in Scotland, thus showing the great increase in price that is caused by the American demand for them.

Mr. Whitfield says he does not intend to ask extravagant prices, but to offer such inducements as will bring buyers to his farm, rather than to take them away, to effect sales. So great is his desire to improve the stock of his native country, that he frequently allows any enterprising or careful farmers in his locality to send one or more cows to his choice bulls free of charge.

Mr. W. has also a fine dairy herd. He intends keeping 60 cows for his dairy, and says he has a market in the West Indies for all his butter at 45c. per lb. Mrs. Whitfield takes charge of this large establishment during Mr. W.'s absence, and her cheerful, happy deportment would indicate that this lady is perfectly at home in all departments requiring her attention. We are sure it was quite pleasing and somewhat surprising to find such a fine farm and fine stock in this locality. Many of you will have an opportunity of seeing some of this stock at the Exhibitions in Ontario this year. Last year they were exhibited only in Quebec, where they carried off 34 of the principal prizes in the cattle class.

Any friend desiring a copy of our Exhibition issue, or of our September No., for intending subscribers, will send name and post-office on postal card.

English Letter—No. 40.

Liverpool, August 4th.

[BY OUR OWN CORRESPONDENT.]

The present season is a striking example of the trials, troubles and vexations to which the British farmer is subject. We had a mild winter, and a most open and promising spring up to the 29th of April, when we had an excessive snow storm, followed by a dry, cold, and frosty May, which utterly blasted the fine promise of apples and pears, and left us with no crop at all. Still there was a magnificent crop of hay, and grain and potatoes looked well. Then, with the advent of June, came long and heavy rains, which have not yet ceased, so that farmers have been unable to get their hay in anything like satisfactory condition; potato disease has set in with great severity, and fears even are entertained for much of the grain, whilst the dreaded fluke in sheep is again anticipated. One farmer, near Liverpool, told me the other day that his grass had been cut for thirty-two days, without any chance of carrying it. Such experiences as these cannot but affect the value of agricultural land; and I heard the other day that a fine grazing farm, near London, was offered by auction the other day at a reserve of \$150 an acre, without eliciting a bid. To an English mind this is a ridiculously low figure for such a farm in such a neighborhood.

I promised in my last some account of the great Carnival of the English Agricultural year—the show of the Royal Society; which, however, in these go-ahead days has already become so much a thing of the past, that what I have to say on that head must be brief. The show was held at Reading, and notwithstanding the chronic interruptions from the wet weather, was a fair success—in fact, in the item of cattle, one of the best shows we have had for many years. It was generally admitted that never before had there been such a grand exhibition of Herefords. Jerseys were also especially strong. Polled Aberdeens, which have of late taken so deservedly high a place in the cattle breeders' estimation, could not be exhibited, as the cattle restrictions which prevent cattle entering Scotland from England would of course have prevented their return, had they gone south to the show. The display of horses was also good, and Canadians were moving round freely looking out for bargains. Prices, however, ruled excessively high, mainly in consequence of the enormous exports to the States. The first prize Shire-bred three-year-old stallion was a remarkably fine animal, and you will be glad to learn that he has been secured for the Dominion, though at what may appear a somewhat extravagant price of six hundred guineas, or over \$3,000. When your readers learn, however, that the buyer was offered another hundred guineas for his bargain before the horse left the show, they may think he was not dear at the price. Amongst the sheep the classes of Shropshire Downs and Southdowns were excellent.

Amongst the Canadian visitors I noticed Mr. Hiram Walker, of Windsor, Ont., and his son. Mr. Walker was very much struck with the Herefords, and has decided to make a selection of this breed for shipment to his property in your Province. He has also, I understand, secured a lot of very fine Jerseys for his farm at Walkerville.

The Canadian stand at the show was a great centre of attraction, and deservedly so, for the exhibit of grains, grasses, soils, &c., was an exceedingly tasteful and interesting one. The number of visitors may be gauged by the fact that upwards of 100,000 pamphlets were distributed during the week. The Prince of Wales had fully intended to visit the Canadian stand as he did at Derby last year, but his stay in the show yard was restricted

to a little over two hours, and he could not find an opportunity.

The Canadian sheep which are arriving now are eagerly purchased. The great complaint, however, is that the "bucks" are not kept separate from the ewes, and, consequently, lambs are being dropped at all times of the year. I have, in previous letters, urged upon your stock raisers and farmers the necessity of castrating all their ram lambs, except such as they require for breeding. As the "mutton" trade is of such great and growing importance to your farmers, a little care in this respect is worth taking. If Canadian sheep feeders like to do their best, they need fear no competitors.

An enormous demand has arisen for Polled Aberdeen cattle. Scotland is being literally overrun by buyers from the States, and it is well for Canadian interests that your buyers were early in the field. One States importer, I hear, has bought 150 bulls for the Chicago October sales, and he will not be able to land them there at a cost of much under \$250 a head. It is now impossible to buy samples of many of the best families, and one good cow could only be obtained by a determined buyer, recently, for five hundred guineas, and offers are now being refused of one hundred and twenty and one hundred and fifty guineas for animals which were readily sold two years ago at forty and fifty guineas.

Agricultural Shows—Their Abuses.

Why do we call these shows, exhibitions or exhibitions "fairs?" Goods are not there for sale. A few sales are made, and there ought to be more; but they are not fairs.

The manager and the public assume that animals and articles exhibited come fairly in competition for the prizes—which, by the way, are absurdly called "premiums." No doubt the managers intend that all exhibitors shall have an equal opportunity to present their articles and to have them fairly judged upon their merits. In some cases this really occurs, and managers who fail to do all in their power to secure this, neglect their duty.

If the entry books or the stock and articles in the show may be examined by exhibitors before the entries are closed, and an exhibitor may thus learn what will be shown by a competitor, he may modify his own entry, with the view of capturing prizes, by artifice, rather than of securing them by merit.

I have known a favoured exhibitor, after a sight of the books, to change his entire set of entries. He could tell very nearly what cattle were to be shown, and in which cases he would be beaten, and in which pretty sure to win. I believe this is a common practice of some men in almost every agricultural society, and of some who have official connection with the societies. When entries are closed a month in advance, the only way that any such advantage can be gained by one exhibitor over another is for an exhibitor to make a large number of entries, but to bring or present only such as he thinks will win.

It should not be forgotten either by managers of shows, or by the general public who look on, or indeed by the judges and jury who make the awards, that with many exhibitors the honor of winning is not so much valued as the money won, and that with a large class the honor counts for less than the trade or consideration which that honor brings with it. To such, a prize dishonorably gained is just as valuable as one fairly won. This is the reason why an exhibitor will often make great efforts to prejudice the jury in his favor, and so secure the award.

Influence is brought to bear upon the jury of awards in many ways. One man will openly address a judge in praise of his competitor's exhibit, and loudly call attention to the best points, but quietly regret certain defects, or express doubts about the age or breeding of the animals, or other points affecting the competing exhibit. Sometimes

a third party discusses matters with a judge in a disinterested, friendly way, talking up his friend's goods and trying to prejudice him against other exhibits. It is very hard to guard a jury against such influence. I have known the principal officers of agricultural societies take judges to one side and indicate how in their judgment the awards should go, by calling special attention to certain entries of those who were known to be on terms of personal friendship with them, and disparaging others—or damning them with faint praise. There are many men appointed as judges who are unfit to serve, and who know it themselves. These are wide awake to watch, and listen, and find out what practical men think, and it is very easy, if it is known that they are not very strong, to influence them. An exhibitor who goes to the show to get prizes, by fair means or foul, will measure such a man at first glance, and "go for him," as the saying is. A weak judge is of no account in any way. A jury of two judges works better than one of three, and a single good judge better than either; but he must be a man to be depended upon. The system especially prevalent in small societies, of distributing the prizes about so as to "encourage" all exhibitors, and make everybody happy, is most pernicious. At such shows it matters very little who the judges are. The prizes are worth nothing any way as honors, and very little in money, and so long as such a system is in vogue, they will be worth no more.

If the judges could be from a distance, and have valuable awards to make, and be real judges of the animals or articles of whose merits they decide, and be let alone, to make their awards without knowing that this, that, and the other are shown by the Hon. Mr. Blank, by Judge So-and-So, or by the President of the Society, and without knowing that certain animals belong in one herd, others in another, and so on, we would have awards that would be worth something. True, first, second and third prizes might go to the same man, and the President of the Society or the member of Congress might go without; but what of that, so long as a fair, disinterested judgment is given?

What is true of animals is true of goods of all kinds. One rule should prevail everywhere, every time—the prizes should go to the article or animal, and not the exhibitor. It is remarkable how few of the men who are picked up as judges at the smaller fairs about the country, have an idea that they ought to consider this, the merits of the animal or article solely. Nothing is more common than such remarks: "We can't do that; we shall be giving the same man both 1st and 2nd; that won't do." Or, "if we give him 1st, he will be taking 1st in two or three classes; we ought to change that."

Juries are very imperfectly instructed how to judge. They need instruction—definite rules, plainly stated, not only in printed form but verbally. A great many men have such an idea of their own knowledge and abilities that they will not read the printed rules. To such it is essential that some officer of the society should most distinctly lay down the law by word of mouth.

There is always more or less hurry-scurry at the time of the show, and questions which come up then cannot always be discussed and settled. For instance, who is to decide and throw out an entry for fraud or mistake on the part of the exhibitor—the judges or the society. Suppose the judges suspect a "pair of geese" to be both of the same sex, or a heifer in the yearling class to be two years old, or an animal to have artificially-colored horns or skin? Many a jury of judges will decide that they have nothing to do with these questions, but decide upon the entries presented to them, presuming them to be all right. Thus, of course, great injustice is done. I might show how agricultural exhibitions, which ought to be, and, in spite of abuse, are of great service to the community, are prostituted to private gain in mean, underhand ways, which are enough to disgust one who sees it worked out, with all such shows, but this is enough; and if published will put exhibitors, spectators, and officers of societies on their guard.—[M. C. Weld in American Agriculturist.]

Scotch Correspondence.

[FROM AN OCCASIONAL CORRESPONDENT.]

Waterside-of-Forbes, Aberdeen.

DEAR SIR,—I have lately returned from a tour through various districts of Scotland, and may start by telling your readers interested in the old country, that it never looked better at this season

of the year, and I understand the same applies to England. The farmers are now looking a little keener over matters, as crops of all kinds are looking well, and prices of beef and mutton are nearly as dear as ever they have been. Our local markets are quoted at 85s to 88s per cwt., which means over 9c per lb. for whole sides of beef. I suppose we will soon have this remedied by your supply, as no doubt even 80s per cwt. will tempt your farmers to send us a few of their spare cattle. The peculiar thing is that even that price brings very few cattle into the market. The demand far exceeds the supply, and prices have gone up at Polled Aberdeens and Galloways from your side least 100 per cent. for Aberdeens, and Galloways are following suit. Your people seem to have wakened our farmers up to the good points of these cattle, and the home demand is also far in excess of the supply.

There are only a couple of public draft sales announced this autumn, that of the late Lord Airlie, and the representatives of the late R. Walker Montbleton, one of the oldest breeders in the country. There are some specimens of Prides, Ericas, &c., &c., at Cortachy, for which there will be a keen pull, and the foundation of many families of the late Earl of Fife's herd were drafted from Montbleton—especially the prize winning family of Blackbirds of Corskie. To give your readers an idea of the prices of some of these cattle I may mention that 300 guineas were paid the other day for a Pride cow, and several specimens have gone to Canada this spring, costing here nearly as much; so much for Polled cattle.

As remarked, crops all over Scotland were never looking better, and all are in hopes the tide of bad seasons has at last began to recede, and none too soon, as the numbers leaving our shores for America, Australia and New Zealand testify, and a good thing, too, both for those going and those remaining. Your farmers would not think much of some of our land laws, and the demand for reform of these antiquated and absurd laws pressing against the tenants are loudly demanded. The series of meetings in Aberdeenshire, mentioned in my letter to you some months ago, has resulted in the formation of "a Farmers' Alliance" for Scotland, already numbering over 7,000 members, and extending over 10 counties, from Caithness in the north to Wigton in the south. A deputation from the alliance representing these 10 counties waited on the Prime Minister, the Hon. W. E. Gladstone, last month, requesting him to give the matter attention this session, as it is impossible for farmers to go on with the present competition without some security and compensation for their improvements. It will be a tough battle, as to make land a commercial commodity, as with you, means the doing away with the prestige and position that the possession of land in this country brings to the owner. It looks as if the laird will in the future have to take his place with other people, and invest less money in land only if it will pay, as I am afraid the days of all and sundry lifting their bonnets to the laird have nearly gone by, and, at present, it looks as if these lairds were the only people who do not see that the abolition of some of our old feudal laws would be for their benefit as well as that of the whole community.

Our turnip crop is the only one not doing very well, the fly having eaten up many fields, causing a second sowing.

Store stock in cattle and sheep are all a good deal higher than last year, caused partly by the loss of capital during the past bad seasons, and the reduction in the numbers of breeding stock all over the country.

I may conclude this letter by stating that the prospect of the agricultural community is brighter than it has been for years, and all wish it may enable farmers once more to get their heads above low water mark.

The Apiary.

Instinct in Bees.

It is supposed by many persons, among whom there are some well informed upon every branch of natural history, that the queen bee is an absolute *sovereign*, and that she rules her subjects—the worker bees—by her royal edicts, from which there can be no appeal. That she plans the swarming movement, and in her jealous rage slaughters her royal offspring rather than bear the presence of a rival under the same roof with herself; and that she will even secretly assassinate her own tender princesses, while in an undeveloped state, and before they have emerged from the dark chambers of embryonic life. That she is terribly fierce and unrelenting in battle, when at war with a sister queen, into whose vitals she will plunge her poisoned lance with the most deliberate and deadly aim. And so the war is prosecuted until the last rival lays dead at her feet, or until some more powerful princess of her own blood has thrust her dagger into the heart of the royal mother, and reigns herself supreme; thus carrying out the theory of the late Mr. Darwin of "the survival of the fittest." Outside of the hive, however, the queen has the name of being exceedingly timid, never trying to defend herself, though she may be roughly handled and have every opportunity to use her sting if she choose to do so. This I know to be true, but as for the royal government, fierce hatred for her young queens, and bloody butchery of the same, I believe to be a grand fabrication, having an existence only in the fertile brain of some pugnacious queen fancier.

But without further comment let us examine the domestic affairs of the hive household, and learn, if we can, what is going on therein, and who plans the work and *bosses the job*. The queen, the mother of the hive, we will find busy at her daily work, if in the honey producing season, moving from cell to cell and inserting her long body into each, depositing an egg at the bottom, and in this steady way will fill many sheets of comb during the twenty-four hours. And while thus engaged in filling the position in the hive that nature intended that she should fill, wearing out her own life in reproducing her own kind, she heeds not the busy scenes that are taking place around her. The workers, laden with honey and pollen, run pell mell over her back, and without the least disturbance to her matronly equilibrium, she goes on attending to her own business and at the same time allows all other members of the hive to do the same.

Occasionally, however, she is called to a halt by some one or more workers, laden with honey, whose instincts have constituted them a self-appointed committee to feed the queen, and from their hands (as it were) she accepts the proffered food, receives and returns the caresses of those who have treated her so kindly, and then with dignified deportment returns to her labor. During all this time the workers, divided by their natural instincts into different departments of labor, that the work of the hive may proceed in perfect harmony, we find some gathering honey from the fields, others feeding and capping over brood, others again carrying honey from its scattered condition in the hive and placing in a compact manner above the brood nest, or in surplus boxes; some mixing the bee-bread with honey and placing it in a position where it will be most easily reached when wanted, either for the young bees or food for the laborers, where it is also capped over by others than those who place it in the cells. All these different departments of labor are being attended to at the same time, and doubtless without the consent, knowledge or orders of the queen. We also notice bees stationed at the entrance of the hive acting as guards, who zealously keep out all robber bees, wasps, bumblebees, ants, roaches, etc., etc., that are always on the lookout, watching for a chance to stick their noses into the sweet stores treasured up on the inside of the hive. There is still another lot of bees in and about the hive, from whose actions we might readily conclude were dead-heads did we not know to the contrary. These we see hanging in festoons to the end of combs and empty frames, many of them with their heels up and heads down, or piled up, if the weather is very warm, on the outside of the hive, looking full, fat and sleepy, and apparently as happy and contented as if they possessed enough honey to last them the balance of their days. These are doubtless wax secreters, whose whole duty appears to be to eat honey and secrete wax, while others gather it from their bodies and manufacture it into beautiful combs. These

comb builders we can see with feet, teeth and feeders, busily engaged plying their ingenious vocation.

All these different departments of labor and ap parent skill doubtless performed through or by the instincts of the workers, and not at all by the orders and supervision of the queen.

But to return to the queen—if she ruled the hive with sovereign power she would not be supplanted by the workers when she becomes old and worn out and no longer able to keep up the colony, but would remain mistress of the premises and keep her subjects at work as long as a single bee remained in the hive to obey her royal commands. That the queen has nothing to do with the swarming movement I have had abundant proof, while watching the bees when swarming. Upon one occasion I saw the workers push the queen off the landing board a number of times before she would take to the air. Every time that she was pushed off she would return, until finally she gave it up, and took to the air with the workers. Every one who keeps bees knows how common it is for them to swarm, and after being in the air for a few minutes, to return to the hive. I have upon several occasions hived new swarms, that after remaining in their new quarters for half an hour or so, returned to the mother hive. Now, what is the cause of such behavior? Simply this: when the workers have made due preparations for swarming they raise the alarm, which every bee, through the gift of its inborn instincts, understands, and they rush out pell mell, as if the very old *scratch* was after them, and in a large majority of cases the queen catching the excitement, rushes out with the workers. But at other times she is not quite so easily excited, or is too busy to pay any attention to the uproar, and remains in the hive attending to her business, and after the bees have circled in the air for several minutes or perhaps settled, they make the discovery that their maternal ancestor has been left behind; and, knowing from their instincts that a colony without a queen or mother bee would soon perish, they return to the old home. I have known swarms to come out and return in this manner three or four times before they could induce the queen to follow. I was taught to believe by writers on bee-culture, that if two queens were put in the same hive, that the bees would clear a space, form a ring in the centre into which the queens would enter, and without much preliminary sparring would pitch in for "the survival of the fittest;" continuing the *bout* until one of them is placed *hors de combat*. This is certainly a mistake in a majority of cases, so far as my observation extends, and I have united a great many bees, turning the queens in with the workers, and upon examination in a few hours afterwards have rarely failed to find one of the queens in the centre of a ball of worker bees, where they would generally keep her until she was dead, smothered and squeezed to death. Hence we find that the workers kill the surplus queens and that the queens themselves have nothing to do with it.

I also find stated in books written upon the bee subject, that the workers have to guard all the queen cells after they are built and the eggs placed in them, to keep the old queen from destroying them before they are matured. This may and may not be true my own opinion being in the negative. As the workers destroy all the extra queens that are matured, they doubtless destroy all extra and useless cells, as soon as their instincts tell them that the swarming season is over. There can be no consistent argument brought forward to show that the instincts of the queen prompt her to do anything that would prevent the propagation of her kind, and as she cannot be moved to such acts by a rational feeling of jealousy, as all feelings for the opposite sex are supposed to be lost as soon as she has mated with a drone, and become fertile, the whole matter must be a mistake.—[J. A. Ward in the Bee-Keepers' Exchange.]

The late Sir Arthur Helps said that whenever he saw horses in evident pain from tight check-reins he knew that the owners were "unobservant, ignorant, pompous or cruel." This sentiment Mr. E. Fordham Flower elucidates as follows, according to the English Mark Lane Express:

"He is unobservant, or he would see that his horses are suffering; he is ignorant, or he would know that a horse loses much of his power of draught, and cannot recover himself if he stumbles; he is cruel if, observing and knowing, he does not remedy it; and he is pompous if he prefers that his horses should rear their heads on high and rattle their trappings to being dealt with humanely and reasonably."

The Farm.

Small Farms.

Few persons have thought it worth while to cultivate for profit small patches of land containing less than ten acres. The cultivation of the many pieces of waste land within easy access of our market towns would give healthy and profitable employment to many of the struggling men and women that abound in our cities. Not many think of the great profit that can be made out of only a single acre of land if suitable crops are grown; take for instance cucumbers, from 80,000 to 90,000 can be grown to the acre; these can readily be sold at about \$2.00 per thousand, but there are other crops that can be grown with greater profit, such as small fruits, herbs and vegetables. A quick wit will soon find out new paths in this as in any other business. The first man that grew mushrooms in a cellar for the New York market made a fortune.

Bee-keeping is another exceedingly profitable use of a small farm which our people are just finding out. The report of the Bee-Keepers' Association shows that during the seven years ending with 1879 the average yield per hive was 90 pounds weight. Twenty-five hives are allowed to each acre. Our readers, who well know the average price of honey in the nearest market, can estimate the probable profit. Poultry raising is a business which on a few acres can be made to pay well. One woman we heard of who, beginning with ten dollars worth of eggs, in eight years possessed forty yards of the finest stock in the country, which yield her a competency.

Women as well as men could attend to this sort of work. Many of our small farmers are too desirous to enlarge their farms and frequently keep themselves and families poor by purchasing more land, and saddling themselves with debts that perhaps they are unable to wipe off during their lifetime, instead of devoting their time to growing crops that could be suitably and profitably raised on small farms.

Winter Wheat.

At a recent meeting of the Central New York Farmers' Club, a member said:

I believe that wheat can be raised on any fair ground, and with proper cultivation, so as to be a paying crop. Several years ago I met a man from Canada who was a professional wheat-grower. I asked him how much he raised to the acre? He replied that he had ten acres, and that his crop that year was 546 bushels from the 10 acres. I then cross-questioned him. I said, "but you can't control the elements." "Oh yes," he replied, "we do that every day. Suppose you turn your horses out into the field and keep them there for a year without shelter, what would they be good for? Now I raise a crop which may get winter killed and die from exposure. What must I do? Why, simply protect it from exposure as you would your horse. I blanket my wheat." Mr. Jenks continued: I begin by plowing in clover for a fertilizing material, and alternate each succeeding year with wheat and clover. I plow the clover six inches under, and harrow the ground six or seven times. In planting, I drill in $\frac{1}{2}$ bushels of seed to the acre. Am very careful about my seed, and run a hundred bushels through the mill to get seed enough to plant 12 acres. Always use the very largest kernels, as they have more material in them to fertilize the germ. After the grain is in leave it till the last moment. If there is any part exposed where it is likely to get winter killed, I mulch it with straw, and thus blanket and protect it. When spring comes I sow my clover seed, and go over the ground lengthways with the harrow, which makes me sure of a good crop of clover. Then again I bury the clover six inches under ground. Probably I don't get many more heads of wheat than other people, but my object is to get long heads, and this I do by fertilizing the soil with the clover. There is one advantage in raising wheat; after the seed is in, it almost takes care of itself until harvest time. Now if 15 bushels to the acre will pay expenses, the man who gets 25 bushels will make some money, and he who gets 35 bushels will make still more. My wheat yields 50 bushels to the acre, and that is a possible yield for almost any farmer who will work for it. We farmers deal with the most subtle elements in the world. As farmers let us be thinking men, noble men, and if by any method we can increase the product of our farms, let us spare no labor to accomplish it.

Manure or Tillage; Which?

The yield of a field of garden crops is determined by six conditions; the character of the soil, the quality of the seed, the liberality of the manuring, the tillage given to the crop before seeding and during its growth, the freedom from the attacks of insects or parasites, and the character of the weather from the time that the preparation of the soil for the seed is begun till the harvest. Whatever the weather may be, there is nothing to be done but to make the best of it; and often little else, when an attack of its living enemies befalls the crop; any radical improvement in the character of the soil is usually to be brought about only by a gradual change as the result of operations continued for several years. The remaining three conditions are entirely within the control of the farmer, and the extent to which he shall better them is only a question of profit; the more the crop will bring in the market, the more he can invest in seed of good quality, in manure and in tillage; but the proportion of his total investment that he can most wisely devote to one or another is a matter to which too little thought is sometimes given. It may often happen in ordinary farm practice that a more profitable crop could be raised if less money were spent in manure and more in tillage of the crop, or if without curtailing the manure, its work should be assisted by more careful and thorough tillage.

The important part that tillage may be made to take in the production of a crop has been strikingly shown by the result of the Lois Weedon system of husbandry, whereby large yields of grain were produced without the use of any manure in a field of several acres with the wheat drilled in rows a foot apart, and with every alternate space of three feet left vacant, and entirely given up to most thorough tillage each year; and the wide spaces between the three rows of wheat in the other set of alternate strips permitted hand tillage of the soil there also, throughout the season. Though each acre was really only half occupied by wheat, and even at that in rows a foot apart, the total yield per acre was fully up to the standard of a good yield under ordinary treatment with manure and much less tillage; and this good yield held its own to the end, the last crop of twelve successive years being one of the best. There may have been something exceptional in the capabilities of the Lois Weedon soil, or the tillage may have been more thorough than in other cases where attempts have been made to follow the same method of culture, for no such remarkable results have been obtained elsewhere; but, nevertheless, in all these attempts to produce large crops by tillage without manure, greatly increased yields have been obtained, and the more frequent and thorough the tillage the larger the increase.

How does tillage increase the capacity of the soil to produce a crop? A part of the effect is of course due to the tillage before seeding, through the better distribution of the manure in the soil and the loosening of the ground so that the young plantlet shall easily get a firm and wide-reaching hold. But while doing this and more, tillage before seeding and during the growth of the crop directly increases the supply of plant food available to it out of the natural and really enormous store in the soil. Few farmers calculate as they should on the importance of bringing into use as far as possible this native stock of plant food which comes into their possession with their farms, for few realize that while in the ordinary prudent system of agriculture and sale of the produce of the farm, when the produce sold consists mostly of grain, meat, wool and the product of the dairy, the phosphoric acid and potash carried off from the farm may not equal a five-hundredth or even a thousandth part of the native stock in the soil, all the operations of tillage, the plowing, harrowing, spading and hoeing of the soil help to liberate some of this insoluble, and, as it were, locked-up plant food, and to lessen the quantities that must be purchased in phosphates and potash salts. The Lois Weedon soil was not unusually rich in phosphoric acid and potash, and yet the tillage made enough available to meet the requirements of large crops of wheat.

But, besides the phosphoric acid and potash, there are thousands of pounds of nitrogen locked up in every acre of soil of fair quality, and in every dressing of stable manure a hundred pounds more may be added. The effect of tillage in unlocking and releasing this store of plant food must be greatly more important than in the case of the other two plant nutrients mentioned; for as to them, no chemical changes resulting in increased solubility can possibly be produced by tillage; there can be only a pulverising of the finer particles of the soil to still finer particles, and thus an exposing of more

and fresher surfaces to the solvent action of the roots and of the soil water. But in the case of the insoluble compounds of nitrogen, tillage, by opening the soil, provides for the freer admission of that oxygen which is absolutely necessary for the production of nitrates from this nitrogen; and there are good reasons for believing that the presence of a certain quantity of nitrates in the soil is necessary for the production of remunerative crops. Readers of this paper have, to be sure, been told that certain minute living organisms are the agents that convert nitrogen in its various forms in the soil into nitrates; but these organisms cannot, for a single moment, do their useful work in a soil into whose pores the air has no access. Lawes and Gilbert did not succeed with the Lois Weedon system; they found by chemical analysis, less nitrogen in their soil than in the Lois Weedon soil, and attributed their failure largely to this difference, and the consequent lack of material for production of nitrates.

Every acre of soil receives from the atmosphere a certain small quantity of combined and immediately available nitrogen in the rain and snow that fall on its surface. The crops may get the same benefit from this source of supply, whether the soil is tilled or not, provided, of course, that the surface is not so much inclined and so impervious to water that a large part of every rapidly flowing rain will flow off, instead of passing through the soil. But besides this mode of conveying available nitrogen from the atmosphere to the crop, there is another which may be far more effective and useful in a well-tilled soil; every porous mass of solid material, whether it be charcoal powder or a piece of charcoal, or an ordinary soil, will absorb ammonia, a compound of nitrogen, and hold it in its pores; the atmosphere always contains a certain minute quantity of ammonia, which it will give up to the soil, at least in part, if freely admitted thereto. How much nitrogen may thus be added to the stock of available plant food in a soil we have no means of estimating; but this operation may go on unceasingly day and night and every day, while the conveyance of ammonia to the soil by rain is intermittent and irregular, and often may not take place for days together during the growing season. Mr. Smith, of Lois Weedon, attributed his remarkable success to the absorption of plant food from the air, which his most thorough tillage could not but favor to a high degree. Both Lawes and Gilbert, and the ingenious farmer of Lois Weedon, assume that an increase in the supply of available nitrogen has much to do with the success of the system.

Tillage, judiciously managed so as to keep the surface of the soil loose, hinders loss of water by direct evaporation, and thus mitigates the bad effects of excessive dry weather. As has been well observed by an agricultural writer, it may also root some of the underground enemies of the crop from their feeding places by its frequent disturbance of their homes. Dr. Sturtevant attributes much importance to it in the production of seed through the pruning of the roots of the plants produced by the implement of tillage. So, in one way or another, and many ways, tillage serves as an efficient means of increasing the effect of manures; and it should especially not be neglected by farmers who invest much in purchased manures, which may be a very dear investment unless assisted as much as possible by home resources.—[G. C. Caldwell in the Tribune.]

Rye as a Green Manure.

There are many theories about farming set afloat that seem so sensible when viewed from the standpoint of the theorist, that ultimately become dead failures, that it is no wonder the farmers are averse to accepting new fangled notions of procedure, especially when he is asked to accept a doctrine through faith and not by sight. Those farms are not numerous which do not need enriching in some way. Anything that promises to increase the fertility quickly, which can be certainly and cheaply furnished, is very apt to be accepted as perfection in the agency sought. Rye as a green manure can be easily argued, up to the point of obtaining results. It will grow a large bulk on light soil; it can be easily and neatly turned under with the plow, aided by a chain. These desirable qualities are wanting in clover; that will fail to "catch" on poor soil; and the growth will be light even when it can be coaxed to start. So that it is not to be wondered at that agricultural papers are yearly advising their patrons to sow rye to plow under in a general way, or advocating the practice to some particular correspondent, and yet the practice does

not make headway—poor lands are plenty, rye cheap and sure to grow. We must believe that many have tried it, or believe that such advice is a delusion. Why do we not hear of some poor lands being reclaimed, or of some continuous practice that tells of success, or isn't it time to call a halt in this advocacy of rye, corn and buckwheat as green manure fertilizers, and inquire into the reason for their failure, for failures they surely are.

The mechanical condition of heavy clay soil may become changed by turning under either of the above crops grown, but the benefit derived will be from this mechanical change, rather than from the fertility added by their incorporation with the soil.

I was once cajoled into the belief that rye was the ultimate savior for worn soils. I built up a prospective rotation with rye as a green manure for the basis, which was to renew the soil to its virgin state. My faith was such that it crystallized into works. I faithfully carried out the instructions, I sowed the rye in my corn and every kernel grew; my clover had sometimes failed. I pastured it in the fall after the corn was removed, and it seemed to thrive under the infliction; clover would fade away under such treatment. It stood the test of frosts and freezing while the ground was bare, while my clover was killed. It started early in spring, and by the first of June there was a waving field of green manure, three and a half feet high, which I turned neatly under and worked it during the season so that not a green thing appeared; I was delighted with the experiment. The field of ten acres was sown to wheat with the expectation of witnessing wonderful results from the buried manure. These expectations were never realized; the crop showed no symptoms of receiving any stimulus from the rotted rye. I had another field of twelve acres, eight of which I sowed to rye in the same manner as the other, leaving the four acres to be summer fallowed. I had lost one-third of my field in rye as a green manure, and on harvesting the wheat in this field, the other two-thirds utterly vanished. After being plowed, the field was worked alike and sown the same day; was seeded to clover and from the date of sowing to the time it was again plowed, no sign of the green manure was visible in the wheat, or in the clover crop which followed it. The lines where the summer fallow and the rye met could never be determined by the growth of any crop since. The benefit to be derived from green manuring must be sought in something beyond the bulk of plant growth furnished to the soil. There must be some affinity in the plant with the forces that nourish crops, to make it valuable as a fertilizer. This affinity clover possesses, while rye does not. Let us look at its value as compared with clover, as a manurial product. By actual test it has been found that the ratio of root to top in manure rye is as 10 to 136, and in manure clover it is as 10 to 15—the stubble is counted as part of the root. Here we have half as much root as top in the clover plant, and almost 14 times as much top as root in the rye crop. As to the chemical composition of the roots of the two, this difference occurs. In an acre of roots of rye there are 62 pounds of nitrogen, and in clover 180 pounds; of lime there are 69 pounds in rye and 246 in the clover; of potash there are 30 pounds in the rye, and 77 pounds in the clover roots; of dry vegetable matter in an acre of roots of rye, there are 3,400 pounds, and in clover 6,580 pounds; this from soil only ten inches in depth. Where the rye roots extended only eight inches below the surface, the clover roots were 16 inches long, so that in the computation all the roots of the rye were obtained, and not all of the clover roots. Supposing both to be turned under for a wheat crop, the rye will furnish 40 pounds more nitrogen to the acre than is required by the wheat, but the clover will give a surplus of 140 pounds. Of lime the rye fails to give enough to the acre into three pounds, while the clover leaves 174 pounds stored up after the wheat is grown. Rye simply pays back to mother earth its indebtedness for the pabulum which it takes to grow to maturity; it buries its talent in the earth, and restores it simply when the master comes to claim his own; while the clover gathers to itself other talents and pays a large percentage of usury.

Corn and buckwheat each receive an annual puffing in the agricultural papers for their merits as a green manure. It is true a large bulk of vegetable growth can be added to the soil by turning under these crops, but they really add nothing beyond what they have taken from the soil by their growth, that can be utilized by the following wheat crop. Indeed the fermentation induced by the decay of

such a green mass must be injurious to young plants that may be growing while this fermentation is going on. It is doubtful if the clover plant itself pays as well to turn under as it does to cut the growth for hay, and turn down the stubble. It is not so much the growth itself that stimulates the crop, as it is the accompaniment of that growth, and the condition in which the plant has left the soil.—[A. C. G. in American Farmer.

a reddish centre, are an inch or more in diameter. The shrub attains a height of about ten feet, blooming in early spring.

The beauty of this superb plant is well known in England and France, where, however, it is still rare. In appearance it reminds one of a well-grown hyacinth raceme, except that here and there the compound leaves, consisting of half a dozen or more ovate, serrate leaflets, are freely interspersed.

sufficient evidence that it can be propagated without trouble. There are many imported plants sufficiently hardy to resist the effect of our winters which succumb to the high temperature of our summers. It is much easier to protect against the rigor of winter than the extreme heat of summer.

There are 923,000 seeds in a pound of sweet vernal grass.



XANTHOXERUS SORBIFOLIA.

A New Shrub.

The shrub, new to American horticulture, originally came from Magnolia, Central China, and was brought to the Paris Museum in the year 1868, by M. Pichon, a young Frenchman. Our illustration is life size, the raceme being about eight inches in length; the individual flowers, consisting of five petals, white, sometimes slightly rose-tinted with

The fruit, which very rarely forms, is described as assuming the shape of an elongated peach.

Sufficient is known of this plant to pronounce it perfectly hardy in this climate, even though but few of the attempts at cultivating it have proved successful. An authority states that the fact of a shrub or tree being sufficiently hardy to withstand the low temperature of our winters is not alone

If you are not a subscriber to the FARMER'S ADVOCATE, send along \$1.00 at once, for you cannot do without such a useful companion. If you are one, secure a new subscriber or two, do good thereby to your neighbors, and win some of our splendid prizes.

"A horse trot each day is relied upon to insure a crowd" at the coming Connecticut State Fair.

Stock.**Polled Aberdeen or Angus Cattle.**

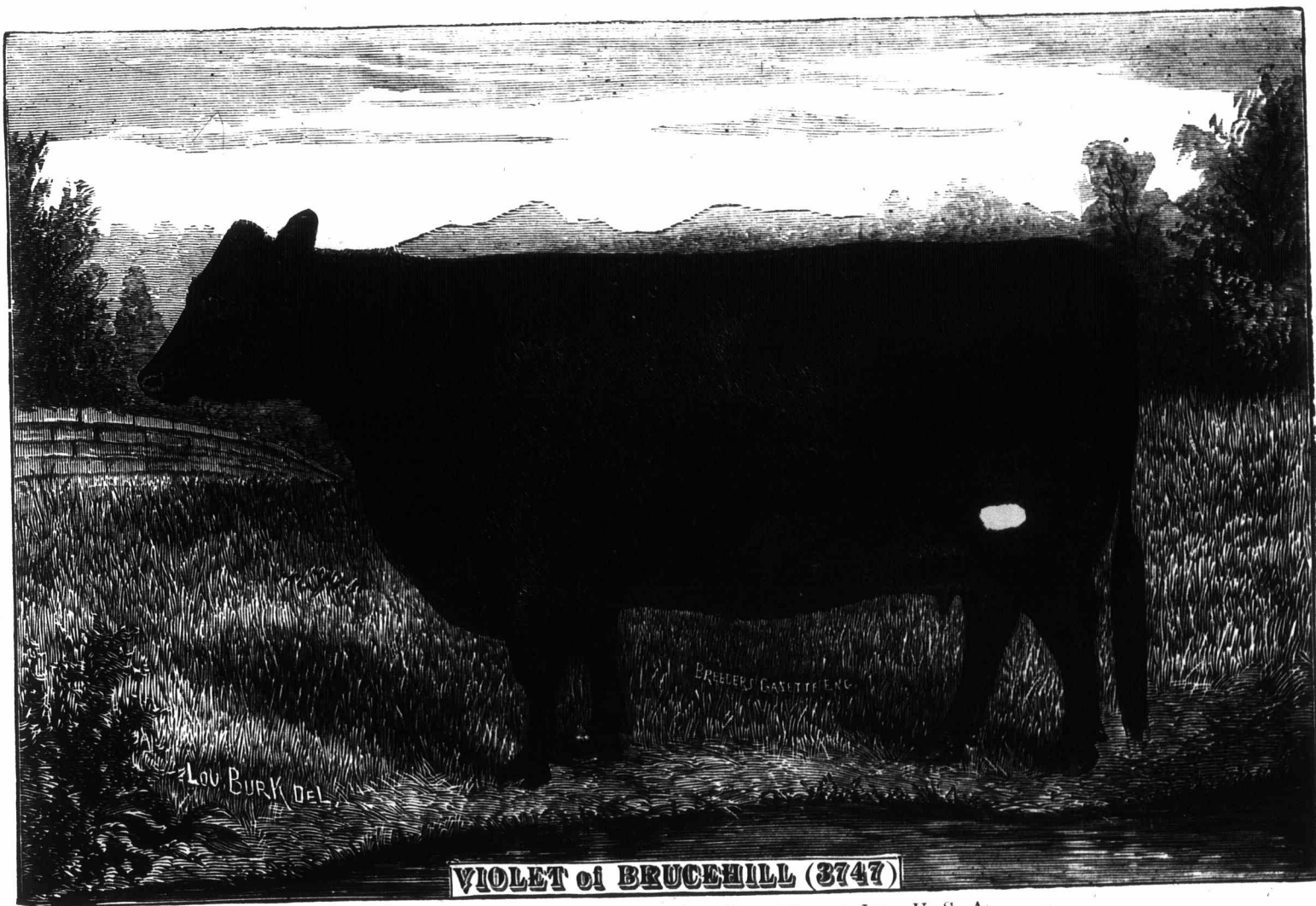
The illustration on this page is from a photograph of the imported Angus cow Violet, of Brucehill. She was bred by James Fowlie, of Brucehill, New Deer, Scotland, where she won the first prize in her class, and also at the Monquhitter shows in 1878, soon after which she was imported. In 1881 she took the second place in the class for cows four years old or over, at the Illinois State Fair. Her dam, Ruby 3d, won two silver medals in groups of three. The herd, owned by Anderson & Findlay, Lake Forest, Ill., to which the subject of the illustration belongs, is the largest of the kind in America.

[We direct the attention of our readers to the article on Polled Cattle from our correspondent in Scotland.]

Polled herd, work blindly, as your correspondent says, for the accomplishment of that end, and are ready to pay high prices for specimens of this breed that have little to recommend them than that they have a black coat and a polled head. Now although I am ready to admit—indeed, I will make the affirmation—that there is no better breed of cattle in existence than the Polled Aberdeens, I must also say that there is no animal likely to give a smaller profit than a Polled beast of a bad type. Thick legs, thick tails, sunken eyes, and deep necks, with thick skin and bristly hair, as the veteran breeder, feeder and exhibitor, the late Mr. William McCombie, of Tillyfour, said, always point to sluggish feeders. It is against animals of this type that I would warn your readers. However small the price that may be paid for them they will, in the long run, be found to be too dear, and those people who “in the general scramble” for Polled cattle may have come possessed of any

short on the legs. It should have a small, well put on head, prominent eye, a skin not too thick nor too thin, should be covered with fine silky hair—to the touch like a lady's glove, should have a good belly to hold its meat, should be straight-backed, well ribbed up and well ribbed home, its hook bones should not be too wide apart. It should be well set at the tail, free of patchiness there, and all over, with deep thighs and prominent brisket. I cannot recommend to any of your readers, who may contemplate giving the Polled breed a trial, a better standard to abide by in making his purchases than this, so admirably does it strike off the characteristics of the breed. To those who have found themselves saddled with animals of a totally different class, I would say—“get rid of them as soon as possible, but do not quit your hold of the breed, for animals of the right sort are valuable as gold.”

I have met with a few Americans who have ex-



VIOLET of BRUCEHILL (3747)

THE PROPERTY OF ANDERSON AND FINDLAY, LAKE FOREST, ILL., U. S. A.

Polled Cattle.

[FROM OUR OWN CORRESPONDENT.]

Your Chicago correspondent in the February number of THE FARMER'S ADVOCATE put his finger, metaphorically speaking, on the weak point in what he forcibly terms “the general scramble for hornless breeding stock,” or, in other words, for Polled cattle. I should like, briefly, with your permission, to emphasize what he said, so far as his remarks may be taken as referring to Polled Aberdeen, or Angus cattle—a breed which within the past twelve months has increased in value “by leaps and bounds,” and which, if buyers and sellers do not rush to extremes, as would almost appear to be the case, may become valuable in the near future. The chief danger to the continuance of the demand for Polled cattle is that buyers—not only on your side, but at home—having only one point in view, namely, to become owners of a

such specimens will of course be the first to find fault with the breed, the consequence being that the propagation of “Polled” blood will be checked and the value of the breed depreciated. I have seen most of the cattle that have recently been exported from the north of Scotland to the United States and Canada, and although a small proportion of them would not come up to Mr. McCombie's standard of what a perfect breeding or feeding animal should be, yet I must say that your buyers have shown a considerable amount of discrimination in the selection of their cattle, which is somewhat remarkable, seeing that they had not much experience of the breed. As the late Mr. McCombie was one of the best judges that this country has yet produced, I may give you his description of what a Polled beast should be like. It should be mild, serene, and expressive in countenance. The animal should be fine in the bone, with clean cut muzzle, a tail like a rat's, and not ewe-necked;

pressed to me their feeling that the breeders on this side “are laying” it (the price) on too thick, but it must be borne in mind that the number of Polled Aberdeen or Angus cattle is comparatively small, and therefore it need not be wondered at if holders of this class of stock won't dispose of their cattle except at long prices. Too many of their good things have already been exported, for if the trade were to continue in as active operation as at present, at the end of a few years the whole of the “plums” would have gone hence. It would be well that breeders in this country would look at this aspect of the matter in time, before the “mighty dollar” robs him of too much of what is at the most but a very limited quantity. I may have to refer to the cattle trade, specially with reference to the demand for Polled cattle from America, at another time.

G. H.

Aberdeen, Scotland.

The Royal Agricultural Society of England, at Reading.

[Abridged from the Agricultural Gazette.]

The Society was unfortunate on the first two days of the show, so far, that is, as the weather was concerned. On Tuesday, in particular, the showers were frequent, sometimes heavy, and now and again rather elongated as to time. Wednesday, however, the day on which His Royal Highness visited the show, was a well-behaved sort of day, bright, with an air something more like July than we have been used to for some time.

SHORTHORNS.—We are under the impression that we have seen better exhibitions of Shorthorns at the Royal; yet one show resembles another so much that we should be reluctant to dogmatize on that point. In any case, there were many excellent and attractive specimens of the breed at Reading this week—specimens that cannot be excelled, and probably will not for a long time to come, if ever. Whether or not the breed is capable in the future of yielding specimens superior to those which have been and are being produced, is a question to which time only will afford an answer. We may, however, safely say that the average merit of the breed will in time to come be appreciably raised.

HEREFORDS.—We regard the Herefords as the best of the English beef-makers, and the most picturesque cattle in England or anywhere else. That they have not in times past borne a high reputation for milk-giving is their misfortune, not their fault. That they are anxious to remove this stigma from their race has of late years been proved over and over again, by men who have given them a fair chance. That they will always be popular, and that their popularity will increase, in this and many other countries, is a point on which we may with tolerable safety venture on a prediction in the affirmative. Thinking, then, in this manner about them, we were not ill content to find the Herefords very fairly well represented both in quality and in numbers.

DEVONS.—The Devons—always a favorite breed in the showyard—were fairly well represented in numbers, though we should have been glad to see more competition in most of the classes, especially in the Bull classes.

SUSSEX.—These greater Devons were well represented.

LONGHORNS.—These quaint old-fashioned animals were few in number. The specimens of this breed exhibited were good of their kind, fleshy, and with quality enough; but the display of them, typical of the breed as a whole, was comparatively unimportant.

CHANNEL ISLANDS.—There was a very strong show of these breeds, the entries numbering 198, of which no less than 177 were Jerseys, nearly all of whom put in an appearance in the show ring. It had been very wisely decided to judge all the in-milk classes first, leaving the Bulls until later on in the day. This allowed the milk cattle to be relieved of their milk some two hours earlier than has hitherto been the case. Not only is the adoption of this plan humane to the animals themselves, but it prevents the distortion of the udder, and consequent bad set of the teats, which is so often seen in overstocked animals.

NORFOLK AND SUFFOLK POLLED.—This breed for many reasons is a favorite breed with us. We like it for milk, for beef, and for beauty. It ought to become some day one of our most popular breeds of dairy cattle; but this depends to a great extent on the men who have the moulding of the form and destiny of the breed. In any case we feel sure the breed has a very considerable future in store, if it is well handled for a few decades.

DAIRY CATTLE.—The show of dairy cattle was not very good as a whole, though there were not a few highly creditable animals in both classes. The Marchioness of Downshire won both first prizes with cross-bred animals.

SHEEP.—LEICESTERS.—The Leicesters, as in fact all the long-wool white faces, may be said to be under more or less of a cloud in the estimation of the mutton-eating and wool-wearing British public. It cannot be denied that in both departments the public are exercising more taste than was formerly the case. Hence we find the short-wool dark-faces coming to the front in all our shows, especially in the Midlands and South. The Leicester fanciers stick well to their guns, notwithstanding, and many excellent specimens of this breed of sheep are in the show.

COTSWOLDS.—The Shearling Ram class of Cotswolds contained 28 entries, many of which were very good ones.

OXFORD DOWNS.—The well-known and deservedly popular breeder of Oxfords, Mr. Treadwell, won the first and second prizes in Class 100, Shearling Rams, though there were more than 30 entries. His sheep were simply perfect, or very nearly so—more nearly so, in fact, than any others in the class—broad, well developed, in splendid condition, and of great quality.

SHROPSHIRE.—If we may take numbers as an index of popularity and strength, then the Shropshires are ahead of the other breeds. In the Shearling Ram class alone there are upwards of 70 entries.

SOUTH DOWNS.—Another grand breed—the parent of all the Down breeds—and a class of Shearling Rams worthy of it, over 40 entries there are in it, all of them good. Lord Walsingham comes in first with a ram, bearing all the features for which his lordship's flock are so well known. H. R. H. the Prince of Wales is second with a pen that came near deserving to be first. H. R. H. has caught up to Lord Walsingham in sheep-breeding; presently he will pass him—at least, we think so.

HAMPSHIRE.—We are disappointed with the Hampshires, not so much with the merit as with the number of those exhibited. Nay, it is with the Hampshire breeders, and not with the sheep, that we are out of humor. Why, we want to know, is it that the breeders have not put in a better appearance at the Royal this year, which is at their own door-stones, so to speak? If they have faith in their sheep—the amount of it we believe they are justly entitled to hold—why don't they bring them out when they have so good a chance?

PIGS.—WHITES.—A falling-off both in number of exhibitors, and consequently in the quality of the White exhibits, has already taken place, for, excepting the winners in the various classes of Whites, but few of the other exhibits were up to the usual standard; indeed, a great falling-off was there.

BLACKS.—The competition in the Black breed was good, both for quality and numbers.

IMPLEMENTS, &c.—The show of implements at Reading was really a capital display, but the sight was greatly marred by the weather. The engineer and the mechanic have combined to furnish practical farmers with useful implements with which to till the soil. It is no secret that most of our agricultural engineers supply a large foreign demand, and that many of the implements which our own farmers affect to have little faith in are eagerly bought up by continental and colonial buyers. At the same time, great strides have been made in agriculture since the agricultural engineer has supplied many felt wants; and though all the engineer's inventions have not been so widely adopted in the mother country as they might have been, still, he has the satisfaction of finding them steadily increasing in demand, as well as usefulness, in our own colonies. The agricultural engineer and mechanic have evidently more honor abroad than at home. At Reading there appeared to be no lack of labor-saving implements; and if our farmers are unable to cope with the spirit of the age for something new, it is not the fault of those who attempt to assist him in sowing and reaping the soil.

Highland Show at Glasgow.

The fifty-fifth annual show of the Highland and Agricultural Society of Scotland took place at Glasgow. Once more the weather was exceedingly unfavorable. On the opening day, rain fell in torrents for fully an hour, and the yard, already wet and soft, soon became terribly muddy and uncomfortable for visitors. There was more rain during the night, and on Wednesday, although the weather was dry and pleasant, the Green was still in a wretched condition. Despite these untoward circumstances, however, the attendance of visitors on the first two days was pretty large.

As was to have been expected in a show-yard so near to the home of this useful breed, the collection of Ayrshire cattle was both large and good. The entries numbered 119, as compared with 75 last year. We believe there have sometimes been a few animals of higher merit than any shown on this occasion, but, taken as a whole, the muster was exceedingly good.

It may safely be said that no breed of cattle has risen so much in public favor in recent years as the native Polls of the north-east of Scotland. On this occasion the breed made an excellent display—the entire numbering 68, or only 2 fewer than last year, and 18 more than at Glasgow in 1875.

The turn out of Galloway cattle was not quite so large as at Glasgow in 1875, but was, all over, of high merit. The old bull class embraced five very fine specimens of this valuable and rising breed. The characteristic West Highland breed made a very creditable appearance. The entries number 67, being 8 more than last.

Those who expected a grand muster of Clydesdale horses were not disappointed. The entries numbered no fewer than 234, and a very fine lot they were. In the older classes the winners were nearly all animals that had formerly made themselves well known in the leading Scotch show-yards, but on this account the contest was in several of the classes all the more keen and interesting.

The fleecy tribe made a good appearance. The chief feature in this section was the excellent show of the black-faced breed. In all classes these were numerous and of good quality. This was especially the case in the aged tup class, in which some very fine animals were shown.

The display of Cheviot sheep was neither so large nor of so high merit as it has often been—a circumstance attributed to the recent bad seasons, which have pressed heavily on owners of Cheviot flocks.

The valuable breed of Border Leicesters was very well represented.

The Shropshires, which are not much cultivated in Scotland, though they have qualities which might commend them to more general favor, were only sparsely represented, some of the sections being deprived of English entries on account of the enforcement of quarantine restrictions. The animals were, as usual, shown with the coating of ochre, which is thought to improve their appearance.

Swine were very good and poultry excellent. There was also an exhibition of dairy produce, including cheese, and fresh and salt butter.

Royal Northern Show at Aberdeen.

The annual show of the Royal Northern Agricultural Society of Scotland was held at Aberdeen on Thursday of last week. The entries of live stock numbered over 330, and generally speaking the character of the display was very good. Unfortunately, there was a great decline in the Shorthorn section, but in the Polled classes there was a grand display, numbering over 120 head. Horses were very good, and sheep and swine fair.

Selecting a Bull for the Herd.

The common saying, that the breeding and blood of the male forms one-half the herd is, in the main, true. It is remarkable, however, to what extent family peculiarities cling to the female line. Of course, very diverse crosses, followed up during a series of years, will affect the most skillful previous grafting upon any family known to the record. So also will the removal from a locality where the climate, soil, etc., are favorable, and where the feed is both abundant and good, to one where the opposite conditions prevail, cause variations in the highest degree disappointing. Under such influences, the greatest skill and tact will fall short of the mark aimed at, and no complete results will come of any plan of selection, no matter how wisely made.

This has been observed of certain families noted for tenaciously holding to the peculiarities with which they first started out, such as the Mazurkas, Gwynnes, Aylesbys, Ladys, Minnas, Young Marys, Phyllises, and many others. The fact of this adherence to peculiar types shows that forms and peculiarities cannot be controlled through the sire alone. Of course, variations occur, depending upon the individual character and blood, whether of Booth, or Bates, or of miscellaneous breeding.

There is nothing that comes within the province of the breeder which requires so much knowledge of the art of breeding, as the selection of crosses. A thorough expert has it in his power to build from a foundation of plain females, and in a few years, if he choose his males with consummate skill, he may shape up a comely and profitable herd; while a man starting with a well selected herd of females may, in a few years, depreciate the herd, through indifferent adaptation of male animals, till the produce show neither beauty nor substance.

An error very commonly committed is breeding from young, untried bulls. Where this is practiced upon females of high merit, the results may be anything but encouraging, the move being a step backward rather than forward. Of course, there are young bulls of such superlative individual

excellence, backed up by such excellent descent, that they will not do otherwise than get superior progeny. But this is often not the case; hence the plan should only be entered upon when the inducements seem exceedingly favorable. Young bulls sometimes sire moderately good calves the first season, the quality increasing as they get age, though the females are like each year.

Men become so restive after having a bull in use for two or three years, though his breeding is unexceptionable, and his get have proved to be full of merit, that they are ready to put him off at a very moderate price, many times taking a very unequal chance in the matter of replacing him. This anxiety to sell paves the way for some one to get a bargain. Hence, the best way to secure a bull to head a herd creditably, is to advertise for one, and after carefully scanning the answers, look among them in person, and, as the proof of the trustworthiness of a sire is in the merit shown by his get, backed up by his own personal excellence.

It is a question worthy of consideration whether any bull should be put to full use in a herd until he has made so favorable a mark upon a limited number of young things as to settle any doubt as to his value. An exception to this would occur in the case mentioned above, where both the breeding and the individual merit were so high as to pretty much preclude any chance of risk. Where a herd of the fattening breeds seems to be parting with its tendency to take on flesh promptly, the owner should not delay, but make a bold and effective change at once. Females whose ancestors have been first class, will, through the use of carelessly selected sires, deteriorate, becoming long in the legs and narrow in the waist. The natural tendency of animals under domestication is to vary; and Darwin was right when he said that "if there was no tendency to vary, man could do nothing." It is this tendency to vary that places the moulding of the forms of our domestic animals in our power.

This moulding is done through selection; and as the male is the source from which we receive one-half of each individual in the herd—the breeder is very unwise who does not watch with great vigilance whatever occurs in the shaping of his young stock, meeting any tendency to go backward with a prompt corrective. Too much length of leg and thinness of body should be counteracted by the only known remedies, a thick, short-legged male and liberal feeding. We have known herds so bred for a series of years, that long legs and narrow bodies crept in little by little, the result of want of judgment and industry in securing the right kind of a male to stand at the head.

There are but very few large herds that do not really need two bulls. If the owner inclines to keep pretty close to what is termed "fashionable breeding," he cannot expect to do this upon a lot of females possessing a variety of forms and diverse degrees of merit, without seeing a portion of the increase deteriorate. Where this occurs—and it will in three herds out of four—the owner should not rest quietly while his herd is dividing into two sorts, these growing more and more apart in their characteristics each year, but should, instead of this, if necessary, go outside of his "line" rule, and reclaim.

Where the females of the herd are getting too long in the leg and too slim in the waist, it is certain that the breeder has caused these undesirable points by want of attention to the simplest, yet most arbitrary and unbending rules. For herds that are departing from the true type, and losing desirable beef-making qualities, nothing short of a bull of the most decided tendency to corpulency, broad on his top, deep in his body, and short on his legs, will restore the missing qualities. This will be a much easier task than it was for Hubback to engraft the desired qualities upon stock which had not before possessed them, or, if at all, in a minor degree compared to himself. Easier, because Hubback held to his individuality by a weak tenure, and not by the long line of uniformly good breeding possessed by all Shorthorns nowadays, that are worthy to be called such.

Young breeders, and those about to make their first purchases, sometimes raise the question as to whether it is necessary or best to pay much attention to color, as some have insisted that, so far as Shorthorns are concerned, white was the original and prevailing color of these cattle, the prejudice against white being, as is asserted by some, of recent origin. We do not believe there will be any very marked change of opinion in this regard during the lifetime of any breeder now living, if ever. The fancy for red is not of recent origin, but dates

far back. In a work by James Lambert, on the subject of cattle and other farm stock, published in London, in the first quarter of the last century, referring to the selection of a bull, he says:

"Let him be of good breed, strong in limbs, and well proportioned. As to color, the bright red is counted the best for breeding, and we advise that he be not above six years old, but rather under."

For a long period—we cannot fix the number of hundred years—there was such a fancy entertained for the red cow, that her milk was accredited with possessing nutrient and healing qualities not known in the milk of cows of any other color. While there is no color that shows to such good advantage in the pasture as a roan, where the colors are well apportioned, still some men prefer the red, and will continue to do so. The belief entertained by some, that a light-colored cow will necessarily fatten easier, and make better beef than one of deep color, is not sustained by the facts. A red, bred for fattening, will be the equal of the beast of any other shade or color. This is as true as it is that the Berkshire, or the Essex hog, bred for fattening tendencies, will take on flesh as promptly as the white hog, and produce flesh that is not excelled by any.—[National Live Stock Journal.

How Breeds are Formed.

The Animal Kingdom is divided by naturalists into four great branches, *Radiata*, *Mollusca*, *Articulata* and *Vertebrata*. These branches are again divided into classes. The *Vertebrata*, to which branch all our domesticated animals belong, are divided into eight classes, the last of which are the *Mammalia*, embracing all animals that give suck to their young. These classes are divided into genera, and these again into species. For example: we have the genus *Equus*, of which the horse, the ass, the zebra, and the quagga are species; and these different species are again divided, with reference to certain peculiarities, into breeds. A breed, therefore, is a classification by which we distinguish a group of animals possessing qualities which are not common to all animals of the same species, and which peculiarities have become so firmly established that they are uniformly transmitted by heredity. Thus, we have the Shetland ponies, a breed of horses possessing all the general characteristics of the species to which they belong, but especially distinguished from other breeds by their diminutive size; and the Devons, a breed of cattle uniformly of a deep red color, and possessing other distinctive features that are not uniformly found in any other breed.

It will be observed that these divisions, from first to last, are more or less arbitrary; and as it is impossible to define exactly the point where the mineral kingdom leaves off and the vegetable kingdom begins, or to distinguish positively the line of demarcation between vegetable and animal life, so throughout the entire animal kingdom the various divisions or classes approach each other by almost imperceptible gradations, until in many cases it is impossible to locate the dividing line. This is especially true of breeds. We may assume any standard that our fancy may dictate, as the color or texture of the hair; the shape or size of any particular part of the body, as the head or ear; any particular function, as the quantity or quality of the milk in cattle; peculiarities of locomotion, as the trot or pace in the horse; of habit or instinct, as exemplified in the Setter or the Shepherd's Dog, etc.; and classifying with reference to the possession of any of these assumed peculiarities, we may divide a species into breeds. Theoretically, there is no limit to the extent to which this division into breeds might be carried; but practically it is confined to marked differences in appearance, function, use, disposition, or quality. And whenever we have, by any means, produced a group or family of animals that possesses and transmits uniformly in any particular in which there is a lack of uniformity in the species to which they belong, they are fairly entitled to be classed as a breed.

It has often been said that, strictly speaking, none of our domesticated animals can properly be called thoroughbred; but practically, when a breed has once been formed so that there is a great degree of uniformity in all of its individuals, which uniformity is reproduced from generation to generation with certainty, the race is said to be thoroughbred; and when a thoroughbred race has thus been formed, whether by selection, breeding in-and-in, or by crossing, or by all these means combined, any animal descended from this race,

without any admixture whatever of alien blood, will be regarded as thoroughbred.

But when we come to apply the term to the various classes or breeds of domestic animals, it is used in a modified sense. When applied to horses it is used to designate the race-horse only. If a common mare be bred to a strictly thoroughbred horse, the produce is a half-blood. If this produce be again bred to a thoroughbred, the result is a three-quarter blood. By continuing this process, each time breeding the produce to a thoroughbred, until you reach five crosses, under the American rule, the produce would be entitled to registry as a thoroughbred, and would be entitled to compete for premiums offered for thoroughbred horses. But in England a horse is not regarded as a thoroughbred, and is not accorded a place in the stud book, unless his lineage can be traced in unbroken succession, and without admixture, to Oriental blood.

With cattle in the United States the usage is not uniform. No amount of crossing with pure blood will entitle an animal to enter in the Jersey Herd Register. It must be a purely-bred animal, imported direct from the Isle of Jersey, under certain restrictions, or descended, on both sides, from imported and recorded sire and dam, without any admixture whatever of alien or unrecorded blood, or it is not recognized as a thoroughbred Jersey. With Shorthorns the regulations are somewhat different in the two herd books. The American Herd Book is conducted under the rule adopted by the American Association of Shorthorn Breeders, at Indianapolis, several years ago, which is as follows:

"Resolved, That the ancestry of the animals should be traced on both sides to imported animals (Shorthorns) or to those heretofore recorded in the American Herd Book, with pedigrees not false or spurious, before they can be entitled to registry."

This rule was amended, a few years later, by the same association, by the adoption of a vague and obscurely worded resolution, which, being interpreted, means, if it means anything, about as follows: If animals that were not eligible under the above rule have, by accident or oversight, been once recorded in the American Herd Book, no matter how far short they may have come of filling the required standard, the descendants of animals so wrongfully recorded may be admitted, provided five crosses of recorded or recordable blood can be shown, in the case of females, and six of such crosses for bulls. Subsequently, however, this association recinded all of its rules, leaving the whole matter in the hands of the publishers of the herd books; and the publishers of the American Herd Book have announced that they will be governed in the future by the rule as amended above.

Under this rule as amended, our correspondent may commence with a thoroughbred bull and a common cow, and he may use nothing but thoroughbred bulls upon the produce for twenty generations, and it would still not be entitled to entry in the American Shorthorn Herd Book, unless the common cow with which he commences has, by some accident, been accorded a place in the record; but as this Herd Book, which was established many years prior to the adoption of the Indianapolis rule, contains many animals that would not have been entitled to registry under this rule, the effect of the foregoing regulation is to authorize the recording of the descendants of such animals, without regard to the eligibility of their ancestors.

The rule adopted by the American Shorthorn Record is still more rigorous. Nothing is admitted to this record that cannot trace in unbroken succession, without admixture, to imported sire and dam.

The English Shorthorn Herd Book, which is controlled by an association of Shorthorn breeders, is conducted upon a different basis. Cows showing four crosses of approved Shorthorn blood, and bulls with five such crosses, are admitted to registry and are classed as thoroughbred Shorthorns. The Canadian Shorthorn Herd Book has been conducted under the same rule as the English, but recently a more strict construction has been adopted.

It will be seen that the simple fact that an animal is registered does not make it a thoroughbred; but it is perhaps safe to assume that, if an animal is entered in a given register, the editor has investigated the alleged pedigree, and that it is eligible, under the rule adopted for his government; and in proportion as the editor of the book is known to be careful, accurate and strict in the enforcement of this rule, is the recorded pedigree to be relied upon as coming up to the required standard. But it should be borne in mind that the stud books and herd books are used only as convenient places for recording pedigrees, and the breeder must look to

the pedigree itself, and trace it through all of its collateral lines before he can decide as to its value.

Our purest breeds of domesticated animals are of a composite origin—some of them of very recent growth; but even in these the power of heredity—the law which makes of every individual the sum or essence of its ancestors—is everywhere seen, is everywhere felt, and never fails to assert itself in a greater or less degree. Every living thing brings forth young after its own kind—in some cases the exact counterpart of the parent, and in others slightly modified; but always showing more or less of the parent type.

One of the most common errors into which breeders are led, in attempting to put theory to the test of practice, is in cross-breeding. The novice reasons thus: "Here is a cow that is small and lean in body, but a great milker; I will mate her with a large, well-formed bull of one of the beef-producing breeds and will have in the produce something that, while probably not quite so good for milk as the dam, nor for beef as the sire, will be moderately good for both." Or, if a breeder of horses, he will say: "Here is my game little mare; she is a wonderful roadster, but too small to be of much value for farm work; I will breed her to a heavy draft stallion and her colt will be about half way between the two—just what I want." This appears very plausible. It looks mathematical and reasonable that the mingling of these elements should produce a mean between the two. But it is a result quite rarely attained. Practically, we find that the son is frequently, in some respects, the exact duplicate of the father, and the daughter of the mother. Sometimes a peculiarity which belonged to the grandsire lies dormant in the son, but crops out as strong as ever in the second or third generation. Again: we find peculiarities transmitted from father to daughter, and from mother to son, and even especial sexual characteristics transmitted by the father through a daughter to a grandson, or by the mother through a son to a granddaughter; but in no case are all the peculiarities of any one parent transmitted. Indeed, it would be strange were it otherwise, because each individual is the joint produce of two other individuals, each endowed with peculiarities of its own; and that each should transmit itself as an entirety is absolutely impossible. Rarely do we find in the individual so produced a blending of these peculiarities in exact proportion; but rather that in some respects the offspring resembles the father, in others the mother; in some forming a partial or exact mean between the two; and in still others utterly unlike either, giving the produce an individuality or character of its own.

Every experienced breeder and close observer is familiar with illustrations of these peculiarities. Frequently the son resembles the mother in form and feature, and the father in mental qualities, and vice versa. How often do we see horses inheriting the color of the sire and the gait of the dam; the size of the one and the disposition of the other!

These are the consequences that constantly attend cross-breeding, or breeding from parents that are not of absolutely pure and uniform origin, and which make the attaining of definite results by this process so slow and uncertain. If breeders will bear in mind that the force of heredity is usually exerted to compel the progeny to adhere to the character that has become fixed in the ancestor rather than to follow accidental variations from the established type that are peculiar only to the immediate parents—that it transmits with certainty only what has become a fixed character in the ancestry, there will be fewer disappointments, and the value of pure races will be more thoroughly appreciated.—[Breeders' Gazette.

Mr. E. P. Roe, of Cornwall, N. Y., lately started three large open crates of strawberry plants for Australia, via San Francisco. They were so packed that they can be watched and cared for properly, and although it will take three months for them to get to their destination, strong hopes are entertained that they will arrive in good condition, notwithstanding the forwardness of their growth when taken up is against them.

"I have been taking the ADVOCATE for many years and consider it an excellent agricultural journal, well, ably and judiciously conducted, and in every respect abreast of the age, fearless and independent in exposing what you consider wrong and giving due credit where it is deserved."

JOHN WATERS.

Springbank, Ont.

Entomology.

The Army Worm.

The army worm, one of the most destructive insects in North American agriculture, is the larva of a night-flying moth (*Leucania unipuncta*). This moth, as shown in the accompanying sketch (Fig. 1), is very plain and unadorned in its appearance,

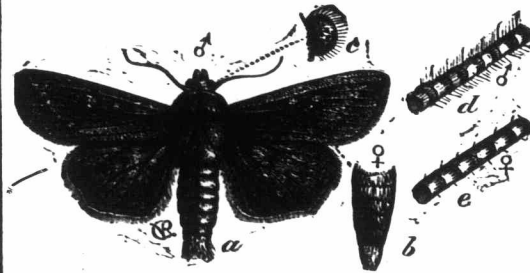


Fig. 1—Army Worm Moth.

of a rusty grayish brown, peppered with black scales, and with an oblique row of ten black dots running towards the apex and a small white discal spot near the centre of its fore wings. It expands a little over 1½ inches. A further examination of Fig. 1 shows *a* as the male moth, and *b* abdomen of the male, natural size also, *c* the eye, *d* base of the male antenna, *e* base of the female antenna enlarged.

The time and place of laying and depositing the eggs of this pest are quite important from the economic standpoint. The eggs are thrust in between the sheath and stalk of well-grown grasses, whether cut or standing; or occasionally in between the natural fold of the green leaf or the unnatural curl at the sides of a withered leaf. They are generally laid in rows of

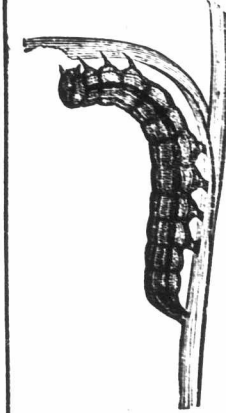


Fig. 3—Army Worm.

from five to twenty and upwards, and they are accompanied with a white, glistening, viscid fluid, which glues them to each other and to the plant. Each, when first laid, is spheroidal, 0.02 inch in diameter; smooth, opaque, white, with a very delicate and yielding shell, which, before hatching, becomes faintly iridescent, and shows the more sordid embryo within. Fig. 4 also shows at *a* the end of the abdomen of the army-worm moth, denuded and showing at rest the ovipositor or organ by which the eggs are deposited; *b* the same, with retractile sub-joints; *c* and *f* retractile sub-joints; *h* the eggs, all enlarged. Eggs at natural size are represented by *g*.

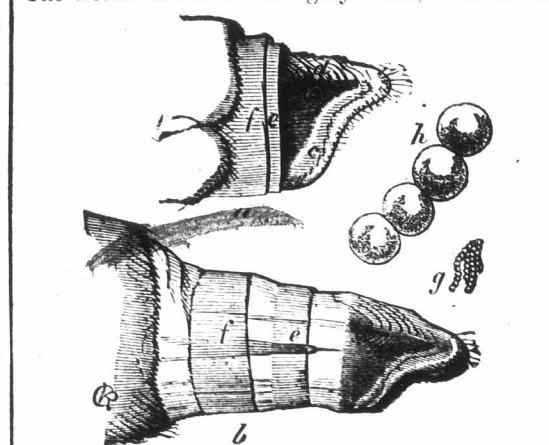


Fig. 4—Eggs and Ovipositor.

narrow, longitudinal, yellowish stripes above, and a broader one of the same color or slightly darker on each side, thinly clothed with short hairs, which are larger and thicker in and about the head. Well-fed specimens reach two inches in

length, and the thickness of goosequills. Fig. 3, in the accompanying sketch, shows the mature army worm. The chrysalis of the army worm, as represented by Fig. 2, is of a mahogany-brown color, and tipped at the end with a short spine. The chrysalis of the army worm of the Eastern States varies in size, being usually smaller than that of Western origin, and the spine is double or cleft at the apex.

When these destructive caterpillars of the army worm moth become too numerous, it is important to arrest their ravages. Several methods are recommended; the most common and probably the easiest is that of plowing a double furrow around the field, or across any part of the field towards which they are marching. It is necessary to have the steep side of the furrow next the unharmed crop, so that when the worm attempts to climb over it may fall back into the furrow. Running the plow once in the furrow is not sufficient; twice, or even three times is better, and it requires renewal if washed down by rains. When the worms collect in this furrow an application of kerosene oil is sometimes made to facilitate their subsequent burning. If the soil be stiff or stony these worms will climb over the steepest ridge; on light, friable soils only will the foothold of the worms give way. The worms thus trapped may be destroyed by setting fire to dry straw in the furrows or by turning in hogs. Grass land thus infested is sometimes burned over in the fall, but the use of fire is an objectionable method from the danger of communicating with the grain fields, fences and buildings, and causing more damage by the flames than would be possible by the worms.

Thousands of army worms may be easily destroyed in a meadow by the use of a heavy iron roller. A very slight pressure is sufficient to burst their skins, and such injuries will kill them. If the meadow be level few worms can escape the roller. The best time for rolling is while the worms are feeding and up among the leaves. As soon as the crop is removed from an infested field, turn in all the hogs you can, also chickens and turkeys. Ducks are very serviceable in searching for and eating caterpillars. Sheep in large numbers turned out to feed will kill many of the worms by tramping on them. It is said that even crows and blackbirds prefer good fat caterpillars to grains of corn, oats or wheat. Of course every caterpillar destroyed lessens the attack of future generations of these pests in succeeding years.

The army worm is reported infesting the country near Bridgetown, Annapolis county, N. S., and they are also reported to be in the fields and marshes on the south side of the river. Between that place and Paradise considerable damage has been done to the hay crop of the marshes, a large quantity in the vicinity of Round Hill being destroyed. One farmer in Lower Granville lost nearly thirty acres of grass. Where these worms came from no one knows. They appear in the most unexpected localities, and farmers are becoming very much troubled about their crops. They have also made their appearance, and done considerable damage in New Brunswick.

The statement is made that flies will not stay in a room where there is a castor oil plant. The same statement has been made with respect to the chrysanthemums or pyrethrum, but the truth of it is to be doubted. The experiment, however, is worth trying, for the pyrethrum with their light green foliage would make a pleasant contrast with the dark green of ordinary window plants. The castor bean is, it is true, a large plant reaching under favorable circumstances a height of eighteen or twenty feet. But it may be readily dwarfed by giving it poor soil and bad treatment, and if necessary the nurseryman will soon produce a dwarf variety.

The October and November numbers of THE FARMER'S ADVOCATE will contain useful, concise and interesting reports of our leading Exhibitions, and no enterprising farmer can afford to be without the leading agricultural journal of Canada.

Sow pansy seed about the first September, in the open border; as soon as they have made their second leaves, transplant the young plants into the bed where they are to bloom. Make the soil rich as possible; protect the young plants during winter with a light covering of leaves; rake off early in spring, and a fine display is secured.—[American Cultivator.

The Dairy.

Making "Gilt-Edged Butter" at a Modern Creamery.

WRITTEN FOR FARMER'S ADVOCATE BY X. A. WILLARD.

I visited a creamery a few days ago where the finest kind of butter was made, butter that is eagerly sought after, and commands an extra price in market. A description of the process may perhaps be suggestive to the butter-makers in Canada, who find it difficult to make a fine grade of butter during hot weather.

At the creamery in question the water, though sweet and fresh, is too warm to cool the milk properly, and ice was required in its manipulation. The milk is set in a large vat, the outward appearance and size being similar to a common cheese vat. Its interior, however, was divided up into two milk compartments, the division running lengthwise of the vat. An ice trough was on the outside of each compartment, and a movable or adjustable ice trough hung in the centre of each milk compartment. They were deep enough to extend below the cream line when the compartments are filled with milk. Ice was broken up and placed in these ice troughs, which speedily cooled the milk, and caused all the cream to rise in 12 hours. There was an arrangement by which the skimmed milk could be drawn through a faucet at the lower part of the vat. I tested the temperature of this milk as it was drawn after setting 12 hours, and it marked on the thermometer 48 degrees Fahr. The morning's milk sets 24 hours, and the evening's milk 12 hours. Under this arrangement 26 pounds of milk, from the "common cows of the country," yield one pound of butter, which is considered a good average for the fore part of August. The cream is allowed to turn slightly acid before going to the churn, its temperature for churning is about 56 to 58 degrees Fahr. When it goes into the churn one ounce of Hansen's butter color is added to every 168 quarts of cream. The churn is the common box churn, rectangular in shape, and revolving on its smallest diameter. It has no inside fixtures, nothing but a plain, smooth surface on the four sides and ends. This style of churn is popular in the West among the makers of fancy butter in Iowa, Illinois and Wisconsin, as it brings the butter in a nice granular shape, in the best condition for washing and freeing it from buttermilk. It is a very plain, simple affair, and no churn among the thousands of patent devices for churning can make better butter. It may be remarked here, in passing, that the elaborate and complicated churns of the past are now discarded by the *advanced butter-maker*. He now prefers the simplest kind of arrangement, like that of the box churn, with no inside paddles or fixtures to beat the cream and injure the grain of the butter. The time consumed in churning, in the box churn, ranges from one hour to one hour and a quarter. Just before the butter begins to granulate ice is broken up and added to the mass in the churn, and when it has fairly come in granules like shot the butter-milk is drawn, then water at a temperature of 50 degrees Fahr. is thrown into the churn, which is revolved several times, when the water is drawn off. This process is repeated two or three times until the water comes off clear, and the buttermilk is thus expelled. The butter is now ken out and weighed in 12½ pound lumps. These lumps go immediately to the butter worker, are flattened out, and each lump is sprinkled with 10 ounces of the best fine English salt. A word may be added here, in passing, that the makers of *fancy butter* are very particular as to the quality and character of salt used. It must be of the best description and from reliable and well-known brands.

Mason's power butter-worker is used at the creamery. This is said to be the *ne plus ultra* of all the butter-workers where over 400 pounds of butter are churned per day. It has a circular and revolving table set on an incline, upon which at one point two revolving and cone-like shafts are placed. One of the rollers is fluted and the other plain. Each roller runs parallel with the table, the corrugated roller brings the butter to an even thickness, and the smooth one does the working. The table makes from 12 to 18 revolutions per minute. Owing to the revolving table and fluted roller, there is no gliding or rubbing of the butter, and the grain is not injured. Its work is so uniform that the butter needs less working than by the ordinary methods. It is needless, perhaps, to say here that a great deal of butter is spoiled in the working, hence I have deemed it not out of place to give a brief description of a first-class butter-worker. As each salted lump of butter goes through or under the rollers it is in turn thrown up in a heap with a paddle, and then passes under the rollers again. When the lumps have been thus heaped up and passed under the rollers four times, the salt has been evenly mingled through the mass, and the butter is then taken off in tubs and placed in a cool room until next morning; it is then put upon the butter-worker and run under the rollers three or four times in the same way as at the first working; sometimes only once or twice passing under the rollers will suffice, so that it shows no streaks, but is of a uniform and even color. The butter is then immediately packed in white oak firkins or in ash tubs that have been well soaked in brine to deodorize the wood. Care is taken to have good tight tubs, well hooped so as to allow no leakage, and to exclude as far as possible the admission of air. A clean, white muslin cloth goes on top of the tubs, and is sprinkled with salt when the cover is adjusted, and the butter is ready for market or may be stored in a cool place, say at a temperature of 50° Fahr. Such is briefly the process of manufacturing "gilt edged" butter in one of the modern creameries of New York. And in conclusion it may be remarked that the most scrupulous cleanliness is observed and maintained in all departments of the establishment. Everything is sweet and clean, and there are no disagreeable odors floating in and about the premises to taint the milk or its product. The butter is of that delicious aroma flavor, and fine texture, that delights consumers and for which they are willing to pay a high price.

Sham and Real.

Can any one tell what dairying is drifting to? We hear of all sorts of queer monstrosities, from lard-cheese to cotton-oil butter. No man knows what he eats, if he buys it. Simulation is the spirit of the age, and no end of science and skill is employed to deceive. A clever imitation is what men prefer to produce, and the public are led to devour. The simplicity of genuineness is out of the running, as things go in the world. The public must eat what is given them, asking no questions. The oleo-margarine men have done a terrible lot of mischief, and of all is the god whom they delight to honor and exalt. At all points they aim to circumvent the dairymen and to swindle the public. The taste of the people is degraded by sham butter and cheese, which seems to be real. Men's stomachs, now-a-days, are sepulchres for strange abominations, which they ignorantly rather than innocently swallow. This sort of thing is leading them they know not whither, and posterity will pay the piper. It is no longer that which cometh out of, but that which goeth into, the mouth that defiles. Meats and drinks of many kinds are not what they pretend to be, and there is a good deal of "tricks that are dark" in what passes for dairy goods.

Whose fault is this? Well, in a great part, the dairymen's, for they have spoiled good milk so long that anything serves for milk. They have given an opening for the shoddy men of the dairy, who are growing rich out of of all. The law complacently lets men sell what they like, and the sham article is often enough better than the real one. Shoddy sells well enough if it is carefully made, and so the makers of counterfeit butter and cheese do flourish. Dairymen who make inferior butter and cheese, no matter how real the goods may be, are out of the running entirely. If only the palate of the public be suited, it matters not if the article be real or pretended, so that careless dairymen can

hardly "make ends meet and tie." But one thing is clear: the makers of really first-class cheese and butter can hold their own and will hold their own against all the nefarious stuff that is made in any and in every country. A weeding out process is going on, and goods which are mere simulations will take the place so long occupied by the products of milk that was spoiled. If, then, the oleo-margarine business, the melted tallow and other less creditable things shall result in bringing about a thorough reform in dairy methods, we shall have reason after all to be grateful to men for whom at present few of us entertain feelings that approach to respect or affection. But let the public have fair protection, let them know what they buy; then the dairymen will win—if they want to, and if they don't the fault is their own.—[Prof. J. P. Sheldon.]

New Method of Preserving Milk in its Natural State.

By a German method, recently patented, milk is now preserved in its natural state without any addition to it whatever. The process consists in heating the milk in closed vessels such as glass bottles to beyond the boiling point, so as to expel all air, and next to prevent the entry of air containing germs (which are the cause of milk spoiling) into the vacuum so formed. This is effected as follows:—The bottles are filled with milk almost to the commencement of the neck, leaving a considerable space between the milk and the cork, which latter is then driven in so far as to allow a space of about half an inch between its upper surface and the top of the neck. A layer of paraffin wax is then run in, and thereon is placed a cork disc, which, by means of a staple closure, is kept from rising. A number of bottles so filled and prepared are placed in a chamber or vessel that can be hermetically closed, and able to withstand an inner pressure of four or five atmospheres. Here steam of about 2½ to 3 atmospheres' pressure is introduced, having a temperature of about 230° Fahr. This soon raises the temperature of the milk in the bottles to the same degree, which, on expanding, reduces the space between it and the cork to half, the air escaping through the pores of the cork and through the paraffin, rendered liquid. Care, however, is taken to see that the reduction of the space is not sufficient to allow of the milk reaching the cork. The chamber is now cooled down, the bottles removed, and, when cold, the provisional staples taken off.

It will be seen that by this process the ferment-producing germs of the air in the chamber being destroyed by the heated steam, the small quantity that re-enters on the cooling, and consequent contraction, of the milk, can do no injury, whilst an equilibrium is established between the innocuous air in the bottle and the outer atmosphere. The cork itself is also protected from any germs entering it from outside by the congealed layer of paraffin, a part of which has entered the cork when in a liquid state under the pressure in the chamber. Milk preserved by this method is said to keep fresh for years, and to have exactly the same taste as new milk.

Production of Butter and Cheese.

It is a somewhat singular fact that, while an abundance of rain has made vegetation generally luxuriant in the dairy districts of this country and Canada, the butter and cheese crops of both countries are short of last year's, when it was universally dry. It is certainly not up to the average. It may be accounted for partly, perhaps, from the injury done to the grass roots in the pasture last summer, the extreme drought so nearly killing them they have not yet recovered, and hence do not send up a growth as vigorous as usual, and partly from a pinch in rations last winter and spring particularly in the spring—when the fodder and grain were, in many places, scarce and high, and the grass late in starting, causing a good many cows to become very poor. The substance of their summer food going to restore lost flesh, has diminished the yield of milk. It is noticeable that dairies in which the cows have been continuously well fed, are giving their usual returns.

It is an object worth considering, in raising cows for a butter dairy, to raise those noted for large butter globules in their milk. Large globules are the highest colored, the highest flavored, rise first, and churn most easily. Small globules are the opposite in these respects. Globules rise slower as they diminish in size, they do not move at all. If they were all of the same size, those on the same level would, if the milk was still, all come to the surface at the same time.

Garden and Orchard.

Poplars and Willows.

BY HORTUS.

Poplars of all kinds and willows grow rapidly and easily from cuttings of any size, planted in spring or fall.

They grow so easily from cuttings, that sowing seeds is not to be thought of, entailing too much labor and waste of time. We recommend stout cuttings of the one or two year old wood, made about one foot long; these could be pushed in the soil right down out of sight, pressing the soil firmly around them. The land needs no preparation, as the cuttings will soon grow through any vegetation, so long as it is not too luxuriant. This would prove a valuable and practical plant to profitably reclaim waste land. The variety of poplar principally used for paper is known technically as *Populus Grandidentata*. We presume all native poplars would prove useful in the manufacture of paper. If it has not been tried, we recommend the Company to try the Chinese abele, or silver-leaf poplar, as it is commonly called. This tree possesses wonderful vitality, and grows vigorously. We have now trees over forty feet in height, with trunks 18 inches in diameter, that were planted in 1864. It also throws suckers from the roots which makes it a nuisance in streets and gardens, but which would be desirable if found useful for manufacturing paper. The best way to prepare cuttings is to gather the wood before the approach of winter, make it up into cuttings about February, and pack away in sand or soil to callous. This will allow them to grow at once when planted in spring. We have seen posts of this tree that had been cut during winter, laid around to the middle of summer, then when used for fencing, grow into large shade trees. It is invaluable for planting on banks for holding them together, and by water. We commend this idea to farmers having hilly places inaccessible for farming, low swales and wet places. Plant cuttings of poplar, and, no doubt, a good demand will be found for the timber for paper manufacturing.

Fall Planting of Trees—Its Advantages and Disadvantages.

BY B. GOTT.

Times and fashions change. Those opinions and practices that were once thought orthodox are now discarded, and other opinions and practices substituted, not merely as equivalents, but rather as improvements. What is true of the general progress of common thought in this busy age, is true also of tree-planting. It was formerly thought that a tree planted in the fall could not live, as it would be killed by the frost of winter, and that springtime was the only proper time to plant trees. There are some to this day who tacitly hold this opinion still, and in some certain conditions it is true in the main. But amongst good, practical men the opinions on this subject are very rapidly changing, and they, in many cases, admit fall planting to be practicable and profitable. This is a step onwards, and this admission in its effects on this country is like to be worth many millions. We claim not only that fall planting is practicable, but also that there are many fine advantages of immense importance to the people of this country. Let us briefly look at some of them, and make an attempt to classify them.

There is, 1st. The advantage of thorough culture and preparation of the soil by summer fallow. This is only a slight advantage, you will say. But still it is an advantage. Although we may cultivate and prepare the ground for trees in the spring,

yet on account of the hurry and rush of other business, as seeding, &c., tree-planting is but seldom attended to as it should be, and in many cases by the very force of rush the work is neglected altogether. Therefore, we say, thoroughly prepare your ground by working, draining, &c., during the summer, and attend to the work of planting at once as soon in the fall as the season for it arrives. The great satisfaction of having this work done with which you will during the succeeding winter contemplate it in its completion, will more than pay you for all the labor and expense incurred in doing it. Then, again, how completely you are saved from those dreadful forebodings that, although you have so much work to do in the spring that you scarcely know to get it all in edgeways, yet there is that miserable tree-planting to be done as an extra incumbrance! Let me kindly advise you to take time by the forelock, and do it in the fall.

2nd.—The work will be better done than in the spring. This arises from the fact that you have more time at your command, and greater leisure to attend to the details and minutia of the work. It is, I believe, an admitted fact, that whatever is hurriedly done is not well done. The planting is a very nice operation, and requires pains, great care and enlightened practice. To crowd their tender roots into a small hole in the ground and fill it up very similarly to putting down a post, will not do for enlightened tree-planting, neither will it give satisfaction or success. For a work like this, whose results are to stand for a century, we must have time and leisure in its execution, not merely to be sure to get the tree in exact position to stand in, but also to see that the mass of small roots are all nicely placed in a natural position in well formed holes made ready to receive them.

But, 3rd.—Money is more plentiful and easier to be gotten. You smile at this proposition, but in practice it is a very, very important consideration. Like many other duties on the farm, it is one of those that cannot be done without money, and the time when the money is the most plentiful is emphatically the best time to do it. How many cases have come to my knowledge of parties, and apparently honest men, too, who during the winter were encouraging plans to plant out those trees this spring, but when spring came, such was the multiplicity of demands on the well-drained purse, the work had again to be postponed for another year! How long this process had been going on I could not say; but we know that it is a process that has cheated many a good man and the country out of an orchard. Plant in the fall.

4th.—We claim that better trees can be had for planting. This may at first seem rather nonsensical, but with a little reflection on the matter it may appear more reasonable. On account of your greater leisure, and the pleasant season for travelling over the country, how easily and profitably could you go over to the nursery and personally select the trees exactly suited to your wants. But if this practice is not feasible, yet the nurseryman to whom you send your order can do better for you by having greater leisure to take up the trees and pack them securely for shipment. The rows of nursery stock are all complete and unbroken, and you may be assured that your order can be square-ly filled without fail.

5th. The cut and bruised roots largely heal during the winter, and the tree is firmly established in its place. This is an item of great importance to the future growth of the tree, and one requiring long time to accomplish. If the roots are healed and calloused ready for the formation of new roots in early spring, the tree at once starts into successful and continued growth, and the results are astonishing. If the trees are then mulched with good chip-yard scrapings, etc., as they ought to be in any case, they will require little or no staking, as the soil will become firmly packed about their roots by the action of the frost and rain, and thus become firmly set in their places.

But, 6th, and lastly, growth takes place much earlier and continues much better during the season for being planted in the fall. This follows as a consequence of the foregoing statements of conditions. The cuts and bruises being better healed up and an abundant callous being formed, the soil being settled and the roots well established, and the shock of removal being largely overcome by the time growth commences, it is quite reasonable to expect a fine rapid growth to follow. The tree

apparently forgets that it has a new position, and commences and continues its season's growth just as it used to do. I am quite sure that it will be readily seen that there are, singly or collectively, immense advantages to the practical orchardist, and well worthy of deep consideration. But I must not forget to look at the other side of the page, and for a moment consider a few of the disadvantages. In all human processes and undertakings, where there are advantages to be considered, there will also be opposites in a greater or less degree. So also in tree planting. The first disadvantage that we will mention is that there are some kinds of trees that will not allow of being removed in the fall, so must be transplanted in the spring. Among these, it is not generally considered safe in our trying climate to so remove the long list of stone fruits in all their long list of varieties, such, for instance, as our peaches, cherries, etc. Still, in many cases this may be done by the exercise of extraordinary care. In this matter a thorough knowledge of the conditions and a matured experience are the best guides. Second, on all wet and undrained soils (but as all know, these soils are not fit for tree planting at any time) the trees will be heaved up and out, and perhaps killed by the action of water and frost. Though this action may be largely prevented by mounding up, yet the tree roots will become injured and diseased by the effects of water about them, in spite of all that can be done to save them. Trees will not thrive in stagnant water. Third, tender trees will winter-kill. The intelligent planter must well know what would be safe to plant in his conditions, for some trees will in any case be killed the next succeeding winter. But with our ordinary fruit trees, in our climate, it would only be a disgrace upon us to lose any trees from this cause. Our ordinary apples, pears, etc., if well planted and established in their new locations, will go right on without any further difficulties, either from frost or weather.

These, as far as we are aware, are the principal disadvantages of tree planting in the fall. There are, however, still a few advantages connected with the practice that we wish space to mention before we close, as we hold them to be of great practical importance to the people of this entire country. We believe that if the practice of fall planting was generally adopted, many more fine and profitable orchards would become established over this fine country than will be the case if not adopted. We know in our personal experience that many intending planting out an orchard next spring have been deceived, and the work has never been done. So this country is being continually cheated of many a fine orchard. In the fall the fruit is fresh before their eyes, and the beauties and profits of it are matters of personal experience, and they fully intend planting out a new orchard next spring. But, alas for human intentions, the colds and cares of winter have a prevailing tendency to cool the desires and to change the intentions. Press of work and other cares, with scarcity of money in the spring, have in this way banished the fair prospects of many a fine orchard off our beautiful landscape for ever. This ought not so to be. If the practice of fall planting were generally adopted, we believe further that the business of the provident nurseryman in this country would be greatly encouraged and improved. In that case he would have two seasons and more than twice the time allowed him in which to make his deliveries, and the country would be so much improved and benefited by the increased quantity delivered and planted. We have a fine inheritance in this beautiful country, and it is our bounden duty to improve and beautify it to the greatest possible extent and in every possible way. If we can but slightly contribute to this great object we shall be satisfied.

Preserving Grapes for Winter.

As autumn approaches, we receive a number of inquiries as to the method of preserving grapes for winter use. It is not generally understood that there is as much difference in grapes, with respect to their keeping, as there is with other fruits. No one would expect to keep early harvest apples or Bartlett pears for the holidays, and it is so with the most generally cultivated grape, the Concord; it cannot be made to keep in good condition long after it is fairly ripe. With other varieties it is different. There are some localities where that grand old grape, the Catawba, can still be cultivated with success, and, where this is the case, one need hardly look for a better variety. The Isabella still succeeds in some places, and is a fair keeper. Better than either, if not the best of all

grapes, the Iona gives good crops in some places' as does the Diana. Where either of these, the Isabella, Catawba, Iona, or Diana, can be grown, there is no difficulty in keeping them until the first of the New Year, or later. The grapes are allowed to ripen fully; they are picked, and placed in shallow trays, in which they remain in an airy room to "cure." The operation of curing consists merely in a sort of wilting, by which the skin becomes toughened, and will not break when the fruit is packed. The clusters, when properly "cured," are packed in boxes, usually of three or five pounds each. The bottom of the box is opened, the large clusters laid in carefully, and small bunches packed in upon them in such manner that it will require a moderate pressure to bring the cover (or, properly the bottom) of the box to its place, when it is nailed down. The pressure used is such that when the top of the box is opened, the grapes next to it are found somewhat flattened. The fruit must be pressed in such a manner that it cannot shake in travel, and this can only be done with grapes the skins of which has been toughened by being properly cured. If clusters were placed in the box as they come from the vines, and subjected to the needed pressure, the skin would crack around the stems, liberating the juice, and the whole would soon pass into decay. New varieties of grapes of great excellence, have recently been introduced, but we have yet to learn as to their keeping qualities. With the Concord and related varieties the skin is too tender to allow of long keeping, and it does not seem to toughen in the curing process. Still, with these, the season for home use may be considerably prolonged. The late Mr. Knox found that he could keep the Concord for some time by placing the thoroughly ripened clusters in baskets or boxes, with the leaves of the vine below and between them. We do not know how long this will keep the grapes, but we saw some in excellent condition several weeks after the harvest was over. Those who grow grapevines should be aware that no one variety will meet every requirement, and that the earlier the variety, the less likely it will be to keep.—*American Agriculturist*.

Soils for Fruit.

All trees and plants are not partial to the same character of soil, and though they may live for a few years in uncongenial ground, certain varieties will never reach their greatest perfection unless their roots are thoroughly adapted to the soil in which they are placed. We may change the character of some soils, as for instance, a wet, retentive clay, by systematic draining, etc., but it is a difficult matter to convert a pure sand into a stiff, adhesive mould. Now, this partiality to special soils extends even to varieties of the same species of fruit, as, for instance, the strawberry. The Triomphe de Grand, Jucunda and some others will attain perfection only in heavy soils, while the Kentucky and many others are specially adapted to light sands. The pear, in particular, is very partial to a strong, rather heavy soil; and the apple, plum and quince succeed better on a thoroughly drained, open and friable loam, with little, if any clay.

Moisture is an essential to success in the cultivation of quinces, strawberries and some exceptional varieties of other fruits, as the Newtown Pippin apple. Grapes delight in a moist atmosphere, and their roots will ramble for a long distance in search of water. For these moisture-loving varieties a good mulch during summer has been found highly advantageous, and nothing is better for the purpose than long straw manure. Says Downing: "A pretty careful observation for several years has convinced us that a light, sandy soil is, on the whole, the worst soil for fruit trees." This leads us back to a former statement that most fruits will survive for a few years at least and prove reasonably remunerative on very light soils; but perfection can only be obtained on a heavier loam, according to the requirements of each particular species. Another point is, that although fruits, as a rule, are partial to stimulating fertilizers in the soil, the cherry will not thrive if in very rich land, or at least, a very few years will be the extent of its existence.

An Agricultural and Industrial Exhibition will be held at Truro on October 3rd, 4th, 5th and 6th. A prize list of \$2,500 has been published. The competition is open to the Province of Nova Scotia and no charge is made for entry of exhibits.

Preservation of Seeds.

W. D. Philbrick, in the *New England Farmer*, writes:

"The season for the ripening of seeds being at hand, a few words about their selection, preparation and preservation, will be acceptable to those not familiar with the art of raising them.

"In the first place, only the best specimens of each kind should be saved, and all inferior ones rejected; this is easy enough with such plants as squashes, cucumbers, tomatoes, melons, etc., care being used only to save the earliest, fairest and most perfect specimens. The seed should be allowed to ripen thoroughly before taking it from the fruit, which will require some weeks with squashes, after gathering from the vine; tomatoes are placed in the sun for a few days, and melon seeds may be taken directly the melon is fit to eat; seeds of this nature having a fleshy pulp are usually cleaned by allowing them to ferment in water for a day or two, when the pulp will easily wash off, after which the seed is spread upon a sheet in the sunshine to dry. Sometimes the fermentation is allowed to go too far and the seed is spoiled, hence some care and experience are needed to clean seed in this way, and some persons prefer to wash the seed directly from the pulp without fermenting; this insures good seed, but it is almost impossible to make it perfectly clean without fermenting.

"The seeds of the squash and all vines easily mix with others of the same family in the neighborhood, so that when a variety is to be kept pure and true to name, it must be planted quite remote from any others of the same family. The mixing is done by the bees, who carry the pollen from flower to flower, often a quarter of a mile. It is quite difficult to grow good squash seed near a pumpkin field for this reason, and not more than one kind of melon or cucumber can be grown in the same field, and have seed pure.

"Tomatoes, corn and beans mix less readily, but should be kept separate by some rods when pure seed is required.

"Seeds of the vines keep longer if not allowed to freeze; they will preserve their vitality five or six years, if kept in a warm dry place. A closet near a chimney is a good place, and since mice and rats are very fond of such tidbits as melon seeds, it will be advisable to lock them up in a tin chest or other rat-proof arrangement. I know of nothing so provoking as to find some paper of choice seed all shelled out by the mice just at planting time, when it is often impossible to replace it, and when delay is always vexatious and expensive.

"When saving seeds of beets, cabbage, turnip, etc., those who are most particular reject all but the seed grown on the leading stem. Beet seed is cleaned by threshing, sifting, and picking over to get out the sticks; it varies much in size and should be separated by a sieve in order to have it run evenly through the seed drill, for it is the most troublesome of all seed to sow evenly.

"Seeds of all kinds keep best in a dry even temperature. When to be kept in large lots they may be put in bags and hung from the ceiling of the room, to keep them from the mice. Most seeds are good for two to five years if carefully kept; onion seed, however, is very inferior after the first year, and worthless after the second. When old seed is to be used, it should be tested by sowing a counted lot in a hot-bed or other suitable place, and counting the number of plants that come up, and noting the vigor of the plants; the plants from old seed are usually less vigorous than from fresh seed, and sometimes are so weak as to be worthless."

Labels for Orchards.

The constant motion caused by wind gradually wears out the wire, which rarely lasts more than a few years, or if it does it is liable to cut into the growing branch. A much cheaper and better label is made of scrap zinc, cut into strips a few



Fig. 1.

inches long, half or three-fourths of an inch wide at one end, and half as wide at the other. The name is simply written on the wider end with a common lead-pencil when moist, and this writing will last years. The other end is coiled once around the branch, and the thing is done. As the branch grows the coil expands, and no harm is done to the bark (fig. 1).

Poultry.

Moulting.

BY R. A. BROWN.

As this is the time of year for fowls to moult (cast off their feathers and put on new ones), there must be greater attention given to them than usual. It matters not how well a bird looks when commencing to moult, or how well it feels; in two or three days there is so much change in its system and in its feelings and looks, that one would not recognize that it was the same one. The bright red combs become pale and wilt down to a quarter their usual size; their heads, that were carried so stately, are now drooped, and the bird walks as if it was weary; it appears weak, as it really is, and if ever an extra feed is given to fowls, it is now that it should be given. Quantity is not the only requisite, though it is something, but quality is the main object—something strong and in good proportion, such as a loaf of baked middlings (or rather a mixture of shorts, cornmeal, or buckwheat), with plenty of boiled potatoes, and a good seasoning of salt, red pepper or ginger. When kneading this add a few drops of tincture of iron, say half a teaspoonful for a two-pound loaf, which loaf given to a flock of twenty fowls will be sufficient for one day, and whole corn (old, not new), wheat screenings, peas, boiled oats or boiled barley, may be given in such quantities as will be eaten up clean without wasting.

In England many poultry breeders confine their fowls in small apartments and give a teaspoonful of camphor to each fowl in its drinking water, which assists in casting off the feathers, and they are not allowed to get any other water to drink but this for a week.

I think the process of moulting is the least understood, has the least care bestowed, and is the most neglected of anything belonging to the poultry-yard, whether fancier or farmer. During September and October, the times when birds are at their most critical period of health during the year, farmers are very busy harvesting, threshing, putting in fall wheat and attending fairs; they are so busy that the fowls generally have to rough it, and little or no attention is given them; they are permitted to roost in wet lofts, or exposed to draughts of wind, and sometimes in apple trees. Now, this should not be so; they should be given not only the same care as other farm stock, but a little more just now, and when eggs are wanted in winter, and when good fat turkeys are wanted for that time, they will be forthcoming in plenty, or according as they have had attention. Those hens that have been kindly treated, and have had the best attention, will start to lay the first after moulting, as a hen will never lay while in this stage of nature's development.

A Few Thoughts on Judging.

The general system of judging as practiced throughout the country, I think could be greatly improved in many instances, and not only benefit the fraternity in general, but prove of invaluable aid and add greatly to the quality of every class and variety of stock. In my opinion, the only way this improvement could be brought about would be for the committee of every exhibition or fair to instruct their judges in regard to the awarding of prizes, making a strict rule that no bird shall receive a prize of any kind, unless it is found to be really meritorious, and hold them to it. I believe this is the rule with all societies, but it is never enforced.

'Tis true, while there are a number of first-class and honorable judges among the fraternity, there are many appointed and engaged to judge in the several classes that are really not capable of filling the position with credit, hence, a great many blunders are sure to occur; many birds that are

really worthy of a prize are either passed over or thrown out, and many receive prizes that are scarcely better than mongrels, all owing to ignorance or incapability, and perhaps a little fraud practised occasionally, by showing favoritism. Here is where the great difficulty lies, and the detriment to stock and the fancy in general is great. And the only remedy to cure or lessen this evil, as I can see, is in a more *strict* and *vigilant* policy on the part of the executive committee in seeing that the judges appointed are fully qualified to judge in their respective classes. "And should a judge be found deficient in the class in which he is appointed, he should under no consideration be allowed to serve."

An important fact to be noted, and the evil arising therefrom, is the system adopted and carried out at many of our leading society shows, by engaging a single judge to pass on the entire exhibit, including poultry, pigeons and pet stock; "should he be competent," we will say, all right; but in most cases he is at fault and not competent to perform his whole duty to a satisfactory degree. As far as the poultry department goes, he is well versed in the standard, and proves a satisfactory judge; but when he comes to pass on the pigeon class, he is found to be incompetent and not familiar with its standard. I have heard several good judges of poultry express themselves and acknowledge this fact, but they are employed to pass on the entire show, and of course feel it their duty to go through the motions, to say the least, to their best ability. In this case, who is accountable for the blunders made? I think the committee are more at fault than the judge, by allowing him to pass judgment on a class which he knows nothing about. Why this oversight on the part of the committee, and the blunders made by incompetent judges are a detriment to high-class stock and injurious to the fancy, is this: Many birds receive prizes that are not worth it and should be thrown out, and many a good bird is thrown out that should really receive a prize; and when these mistakes occur at a "regular society exhibition," they are very weighty, and count much on the reliability of the stock. These poor birds that have been given a prize, are heralded throughout the country by advertisement, for sale, "Grand prize takers," etc., etc. It attracts the eye of some fancier whose knowledge, perhaps, is quite limited, yet possesses really better stock than he thinks. The result is, the "grand prize birds" are purchased and crossed with a reliable strain, producing an injury that may take years to breed out. Again, the same birds may be sold for exhibition purposes, they are put in a competing class, a *competent* judge passes on them, the result is, they are thrown out and prove a dead loss to the purchaser. We will now show the result from the good birds being passed over and thrown out that are deserving of a prize. If their owner is a reliable fancier, and possesses sufficient knowledge to know the true merits of his birds, he becomes disgusted with these blunders, and it may cause him to retire forever after from competing in the show-room. Again, if he does not know the real merits of his birds, he may think they are no better than the judge decided, from the fact that they were judged at a "regular society show," and by a regular judge, hence, they are disposed of for a mere song, or if kept, crossed with inferior stock, and the result is no better than in the foregoing case.

At our State and County fairs and minor exhibitions, these difficulties will be hard to overcome, as no regard is paid to standard judging in most cases, as the majority of the judges appointed are of very limited experience, and prizes are awarded to almost every entry, regardless of quality. Even at these fairs the bad results that arise from giving prizes so generously are great. The exhibits are what we would term a promiscuous class, comprising 1st, 2nd and 3rd rate stock, and in many cases nothing more than "common mongrels," all receiving prizes in class, and sold as *premium takers*. The latter quality generally falls to the lot of young fanciers and beginners, and right here the danger is apparent, by placing them on the wrong track at start, and they not succeeding, grow discouraged. The committees can remedy this evil in a measure, by adopting a more *strict* policy, and instructing the judges "not to give any prizes only where the birds show true merit, and any of good and pure quality."

We have fully shown what should be the duty of every executive committee in regard to instructing the judges, both in the show-room and on the fair grounds. And we will now turn our thoughts, and say a few words to all appointed judges, who are desirous of building up a reputation of honesty,

reliability and competency as a judge, and who wish to benefit the fraternity in general, and to lend a helping hand to the improvement of all classes of stock (especially the pigeon class, as it is the most neglected in the show-room). Perform your duty thoroughly, allow nothing to influence you from the right course, free yourself from all favoritism, "and under no consideration give a prize where a bird is found not to merit it," but always weigh your decisions well and place your rewards where they are most merited. By following these rules and carrying them out to the letter, you will prove of invaluable service to the fraternity in general, and receive their lasting obligations.—(The Poultry Monthly.

Preserving Eggs in Pickle.

The pickle used for preserving eggs for winter use or for sale in the season of scarcity is made as follows: To eight quarts of salt and one bushel of lime add 25 common pailfuls of pure water. The lime must be of the finest quality, free from sand and dirt—lime that will slake white, fine or clean. Have the salt clean and the water pure and sweet from all vegetable or decomposed matter. Slake the lime with a portion of the water, then add the balance of the water and the salt. Stir well three or four times at intervals, and then let it stand until well settled and cold. Either dip or draw off the clear pickle into the cask or vat in which it is intended to preserve the eggs. As soon as the cask or vat is filled to a depth of 15 or 18 inches, begin to put in the eggs, and when they lie, say about one foot deep, spread around over them some pickle that is a little milky in appearance, made so by stirring up some of the very light lime particles that settle last, and continue doing this as each foot of the eggs is added. The object of this is to have the fine lime particles drawn into the pores of the shells, as they will be by a kind of inductive process, and thereby completely seal the eggs. Care should be taken not to get too much of the lime in—that is, not enough to settle and stick to the shells of the eggs and render them difficult to clean and take out. The chief cause of thin, watery whites in limed eggs is that they are not properly sealed in the manner described. Of course, another cause is the putting into pickle old, stale eggs that have thin, weak whites. When the eggs are within about four inches of the top of the cask or vat, cover them with factory cloth, and spread on two or three inches of the lime that settles in making the pickle; and it is of the greatest importance that the pickle be kept continually up over this lime. A tin basin, holding about six or eight dozen eggs, punched quite full of inch holes, edge muffled with leather, and a suitable handle about three feet long attached, will be found convenient for putting the eggs into the pickle. Fill the basin with eggs, put both under the pickle and turn the eggs out; they will go to the bottom without breaking. As the time comes for marketing the eggs, they must be taken out of the pickle, cleaned, dried, and packed. To clean them, secure half of a molasses hogshead, or something like it, filling the same about half full of water. Have a sufficient number of crates of the right size, to hold 20 or 25 dozen eggs, made of laths or other slats, spaced about three-quarters of an inch apart. Sink one of these crates in the half-hogshead, take the basin used to put the eggs into the pickle, dip the eggs out and turn them into this crate. When full rinse the eggs by raising it up and down in the water, and, if necessary to properly clean them, set the crate up and douse water over the eggs; then, if any eggs are found when packing that the lime has not been fully removed from, they should be laid out, and all the lime cleansed off before packing. When the eggs are carefully washed, as before described, they can be set up or out in a suitable place to dry in the crates. They should dry quickly, and be packed as soon as dry. In packing the same rules should be observed as in packing fresh eggs. Vats built in a cellar around the walls, with about half their depth below the cellar surface, about 4 or 5 feet deep, 6 feet long and 4 feet wide, are usually considered best for preserving eggs in, although many prefer large tubs made of wood. The place in which the vats are built or the tubs kept should be clean and sweet, free from all bad odors; and where a steady temperature can be maintained, the lower the better, that is, down to any point below freezing. Besides the foregoing, other methods for preserving eggs have been devised, such as varnishing, greasing, oiling, and rolling in flour; but these methods will only answer in a small way, for an individual's private use—it

being nearly or quite as much as the eggs are worth to put them in merchantable shape. Some egg-dealers add one pound of cream of tartar to the above named ingredients, and the combination is often sold for \$5 as a secret preparation for keeping eggs. The actual purpose of the cream of tartar is difficult to understand, and it is doubtless added for the sake of appearance rather than for its usefulness.—*Exchange*.

Clean Up.

If you have not already done so, now is a good season of the year to make a general overhauling of the premises, for the hatching season has long since passed, the young birds are well grown, and the weather is fine, both for the work and for the fowls and chicks outside.

The very first place to commence is the poultry house, and the first thing to do is to take out everything movable, to insure a thorough cleaning. Burn all the old nests at once, and all the coarse stuff around the floors; thoroughly clean out the droppings, sweep the sides and ceiling of the house well with an old broom, and then apply a good coat of fresh whitewash, made from good *stone* lime, shell lime peeling or rubbing off very quickly. When this is done give the nesting boxes a good coat of whitewash, inside and out, give the floor a covering with clean, dry sand, and let the house open to air and dry off before the fowls go to roost. Then give the outside of the house a similar coat of whitewash, not merely to add to its appearance and drive away the vermin, but to add to the durability of the wood. When this is done, give the fences attention in the same manner; clean up the yards, burn up all the rubbish which may have collected there during the season and empty the dregs of your lime bucket, from time to time, in different parts of the yard. If the yard has been constantly used for some time, plow or spade it over, level it off and let the poultry attend to the rest.

Make new nests, of well broken and fresh straw, dusting each nest over with flour of sulphur as soon as made, using an ordinary dredge box for the purpose, or an old tin can perforated with fair sized holes. If any coops happen to be standing around, out of use, clean them out thoroughly and treat them to a generous dose of whitewash, both inside and out, and as soon as they are dry, take them to some safe place, to be stored until wanted next season. If they, or any of the fences or houses need repairing, go at it and do it at once, and do not wait until "some other time," which generally is when you want to use them. Examine the poultry, and if they have any vermin on them, dust them well with flour of sulphur or snuff, especially treating them to this under the wings; smear the perches or roosting benches well with coal oil, which will go far towards insuring freedom from lice, mites, etc.—*The Monitor*.

Culling Out.

Don't be afraid to cull out your flocks of young birds closely, reserving for use in your own breeding yards or for sale only those which are first class birds, even if you have to condemn the greater part of the flock for table use or market purposes. In no other way can you foster improvement in a greater degree, and insure increasing sales yearly.

The majority of our breeders and fanciers make three cullings or sortings of their young birds, supplementing these three general ones with others when desired. Those fit only for market purposes, owing to having disqualifications which make them undesirable to either keep or sell for breeding purposes, are first sorted out and put into a separate and special yard, where they are fattened to suit the needs of the breeder. The next culling is picking out all that you will need for your own breeding purposes next year, and a few more to make sure. These should never be sold, no matter how tempting the offer may be, and the remaining good birds can be left to have free range until sold. In this way you not merely make sure of the very best for your own yards, but prevent the possibility of sending customers poor birds.—*The Monitor*.

Secure now a good supply of dry road dust, store it away in a good large box, where it will remain dry during winter; you can use it then to deodorize your poultry-house.

Get a supply of fine gravel (or, what is better, good river or drifting sand) for hens' teeth, or hens' health, during the depths of snow in winter.

Potato Starch.

A bushel of potatoes is worth 30 to 40 cents for the starch it contains. On an average potatoes contain 15 to 17 per cent. of starch; some kinds—those that are well grown, thoroughly ripened, heavy, and free from disease—contain 20 to 25 per cent. of starch. The starch of the potato differs from that of other plants, the starch granules being of a peculiar shell-like form and appearance, as seen in figure 1, while in size they are exceeded only by those of the *Tous-les-mois*, a species of canna, of which arrowroot is made; they exceed in size the starch grains of wheat, sago, and corn, and very much exceed those of rice, so that on examination under the microscope each kind of starch can be easily distinguished. When a thin slice of potato is viewed under the microscope it is seen to be divided into irregular five-sided cells, and these to be filled with the peculiar oval-shaped starch grains. The cellular structure is shown in the figure below:



FIG. 1.

In the manufacture of starch, then, it is necessary to rupture these cells so as to free the starch granules from their imprisonment in the cellular tissue, and by washing and straining to separate the tissue from the starch and leave the latter pure. As starch is wholly insoluble in cold water, and is heavier than the cellular fibre, this is easily done by the use of simple methods and machinery. The process is as follows: The first thing to be done is to get rid of the earth which adheres to the tubers. As these are brought into the factory they are washed and freed from all soil and sand; they are then passed into a grater, where they are reduced to pulp; the pulp is poured into a sieve, where it is washed by falling streams of water, and the starch is separated and carried through the sieve into a proper receptacle under it, the fibre being washed away as waste. The starch is carried off by the flowing water, which passes with it through the sieve into a stirring tank, in which it is washed from the finer fecula, and, being heavier than this, sinks to the bottom. From here it is pumped with the water with which it is kept mixed by stirring into settling tanks, where it is still stirred and further cleansed. After passing through four of these settling tanks, it is left to rest, and the water, now clear, is drawn off by a siphon. The wet starch is then removed by means of wheel-barrows to a kiln, where it is dried upon wire gauze trays until it is fit for use.

For the information of several inquirers a more particular description of the machinery used is here given. The washer, grater, sieve, and gathering tank are arranged in one connected apparatus, so placed as to receive a copious supply of water and to be operated by machinery and gearing, generally from a water-wheel when this source of power is available. This apparatus is shown at figure 2; the washer (b) consists of a long conical

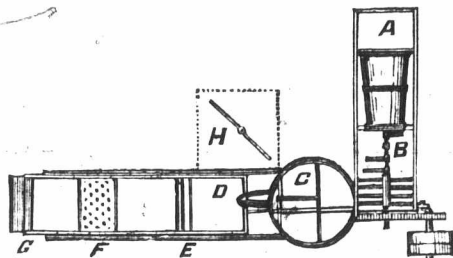


FIG. 2.

tube placed horizontally in a frame, and being connected with a large box, (a,) into which the potatoes are dumped as they are received. A stream of water is poured into this box from a pipe. A shaft furnished with arms passes through the conical tube and continually stirs the potatoes, while the flowing water carries away the earth. As the

potatoes emerge from the conical tube, being gradually carried down by the slope, they fall into a large trough, where they are still stirred by the arms and pushed forward until they reach a set of inclined and curved fingers, which lift them and push them through a sprout in the side of the trough, into the grater, (c). The moving power is furnished by the pulley and the two gear-wheels shown; the larger gear-wheel operating the shaft of the washer, and also rotating, by connected gearing, the grater; the small crank on the pulley shaft gives a reciprocating or shaking motion to the sieve, (d,) by which the starch is separated from the fibre. As the potatoes are lifted from the washer they fall into the grater, of which a detailed illustration is given in figure 3. It consists of the grater, which is a sheet of iron perforated in the manner of a common domestic grater, and is rotated rapidly by the upright shaft; a strong curb surrounding the grater and provided with three stationary cross-bars, which hold the tubes against the grater, and a tin trough under it, by which the grater pulp is carried by the stream of water pouring into the curb into the sieve, (d,) figure 2. The pulp carried into this sieve is washed first by a

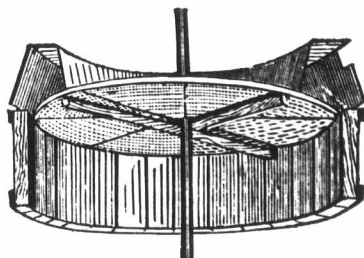


FIG. 3.

again by a shower which falls from a sprinkler, (f.) The waste is removed from the sieve, by the constant shaking—like that of the separator of a thrashing-machine which separates the straw and carries it off from the grain—into the waster sink (g) and is carried away by the stream of water which accompanies it. The potato "stumb," as it is called, is a valuable fertilizer, as it contains all the nitrogen, potash, and phosphoric acid of the tubers; in fact, all that these have taken from the soil. The starch which has been washed through the sieve into the trough under it flows backward into the tank, (h,) in which it is further washed by the stirring arm in it.

From this cistern the water and starch are pumped into settling vats, in which the water remains all night, and is drained off by siphons to within two feet of the bottom.

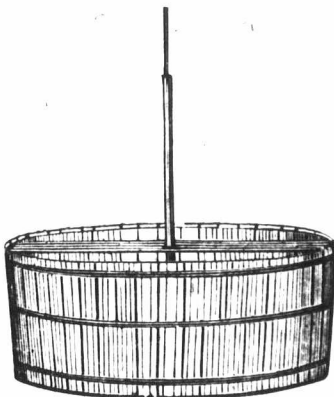


FIG. 4.

The residue is stirred and drawn by pumps and pipes into other vats, which are provided with stirring arms, moved by belting from pulleys of hanging shafts overhead. The water remains several hours in these vats for the starch to settle, the discolored water being drawn off as before. In this way the starch is pumped from vat to vat until it is freed from all the fibre, when it is completely purified and appears as a wet paste or powder, which only requires to be dried. This is done in a drying chamber, which is heated by means of a large iron stove in the cellar or basement. The stove or heater is inclosed in a casing of brick or sheet iron into which sufficient air is admitted to form a current, and this passes upward into the chamber provided with racks or shelves with wire gauze. The hot air passes among these shelves on its way out from the ventilators and dries the starch; this as it dries is stirred by rakes and falls from shelf to shelf until it reaches trays placed to receive it at the bottom of the drying chamber, from which it is taken and put into barrels or boxes for sale. For laundry purposes the starch is dried in masses, which break up into the irregular prisms, or sticks, as we find them in the shops for sale. A large quantity of potato is used

for food as "farina;" a considerable portion of it is sold as "West India arrowroot;" much of it is used to adulterate chocolate, mustard, and other "groceries;" a very large quantity is consumed in confectionery; some adds bulk to the pulverized sugar of the stores; some finds its way into the popular ice-cream, and it is quite safe to say that wherever it can be used without easy detection as a substitute for more valuable material it is thus made available. It is therefore a staple article of trade, and one comfortable assurance at least may be enjoyed, viz., that for whatever purpose it is used it is a wholesome and nutritious substance, and can do no worse than to contribute to harmless fraud and deceit. Unfortunately, so much cannot be said of many other substances used as adulterants.—*N. Y. Times.*

Veterinary.

SIR,—I submit the following case for your consideration: I lost a valuable Shorthorn Durham calf on the 6th inst. I will now describe the symptoms of the disease. In the morning about 6 o'clock I noticed that the calf was very dull, eyes heavy and with a yellowish cast, would not eat or drink, respiration heavy and quick, and inclined for lying down. It shortly afterwards got up and stretched out its fore legs and remained standing with legs braced out, occasionally going backwards; it then layed down and died in a spasm. About eight hours elapsed from the time the first symptoms were apparent until death. Since then I have lost three others of the same herd; took sick and died in the same way. Two of the calves were running with the cows, the others were raised by the pail. I opened two of them and found the covering of the heart and lungs inflamed; the flesh on the fore shoulders inside was inflamed; there was pus; the hind quarter of one of them was inflamed and felt spongy, as if the blood was between flesh and skin: the bowels were all right to all appearance. Will you be kind enough in your next issue to enlighten me as to the complaint, and the best method of treating it in case of its re-appearing, and oblige yours.

D. S. H., Prince County, P. E. I.

[Anthrax blood poisoning is what your calves are suffering with, evidently from over-feeding; reduce the quantity of their food, and put a little common baking soda and flax-seed in their milk. Change the pasture that the cows are on to a poorer one.]

SIR,—I have a horse that I would like you to prescribe for. He urinates a great deal, and his urine is perfectly clear. Sometimes he will pass a large quantity at one time, but often he will pass but very little, and it seems to pain him when passing it. Before he passes all he seemingly would like to, he will stand up, and it will still keep running, but in a very much smaller stream. He flinches when you press him on the right side of his back, over the kidneys. He also flinches a little when pressed on the left side, but not near so much as when he is pressed on the right side. He is very weak, and seems to get weaker. He eats very little food; he will eat about a gallon of oats a day, and keeps nibbling away at hay. He would eat more green grass, but I am afraid to let him have his will at that, as he is subject to colic. I am feeding him at present about two quarts of oats morning and noon, and about three quarts of bran mash at night, with about one drachm gentian root and a little ginger every other night. I am afraid to give him any diuretics, as he passes a great deal of urine which is perfectly clear, with no sediment in it. The water which he drinks is taken from a well dug at the side of a pond. The water does not taste alkaline. We use it in the house, and the other horse drinks it without any ill effects. The horse is constipated. He has a rather full belly, and is not quartered up, but he is nearly reduced to skin and bone. Before he went off his feed (about eight days ago) he was in good condition, and had been working steadily.

G. D., Rapid City, Manitoba.

[From the description you give, the horse is apparently suffering from irritation of the bladder, probably from stone in it. Give him, night and morning, one dram of Hydrochloric Acid in a pail of water, and occasionally a dose of linseed oil. Be careful not to let him have anything of a salty nature while under this treatment.]



NOTICE TO CORRESPONDENTS.—1. Please write on one side of the paper only. 2. Give full name, Post-Office and Province, not necessarily for publication, but as guarantee of good faith and to enable us to answer by mail when, for any reason, that course seems desirable. 3. Do not expect anonymous communications to be noticed. 4. Mark letters "Printers' Manuscript," leave open and postage will be only 1c. per ½ ounce. We do not hold ourselves responsible for the views of correspondents.

SPECIAL NOTICE.—We receive numerous communications to which no names are attached, and asking for very lengthy and full information without enclosing stamps for reply. We require that the name of the subscriber should be signed, not necessarily for publication, but as a guarantee of good faith. Letters sent without conforming to the above, find their way into the waste paper basket.

SIR,—I am writing to ask for your advice on bleeding cattle. First, whether it would be advisable to bleed before they were turned out on grass in the spring to fatten for beef, or in the fall before they were put in the stall for to be fed up for beef. Second, what is the best mode of bleeding cattle.

J. M., Braemar P. O. Ont.

[Would not advise you to bleed your cattle. It is a mistaken idea and a relic of a bye-gone age. Better give a dose of some purgative medicine.]

SIR,—I don't think that you hear much about this part of Ontario, which is as good as any of it. I live in the northern part of Simcoe. There are some splendid farms here, and hundreds of acres of good land yet uncleared. This part is especially adapted to raising hay and oats. I cut over two tons of hay off less than half an acre of ground. We have harvested 80 bushels of oats to the acre, and they averaged from 50 to 60 bushels to the acre last season. The soil is very heavy clay, and not very much adapted for wheat. Lumbering is extensively carried on in winter.

H. L., Coldwater.

SIR,—With respect to the cause and prevention of the blight on our apple trees, I feel I am unable to add anything of value to what you already know. I may, however, say that I consider the destruction of the fruit to be due to frost, and the injury to the leaves to be due to protracted cold and wet, at a time when they were very tender and sensitive to those influences. I therefore must desert the idea of blight altogether, as I do not consider it to be blight at all in the ordinary acceptation of this term. There was especially one protracted depleting east wind that swept over this country in all its length and breadth that seems more distinctly chargeable with the dire results observed throughout our apple orchards. I must say, however, the extent of the injury is perfectly astonishing, both in its effects on individual trees, and the enormous reach of country visited, for we hear of the same calamity to the apple trees from the far west to the utmost east. It is further observed that individual trees in an orchard are worse injured than their neighbors. In my orchard I have some trees almost defoliated while others are in full vigor. Among the latter class I may mention some Duchess of Oldenburgs that are loaded with fine, well-formed fruit, and it is about the only well formed fruit we shall be favored with this season. All the remainder of our apples are as though they were burnt or frozen on the upper side, and are now puckered up and cracked, and ill-shaped, showing at once the injurious effects of severe frost. It is very difficult to make sensible suggestions of preventives for a calamity of this kind; one, however, that may not visit us again for many years, as I do not remember ever seeing anything like it before. I firmly believe that belts of trees planted around orchards to act as wind breaks might be found to be very serviceable in case of a visitation of this kind, and I am satisfied that it is the duty of our people to consider this matter, and plant protecting trees around their orchards and their homes. I am not quite satisfied, on the whole, that some part of the explanation of this blight, as you call it, may not be found in the conditions of the past winter. I should like to hear from some good scientific observers on this

point; whether it is not possible for the unusual mildness of the winter to so soften and injure the trees as to render them increasingly sensitive to such a calamity.

B. G., Arkona, Ont.

SIR,—We have close to our mills at Kingsley Falls, Que., about 1,500 acres of wild lands, which were formerly heavily timbered with hemlock and spruce, most of which have been cut, and since then the fire has run through and cleared up a great deal of the bush. A few sound poplars are now springing up here and there over a part of the land. Poplar wood is required by us in the manufacture of paper, and is quite scarce about the mill. With the right kind of management we think that a very good start could be given by artificially starting shoots of poplar, or by sowing the seed, at some distance from each other; in a few years, we think, the seed from those would cover all the spaces between, and thus occupy the whole tract. The land is very dry and sandy. Three to six inches of leaf or vegetable matter with sub-soil sand. We want to know if good large shoots will grow by sticking them into the ground in the spring, and press the earth around them, or wait till the fall and sow seed. When should seed be gathered? Can seed be bought from any of our Canadian seedsmen? We would like to have this land utilized, and to farm it would be starvation for any one who would try.

SIR,—Having read a letter in your valuable paper over the initials of "R. A., Warwick P. O.," I feel bound in the cause of truth to refute a few of his statements. He states that he "has not an axe to grind," which statement, taken in connection with the rest of his letter, is rather suggestive of "sour grapes," else why the remark following "syndicate lands and lands reserved for educational purposes have been gobbled up by speculators who are holding them. Government lands are not for sale except to actual settlers." R. A. falls into a very grievous and common mistake. He has seen a little, heard a little, and apparently thought a very little, and in consequence throws out a sweeping condemnation of a whole country of which, judging from his letter, he has seen but a very small part. I am not prepared to speak of the whole country, for I have seen a very small portion, possibly not much more than R. A., and I will confine myself and write about what I know to be facts, and tell you a little about the part in which I reside and the immediately surrounding neighborhood, which may strike you as being a very favoured spot after perusing R. A.'s letter, for we have commodities and conveniences which according to his account do not exist in the country; for instance, we have abundance of fish in the summer time, procured from our own little stream, dignified by the name of Cyprus River, and in winter from a lake a few miles distant Tp. 5 R. 10 W. Again we have very excellent water, absolutely pure and free from any mineral or vegetable taint. Grass, which we are told has only two months (June and July) to grow in, yields us from two to four tons per acre of hay of excellent quality, partly owing to the many varieties of grass, of which I could find about twelve growing close at hand. Cattle remain out and thrive till November. Concerning the frost spoken of by R. A., a frost certainly occurred on May 25, at which time I had hardly oats and wheat well forward; the barley at present looks well, the oats ditto, and the wheat promises a heavier yield than I have ever had, and I have taken off 30 bushels to the acre. The paragraph relative to settlers' houses will doubtless work a good end, as a timely warning to intending visitors of R. A.'s type against expecting to see brick houses and barns in a country where the oldest settler in some parts can count the number of years he has lived there on the fingers of one hand. I was glad enough the first year I was here to get up a log house 16x18, plaster it with mud and put on a sod roof, and live in it till such time as I had done a little plowing, &c., and found time to look around me and make preparations for making a better one. Then, again, we are told the trails "have been traversed for generations by oxen drawing carts, the wheels of which in time have cut ruts 12 inches deep." This surely is another great drawback to the country, and raises a point of argument—would it not have been wise and kind for the government of the past generations to have built a network of turpiked and Macadamized roads to the leading cities and other important places of the future? I think R. A. will agree with me when I say I think it the duty of the present government to retard or prevent entirely any further settlement until it has constructed a few houses here and there of some

modern style of architecture, that the eye of the incoming settler may be pleased, instead of offended, as at present, at the sight of log cabins. I agree with R. A. that the climate in summer is healthy. "Them's my sentiments," but not so in the ensuing paragraphs, when he states that catching cold in June is good for consumptive people, but still this is quite as creditable as the fact of Ontario straw being better feed than Manitoba hay. In conclusion, and to be candid, I consider the country very much overrated, and lauded by some interested parties, in fact a great many lies have been told to get people into the country, and a great many lies have been told by faint-hearted, disappointed ones, detrimental to the country. This is not a rap at R. A., for his narrow-minded burst of wrath is not likely to affect any ordinarily intelligent emigrant. I may as well state that I am a farmer (with several axes, some of which are dull), have lived on this farm over three years, have had opportunities of disposing of my place on good terms, and still am here.

W. A., Beaconsfield, Man.

SIR,—I am glad to hear that you have such excellent crops in the western part of the Province, especially of fall wheat. In the county of Leeds the fall wheat will not be one-half so great a crop as that of last year, but the spring wheat, oats and barley will be a good crop, but I think not equal to that of last year. The clover-hay crop was a failure, and the hay crop generally was a very poor one this season. The potato crop has not a good appearance at present, being greatly infested with the beetle or "Colorado bug," and the extreme heat of the past few weeks had a great effect on the appearance of the crop, but we hope the heavy rain of Tuesday last will set the potato crop all right for the rest of the season. The fruit crop, especially apples, bid fair in the spring to be the largest ever grown in the county, but our hopes have been sadly disappointed. The fruit merely formed from the blow, and then fell, not leaving more than a quarter crop, and on some trees scarcely any, and in passing through my orchard of about 400 trees I find not more than one-fifth of the crop I expected, and nearly all of those injured with black spots and cracks. The snow apples are especially bad. The Bell-flower, that generally is very clear from spots, I now find badly injured. The Baxter and Spitzenberg and a few of the Tallman Sweet are also injured with crack and scab. The Russets are not so affected, yet they are not all sound; I find many of mine pierced by worms and insects, although there were not more than a dozen worms' nests in the whole orchard in the spring, and those few destroyed as soon as seen before the worm could do any damage. We cannot grow pears in the county of Leeds. Plums are an entire failure, and very few good crops are ever raised in the county. We are just beginning the strawberry culture in this and the adjoining township (Elizabethtown); the crops are sent to Ottawa and Montreal, and realize good returns, especially those sent to Montreal. Some of my neighbors who shipped their berries to Ottawa complain of being defrauded, but I hear of no complaints whatever from Montreal. We think strawberry culture to be more profitable than grain raising so long as they will net the growers from ten to twelve cents per basket. Vipond & McBride have handled most of the berries sent from here to Montreal, and have made prompt and good returns. The cheese factories of this and the adjoining townships had a visit from Prof. Arnold a few weeks ago, and who, no doubt, has done an immense benefit to the county and to the country at large by diffusing so much useful information to the cheese-makers and factory men. Some, however, are doubtful of his method being an improvement on the old method of changing the curd in the whey, while others, with myself, think a better article of cheese can be made by Prof. Arnold's method than by the one we have been using for the last fifteen years. I visited a factory yesterday where cheese was made by what we consider a first-class maker; one table had cheese made on the old plan, and another had cheese made by the Arnold plan. I was requested to give an opinion as to the quality of the lots; from appearance and feeling the Arnold cheese was the better lot, but the maker was afraid the Arnold cheese, as he called them, would soon get off flavor and would have to be sold as soon as possible to get them out of the way. I told him that from the appearance of the article and those made from the old method, he had better sell the others first and hold on to the Arnold cheese if he wanted to hold any for higher price.

G. L., Caintown, P. O., Leeds Co., Ont.

SIR,—We have been in the habit of raising a great many peas in this section of the country, and which have paid us well, but of late years they would die out in spots, and sometimes whole fields would die; it seems to be getting worse every year. We thought at first it was the wire worm that killed them, but when we came to examine the roots we found that there were small white knots gathered on those that died. I will enclose some of the roots that are affected, and would like to know the cause and the remedy, if any.

P. H. Y., Coneseon, Ont.

[Mr. Saunders, the President of the Entomological Society, having kindly examined the specimens we append his report: I have submitted the diseased pea root to a careful microscopical examination, and find that the disease is not due to the agency of insects, but is a fungus growth on the roots. I should not expect that this disease would be likely to materially injure the crop.]

SIR,—In this county and New Brunswick, generally hay is a good crop, harvested in the very best condition possible. All other crops are good also; indeed it is seldom we have a season when crops all promise such an abundant yield. Apples also are an abundant crop. F. P. Sharp will have some 3,000 or 4,000 barrels from his orchard.

C. L. S., Woodstock, Carlton Co., N. B.

SIR,—On your placard in which you set forth the varied points of interest for your many readers, as may be expected, I find the very fine looking fowl called the Langshan. Will you kindly tell me where I can get such? by so doing you will oblige

J. P., Exeter.

[Breeders of Langshans would do well to advertise in our columns.]

SIR,—Would you please tell me of the best cure for ring-bone? Answer, please, in the ADVOCATE.

T. B., Ch. Town, P. E. I.

[The most effectual cure for ring-bone is to have it fired by an experienced man, and afterwards blistered.]

SIR,—We have had rain, rain, and still it continues to rain. Harvesting is about through; crops very good, and got up in very good shape considering the wet season.

J. H. S., Logan, In., U. S.

TORONTO GRAB GAME.

SIR,—I consider you well deserve the thanks of the farmers of Ontario for your able and timely exposure of the Toronto grab game in the ADVOCATE for June last. In your August number which has just reached me, I notice a letter on that subject from Anti-Monopoly, with which I heartily agree. As regards his assertion that a "number of representatives of the farmers quietly looked on," I would ask, what better is to be expected? These representatives really represent not the farmer, but the conventions by which they are put forward, just to support their own party. Those conventions are doing the farmer more harm than good. If in every electoral division a general meeting of farmers could be held prior to a general parliamentary election, and the farmers then choose one of themselves, who would pledge himself to support any measure adopted to benefit the agricultural interest, and retain him as their representative altogether, irrespective of party names, we might expect the farmer's interest to be then effectively attended to. In the meantime an occasional shot at the foul, grasping vulture will do no harm. Is there no law prohibiting peddlers from retailing their wares, such as Aunt Sallies, bogus jewellery, gambling booths, to say nothing of liquor sellers, and other amusements which probably help to swell the daily receipts? at the same time they are injurious to the morals of the young people who naturally resort to those exhibitions. If there is such a law, why is it not strictly enforced?

SARAWAK.

SIR,—I send you the following which you may insert in your paper if you consider it worth a space. I have a large two-year-old heifer, nearly full bred Ayrshire, that gives 4 quarts of milk per day, weight 5 lbs. 10 ounces; she never had a calf, and she has given milk since 1st of June. I will add that she was never in heat until one week after her milk came.

D. L., Ameliasburg, Ont.

SIR,—Will you kindly insert the following query in the next number of the FARMER'S ADVOCATE, as I know that there are others that would be glad to get an answer, besides myself: Where can I procure an English digging fork, with tines from 15 to 18 inches in length, weight of fork to be from 9 to 12 lbs.? I can not get anything in this country to answer the same purpose. The fork is used in England everywhere for digging gardens, fields, etc. The tines are either three or four in number, and have three-cornered tips, which are flattened. They cost in England from 6 to 10 shillings. Please to give me an answer, if you can, at your earliest convenience. The tools I can get here are of the flimsiest and most rotten description, and are almost useless. I would willingly give \$5 for an English fork.

H. N., Oak Bank, Manitoba.

[R. R. Keith, seedsman, Winnipeg, no doubt will be able to supply you with the article.]

SIR,—Can any of your readers tell me whether the Smith, Downing or Houghton gooseberry will successfully bud on native stock? Also, whether any attempt has been made to bud the English gooseberry on native stock, and what have been the result?

SUBSCRIBER.

[We have had no experience of budding gooseberries, there being no necessity for so doing, as they grow so freely from cuttings. The Houghton and Downing thrive well here, but the English is subject to blight or mildew. Perhaps some of our readers will give their experience.]

SIR,—Is the Rogers wheat the same as Silver Chaff? I think they are. J. A., Ayr P. O. Ont.

[They are not the same. Rogers is a dark amber and the Silver Chaff a light amber.]

SIR,—Do you consider the advertisement in your August number, "free to all," bona fide, and should I remit the stamps, as I want to get the pictures?

[The FARMER'S ADVOCATE never inserts advertisements known to be of a swindling character. It refuses thousands of dollars offered it for such advertisements every year, and constantly rejects advertisements suspected of being of this nature. Nevertheless it cannot hold itself responsible for the good faith of its advertisers, nor undertake to relieve readers from the need of exercising common prudence on their own behalf. They must judge for themselves whether the goods advertised can in the nature of things be furnished for the price asked. They will find it a good rule to be careful about extraordinary bargains, and they can always find safety in doubtful cases by paying for goods only upon their delivery.]

COTTAGES ON FARMS.

SIR,—"Better is the life of a poor man in a mean cottage than delicate fare in another man's house." Farmers often complain of hired men in their houses with the farmer's family. Why do not more farmers build cottages on their farms and engage married men? By building cottages it would help to benefit the farmers themselves, as the laborers and the families would want some of the produce of the farm; but some farmers like single men to do "chores" until bedtime.

R. A., New Lisbon, N. Y. State.

Prize Essay.

I believe a good deal of humbug has been both spoken and written upon this subject, mainly running away upon some wild theories without bringing forth a single idea containing common sense. We want the practical experience of actual growers, and points of observation from them upon such subjects as the above. In this class I will endeavor shortly to give my experience and ideas or observations.

I believe, so far as I know, blight in the apple tree originated somewhere in the Western States. The first I have trace of was in Illinois some seven or eight years ago. Be that as it may, however, we have of late years seen it in all parts of the Province, and through many of the States. As a rule it affects only the new wood, although sometimes it goes down into the year-old wood, and cases are known where it even kills the entire tree. This season I have before me several instances where the year-old wood has been killed.

According to Downing and some of the other authorities, apple tree blight is caused by an insect (*Bostrychus Bicandatus*), which is said to penetrate the wood at the axil of the leaf, causing it to wither.

I have often examined closely to discover either the insect or its work, and have not been able. I may be classed as a sceptic, but feel like standing my ground until positive proof of the presence and work of this insect is presented. In the meantime I attribute the disease to atmospheric causes, combined, possibly, with the state of the soil and constitution or healthiness of the tree in other respects.

I believe blight varies greatly in the different soils and cultivation, as we find in some sections that it is pretty generally confined to one or two varieties, and then again in another section other varieties only are affected. This season I have under notice two orchards where experiments are being tried. One part of each orchard is heavily manured and the rest left in its usual cultivated state; the result is that almost all the blight is upon those portions that were manured. I have frequently observed that where the soil is deep and rich the apple trees blight the most. If then the over richness of the soil is a circumstance favoring blight, it may be the presence in that soil of an over abundance of nitrogen. This can easily be cured by neutralizing the strength of the nitrogen or increasing mineral elements in the soil. Wood ashes is valuable in the latter case. A liberal dressing of salt will readily reduce the activity of nitrogen in the soil, and possibly no better remedy than this can be advised, as it has also the effect of assimilating the particles of dead matter in the soil, and generally cleansing and purifying it. I have used it regularly with excellent effect.

As I said before, I believe that a great deal depends upon the state, or if I may use the expression, the constitution of the tree, for like a weekly person, so a weekly tree is more susceptible to disease than a healthy one. I have frequently found, upon examination, that blighted trees are affected badly with the apple root louse (*Pemphigus Pyri*). This insect can easily be discovered in the fungoid knots or growths upon the leading roots. If this excrescence is cut open or broken, the lice, of a yellowish color covered with a white bloom, will be seen. It is well in such cases to draw off the top soil from around the tree and apply a good covering of wood ashes, or drench the roots with strong soap suds. Where I find these excrescences well out upon the roots I cut the roots off above it and remove from the soil, taking care where any such root pruning is done to perform a similar operation upon the head of the tree.

Trees that make a rank, rapid growth appear to be more liable to the disease of blight, hence we find it oftener in the Rhode Island Greening and American Golden Russett than any other in this section.

If I were asked to lay down rules to be followed to prevent the presence of blight in the apple orchard, they would merely consist in this: Cultivate the soil and feed it cautiously; if strong land, occasionally draw off the soil around the trees and apply a coating of wood ashes, covering back the soil. Sow a liberal top dressing of salt over the orchard every spring early, and above all, mulch every tree carefully, and again, I say, mulch in case you do not think it worth while to attend to first orders. Judicious pruning every spring is of course necessary, and washing the trunks and main limbs should not be neglected. Soap suds or wood ashes and water will do. I believe a careful orchardist following these simple rules will find decided benefit. I know they will in this section, and, unless climate has a great deal to do with blight, the same should apply in most parts of Ontario, for within our county we have the various soils and conditions otherwise, excepting climate, of the Province.

LAHRAX.

Goderich, Aug. 21st, 1882.

Hops.

The failure of the hop crop again in England, and the high prices and great demand for them, both in England and the United States, should stimulate some of our readers to compete with our neighbors around Utica, U. S. A., which is described as the Kent of America; with our fine dry climate we ought to be able to grow hops as successfully as any other part of the continent. Some few years ago greater attention was given to the cultivation of hops in Canada, but for some reason that we are unable to explain this industry seems at least to have made little or no progress. The present high prices may induce some to again enter into the business. In this country we have not to contend with the wet weather that so often proves detrimental to the hop fields in England. The prices are likely to be high for some years to come as the stocks of old hops are exhausted.

The Household.

On Some Ailments Incidental to Old Age.

BY A FAMILY DOCTOR.

"Ah! age hath weary days,
And nights o' sleepless pain.
Thou golden time o' youthful prime
Will never come again."

The lines are pretty, but they really contain more of pathos than of fact. The man, too, who wrote them was not a physician, but Scotland's noblest bard, and he himself died at the early age of thirty-five. The knowledge, therefore, which promulgates at random in the first two lines, he could not have gained from study, and certainly not from experience.

A green, or as some call it, a "hearty" old age, is what we all hope to live to, if we hope to live to be old at all. Whether we do so or not depends greatly upon how we use ourselves in the days of our youth and prime of manhood. But, contrary to what the poet says, I hold that it is not at all necessary for the aged to have, as a rule, "weary days and nights of sleepless pain." No, nor for the old to wish youth to come again. There is a land where youth blooms eternal; let us rather look forwards than backwards. There is no greater blessing that can be enjoyed in old age than that of contentment. In the case of the aged contentment really is a continual feast. It is a habit, therefore, that ought to be cultivated, if only for these two reasons: first, that fretfulness aggravates any ailment or chronic disease one may be suffering from—owing to the effect the mind has over the body; and secondly, that a fretful man (or woman) is less likely to be loved by those around him, upon whom he is really dependent for the comforts of his daily life; for let him be as rich as Croesus, and able to command all the luxuries life can give, I think it is better to deserve than to command, and better to be loved than to be loved for one's wealth.

As I have said in the beginning of my article, it is not at all necessary that age should always ache, and by proper precautions many ailments incidental to old people may be warded off, and nearly all that have been acquired may be mitigated if not entirely cured.

The disease known by medical men as senile bronchitis comes uppermost to my mind; it is little else than a bad cough, with copious expectoration of frothy phlegm and matter. It is usually easiest in summer and on fine sunny days, and worst in winter and dark gloomy weather. In other words, the secretion is diminished by the exhilaration of spirits caused by a fine day, and increased by the gloom of a dull one, and this latter is simply a proof of what I said just now about fretfulness always aggravating any present disorder. Take a case in point: an old man who, verging on eighty, has always been used to active out-of-door life, and, although suffering from severe senile bronchitis, still takes walks abroad every fine forenoon, is confined to the house on a rainy day; he will still take his exercise up and down the room, pausing oft to gaze longingly through the windows, and wondering, while he bemoans his hard fate, if it ever means to clear up. This very worry of mind then increases both cough and expectoration; he at once thinks he is "booked" for another world. "Bless my heart," he will say to his wife, "did you ever see the like? Did you ever in your born days hear such a cough? Ah! my dear, you won't have me long now."

But presently the sun "blinks" out. He brightens up—forgot his cough, and lays aside the cordial mixture, both objects of untiring interest to him all this forenoon.

"I'll take my stick," he says, "and run down and see how poor old so-and-so is to-day."

He goes out, and a couple hours after he returns humming a tune, looking, aye, and feeling just twenty years younger, and his very first question to his wife is—

"Dinner ready yet, my dear?"

This is no imaginary sketch, and I could give you fifty, nay, a hundred like it.

On the other hand, do you not think with me that the following case is also instructive? Old John W. W.—not so old, either, having only just seen the allotted span, spends a small fortune over physic, and the whole of every day in his huge arm chair, all too close to the fire. He coughs a deal, groans and grumbles a deal more, is always sure he won't live many hours, but never

ally manages to pull through somehow. Wouldn't have the window open an inch, though I know it would do him a yard of good; says he couldn't walk half a mile to save his life, though I know he could run the distance with the same end in view. His wife and daughter are kind to him, and dread him a little; his grandchildren fear him, and I should require the inducement of a bigger fee than he has ever yet paid me, to remain longer at a time in his bedroom than five minutes, so stuffy is it. Now, do you not think with me that he is not only guilty of making himself and every one around him wretched, but also of shortening his days? To speak kindly to the aged, to be ever patient with them, and to listen with some degree of attention to their whims are sacred duties that the medical practitioner has to perform, yet one cannot help at times being cross with a case like this.

Well, I fear that to many the symptoms of senile bronchitis, or the catarrh of old people, are too well known to need description; and those who so suffer will do well to take good care of themselves, without over-doing it. The exercise should be moderate—that is, never carried to the verge of fatigue; at the same time it is no reason, on a fine day, why a patient should come to the house at once, when he feels a little tired; let him take heart of grace and rest for a short time in a sunny corner, out of the draught, then continue the walk. Bath-chairs are useful where the feebleness is very great, but care must be taken to wrap up well, and that the feet be not cold. The food should be the best procurable; if the teeth are bad the meat ought to be minced with one of those handy patent masticators. Time should be taken in eating, and a moderate allowance of good wine taken with the meal. Occasionally a short course of tonics may help to strengthen the system and increase the digestion. One of the best I know is made of compound tincture of bark one ounce, henlock juice six drachms, ten ounces of camphor-water, and a few drops of peppermint; dose, an ounce three times a day.

Cod-liver oil does great good in these cases, when it can be borne; if it is not well borne, however, it should be discontinued after a good trial. A mixture of ammonia, spirits of chloroform, and squills, which any intelligent chemist can compound, will do good service. About fifteen drops of Friar's balsam in a cup of tea three times a day will give great relief in many cases, and those who are subject to this complaint should never want an inhaler in the house. Five drops of turpentine with about ten of laudanum may be added to every ounce of hot water in the inhaler, and deep long breaths be taken—once or twice a day is sufficient. When the chest feels very bad, warm turpentine should be rubbed over it, and an aperient pill taken.

Rheumatism is often associated with bronchitis, and until you have got rid of the former you will hardly succeed in relieving the latter. For this end avoid, for a time, wine, beer, spirits, and everything likely to produce acidity; wear thicker flannel, dusted inside with sulphur, and try a dose or two of colchicum at bedtime. On the other hand, to the aged rheumatic I could well recommend a course of the iodide of potassium with bark—such a prescription as this for example:—Twenty grains of iodide of potassium, two drachms of the tincture of henbane, a drachm of bicarbonate of potash, and nine ounces of the tincture of yellow bark; the dose, two tablespoonfuls, twice a day.

Elderly people are often subject to apoplexy, especially such as live too freely, or who are subject to fits of rage and excitement. Such people should never overload the stomach, should sleep in a well-ventilated room, and bathe the head well with cold water every morning. If there is occasional giddiness it may arise from too much blood, and indicate purging and spare diet; but if the person himself is of spare habit the giddiness calls aloud for good food, an iron tonic, and draughts of milk fresh from the cow in all cases where the stomach can stand them. All that friends can do when an attack comes on is to send for the doctor speedily, put the patient in a well-ventilated room, in a reclining chair, with the head well back, apply cold water to the head, and place the legs in hot water with a handful of mustard in it.

The aged sometimes suffer a great deal from itching skin eruptions—what medical men generally term eczema; it is a most troublesome complaint, very trying, often keeping the patient awake at night, and tormenting him by day. There are but few signs to denote the disorder to an unpractised eye save a roughened reddish ap-

pearance, generally in patches, in some parts of the body, with itching. It is seldom accompanied by constitutional disturbance, and probably in the aged is in some measure due to poverty of blood, which accordingly suggests good but regular living, aided by the use of the tonics and the application of some slightly stimulating liniment or ointment, such as that of the benzoated zinc or tar. There is a new ointment and oil coming now into use in London practice, and which I myself have found very serviceable in many disorders. It is called Chaulmoogra, and was first used in India.

Sleeplessness is a common noncommittal of gathering years. I but mention it to warn my readers against the use of sleeping draughts, which do but act artificially and hardly ever fail to ultimately shorten life; pure air, very well-ventilated bedrooms, exercise, and a light supper, with perhaps a glass of wine negus or even hot spirits with water and a pipe a short time before retiring, are the only safe narcotics in old age. Old people, by the way, do not need so much sleep as the younger folks, and if they retire early they ought to be up betimes.

I may add, in conclusion, that the aged, being very sensitive to cold, should wear warm though light clothing, with flannel next the skin—the clothes being loose, not tight; they should have their bed-rooms and bed-clothes well aired, and for the purpose of warmth and ventilation a little bit of fire in the bed-room. The bed-clothes should be soft and warm without being heavy, and the surroundings cheerful in appearance.

Bathing.

"Cleanliness is next to godliness." To preserve the health is the highest duty, for it is the preservation of life. Bathing is one of the most effective means of cleanliness. The skin is the greatest secreting agent of the whole of the body. There is a constant perspiration escaping from it, although it may not always be perceptible. Of what this secretion consists we can easily be aware by its nature as shown by its offensiveness upon soiled clothing. If the skin is rendered unable by want of proper cleansing to throw off this offensive matter, it will remain in the blood and produce inconvenience, such as headaches, lassitude, weariness and sleeplessness. The effect of these in warm weather is such as to completely destroy comfort and pleasure in living. And yet how often people neglect this indispensable duty of cleansing the skin. On the other hand when the skin is kept in proper order and in healthful action, one feels hearty, lively, wakeful in the day and restful at night. A cold sponge bath once a day in the hot weather, or even a dry rub with a dry coarse towel will greatly add to the comfort. A warm bath at night will increase the action of the skin and tend to cool it, and the whole system heated by the tiresome work of the kitchen or the harder work of the laundry will be greatly revived. Cross children will be pleased and soothed and sent to sound and comfortable sleep by a warm bath before bed time. All that is needed are a good sized tub, a pailful of warm water, a sponge or soft towel, two dry towels and a piece of pure soap. A shower bath may be readily improvised by procuring a large tin pail having the bottom punched full of small holes, hung overhead over the large tub; a four quart pail may be hung in it with a cord fastened to the bottom of it and running over the large pail. By pulling this cord the small pail will be upset into the large one, the cold water poured out and spread in a shower through the holes. A curtain or a sheet may be hung around the tub if needed upon a clothes-horse, and a square of oil-cloth or old carpet may be spread on the floor to catch the splash. With the ready means available in every household there need be no difficulty in obeying the peremptory injunction, "Go, wash, and be clean."

DELICACY.—Girls, remember that above other features that adorn the female character, delicacy stands foremost within the province of good taste. Not that delicacy, which is perpetually in quest of something to be ashamed of, which makes merit of a blush, and simpers at the false construction its own ingenuity has put upon an innocent remark; this spurious kind of delicacy is as far removed from good taste as from good feelings and good sense; but the high minded delicacy which maintains its pure and undeviating walk alike among women as in the society of men, which shrinks from no necessary duty, and can speak, when required, with seriousness and kindness of things at which it would be ashamed to smile or blush,



The Family Circle.

"Home, Sweet Home."

The New Cook.

"There is one thing you mustn't forget Tom?"

"What's that, Emma?"

"Don't forget to go to the registry office and send me up a cook. The new girl is good for nothing, and the old one can't do anything. Young or old, man or woman, I don't care; only send me up a competent cook by 10 o'clock this morning."

"Don't look so desperate, sis; I'll remember it. I want things in pretty good style for Maxwell; he is used to it—is fond of good dinners; and I guess I'll send you a good, smart cook, Emma." Mr. Thomas Maye disappeared with a reassuring nod. He had a proverbially bad memory; pretty Emma Maye knew it very well, yet in this desperate emergency she trusted him.

During the two years she had had charge of her widowed brother's family they had been blessed by the most skillful of cooks; but Joan had taken a fancy to get married and her place was hastily supplied by one who soon proved incapable. Just at this juncture Mr. Maye received tidings that his dead wife's favorite brother, Arthur Maxwell, just returned from abroad, would pay a visit. From the first Emma had been nervous over the responsibility of entertaining this lovely and accomplished, but she could not cook—in fact she had never tried.

It was 7.30 o'clock when Mr. Maye went to town. He took nothing but a cup of coffee at 7 o'clock, and lunched at his favorite restaurant at 11 o'clock. At 3.30 o'clock the Mayes dined, and Mr. Maxwell was expected by the 3.10 o'clock train.

"There," sighed Emma, when, two hours after her brother's departure, the house was in its usual exquisite order, and the viands and flowers sent up for dinner; "if Tom doesn't forget, and if he sends up a good cook, everything will be nice enough."

She did not dare think of the possibility of Tom's having forgotten, or that of the cook not coming for any other reason; but when, precisely at 10 o'clock, the door-bell rang, a secret weight was taken from her heart. She ran herself to answer the summons. A medium-sized, well-dressed, modest-looking young man stood at the entrance, and she brightened at sight of him.

"I am very glad you are so punctual; I was afraid I should be disappointed," she said, leading the way to the kitchen without an instant's delay. "Let me see—10 o'clock. I shall have to set you at work at once to prepare a first-class dinner. We are expecting company from London, my cook has left me, and I do not myself know anything about cooking. What is your name?" literally bereaving the young man of his hat and hanging it as high out of reach as possible.

"His reply was rather faint, but she thought she caught it. "Mac? You do not look like an Irishman. But it doesn't make any difference. Are you a good cook?"

"The smile of the young man was rather puzzling. "I'll do my best," he said pleasantly.

"You see there is nothing in the house but cold chicken," continued Emma, unconsciously wringing her little hands as she continued to address the new cook, who certainly listened very attentively. "But my brother has sent up some pigeons—to be roasted, I suppose."

"Yes'm."

"Can you make a celery salad?"

"I think I can."

"And Maitre d'hotel sauce for the cold chicken?"

"Yes'm."

"Can you make a French soup?"

"I can."

"Oh, well, I think you'll do," (beginning to look relieved.)

"Be sure the vegetables are not overdone, and the coffee good—my brother is very particular about his coffee. And we will have a Florentine pudding?" with an inquiring look.

"Yes'm," readily.

The new cook was already girding himself with one of the white towels that lay on the dresser, and casting a scrutinizing glance at the range fire.

Quite assured in spirit, Emma was turning away when she stopped to add:

"I will lay the table myself to-day, Mac, and fill the fruit dishes and vases; but if you give satisfaction I will intrust you with the key of the china closet, and you will have the entire care of the table."

And with a gracious nod the young lady withdrew from the kitchen.

She piled the fruit dishes with rosy pears, golden oranges and white grapes; filled the vases with roses, lilies and ferns; set clusters of dainty glasses filled with amber jelly among the silver and china, and then, with a sigh of satisfaction at the result, ran away to dress.

"I'll not go near the kitchen to even smell the dinner. I don't know anything about cooking it and will trust to luck. I have an idea that Mac is really capable—is going to prove a treasure. His dress was so neat and he was so quiet and respectful," concluded Emma, leisurely arranging her hair.

Her new dress, with abundant lace and cardinal ribbons, was very becoming and fitted the petite, round figure so perfectly that Emma felt at peace with all the world.

"I have heard that Mr. Arthur Maxwell is very fastidious in the matter of ladies' dress," mused Emma, twisting her head over her shoulder to see the effect of her sash. "I wonder what his first impression of me will be. I should like to have poor Alf's brother like me."

At length the last bracelet was clasped, the last touch given, and retiring backwards from the mirror with a radiant face, Emma turned and ran up to the nursery to see the children dressed for company and also to speak with the boys—and, it must be confessed, flirt a little with Mr. Vincent, the tutor who was always at her service for this exercise.

There was a delightfully savory odor pervading the house, when she came down and set out the wine and ice and made a few additions to the table.

She looked at her watch—3.05. Then she went softly to the end of the hall, and listened to the lively clatter in the kitchen. She could hear Mac chatting pleasantly with the little housemaid, Nanny, and all seemed to be well in that direction.

At 3.10 she repaired to the drawing-room and took a seat overlooking the street.

Carriages came and carriages went, but none stopped at the entrance.

The little girls, brave in new ribbons, came down.

The boys and Mr. Vincent came down.

Mr. Maye's latchkey settled in the door, the dinner bell rang.

"Not come?" asked Mr. Maye, at sight of Emma's disappointed face.

"No," she pouted; "and such a nice dinner."

"Very strange!" mused that gentleman, leading the way into the dining-room. "I hadn't the least doubt—Why, dear fellow," seizing by the shoulders the new cook, who, acting also as butler, had just placed the soup-tureen upon the table—"my dear, dear fellow, why, how is this? Emma declared you hadn't come!"

That young lady grew as white as the table-cloth, and grasped a chair for support.

"That Mr. Arthur Maxwell? I—I thought it was the cook?"

"I came earlier than I expected, and in time to make myself useful to Miss Emma," laughed Mr. Maxwell, divesting himself of his white towel and bowing with grace to that young lady.

How could she have fallen into such an error?

"I was so terribly anxious—I didn't look at you twice. Mr. Maxwell, I hope you will forgive me!" stammered Emma, as red now as she had been pale.

"There is nothing to forgive, if my dinner turns out well," he added, laughing, evidently the sweetest-tempered man in the world. "I learned to cook when I was a student in Paris—a Frenchman taught me. I have been rather proud of my culinary skill, but I am a little out of practice, now, and am not quite sure of the Florentine."

"Emma!" cried Mr. Maye, "what does all this mean?"

"Why, John, you promised to send me up a man cook."

Mr. Maye clasped his hands tragically.

"Emma, I forgot it."

"Well, he came just at 10 o'clock. I thought he was the cook; I ushered him into the kitchen, among the pots and pans. I questioned him as to what he knew about cooking. I urged him to make all haste and serve the dinner; and I called him an Irishman!" sobbed Emma, hysterically.

"No offense, Miss Emma. My grandfather, on my mother's side—Major Treloany—was an Irishman," observed Mr. Maxwell, coolly. "And since I have done my best, won't you try the soup before it is cold?"

The others stared and Emma cried, but Mr. Maye laughed—laughed uproariously.

"The best joke of the season! Sit down, everybody! Emma, you foolish girl, don't cry. Arthur doesn't care. And as for your Florentine—Arthur, tell Nanny to bring it in. The proof of the pudding is the eating, you know."

Miss Emma won't cry when she tastes my soup," remarked Arthur, leading it off promptly with an air of pride.

And then they all fell to tasting and praising, and urging Emma to taste and praise, until she laughed and cried all together.

But Mr. Arthur was so delightful, so winning and so witty, so kind to his agitated young hostess, and he'd cooked such an excellent dinner—from the pigeons to the pudding, everything was perfect.

By-and-by Emma was herself again.

"This has taught me a lesson," she said. "I will never be so desperately situated again. I will learn to cook."

"Let me teach you," said Arthur.

He did.—N. Y. World.

Not the Socratic Method.

A very good story is told of an eminent Oxford professor who at one time had very considerable influence over the minds of many of the young men at the University, and was supposed to pursue a Socratic method in eliciting the dormant powers of the young men. The professor knew how to be silent, and also how to talk, especially in the salons of the great and wealthy. One day he invited a promising undergraduate of the great intellectual college to take a walk with him. The young gentleman was slightly flustered with the honor of the invitation, and was prepared to pick up any golden grains of truth which might be let fall on his account. They walked out as far as Effley, but to his great surprise a stolid silence was consistently maintained by the mighty being whom he was prepared to accept as his guide, philosopher and friend. At last, as they turned back from the Effley Lock, the undergraduate ventured to observe: "A fine day, Professor." The professor vouchsafed no reply, but strode back silent into Quod, and the young fellow did not have strength of mind to renew his attempt. As they entered beneath the archway the professor fixed his keen philosophic glance upon him, and mildly said: "I did not think much of that remark of yours." [London Society.]

"No, sir-ee," remarked the old resident. "My wife didn't bring me a cent. But it was my fault, I wouldn't have it. The morning of the day we were married I says to her, says I: 'Maria, how much money have you got?' She says, 'John, I've got just twenty-five cents.' Then, says I, 'Come with me, and I took her down to the canal and had her throw that quarter into the drink.' I wasn't goin' to have no woman twitting me about spreadin' around on her money."

Uncle Tom's Department.

MY DEAR NEPHEWS AND NIECES.—Near where your Uncle Tom lives an echo keeps ringing and clanging as if he were trying to repeat the ringing of every school-bell in the land. It makes me think how bright and rosy a lady school teacher looked the other day as she passed me on her way to assure herself that the red school-house would be ready for the coming study time. A splendid holiday you have had, no doubt, and now I hope you feel like setting to work again with earnest good will. There are no rivals so formidable as those determined minds which reckon the value of every hour. The difference between one boy and another consists not so much in talent as in energy. Provided the dunce has persistency and application he will inevitably head the cleverer fellow without these qualities. "Slow but sure, wins the race." It is perseverance that explains how the position of boys at school is often reversed in real life, and it is curious to note how some who were then so clever have since become so commonplace, whilst others, dull boys, of whom nothing was expected, slow in their faculties, but sure in their pace, have assumed the position of leaders of men. I recollect that when a boy I stood in the same class with one of the greatest dunces. One teacher after another had tried their skill upon him and failed. Corporal punishment, the fool's cap, coaxing, and earnest entreaty proved alike fruitless. Sometimes the experiment was tried of putting him at the top of his class, and it was amusing to note the rapidity with which he gravitated to the inevitable bottom. The youth was given up by many teachers as an incorrigible dunce—one of them pronounced him a "stupendous booby." Yet, slow though he was, this dunce had a dull energy and a tenacity of purpose, which grew with his muscles and his manhood, and, *mirabile dictu!* when he at length came to take part in the practical business of life, he was found leading most of his former schoolmates. It matters not that a youth be slow if he be but diligent, as the boy who learned readily will often forget quite as easily. I hope, now, that all my large family of nephews and nieces will return to their studies with earnest and diligent application, and some day figure in the world the best and wisest men and women. I have received from very few answers to August puzzles. I hope you are not losing all interest, for what I have just said in regard to children at school is applicable to you in regard to Uncle Tom's department, and some of those who made such a good start in the beginning of the year have now fallen quite behind; one in particular in my mind is Herbert W. McKenzie, of Annapolis, N. S., who always took the lead with his good puzzles. Wake up, Herbert, and let me hear what's the matter. Perhaps the puzzles were too hard; if so I shall give simpler ones. Write to me and let me know your opinions.

UNCLE TOM.

PUZZLES.

WORD SQUARE.

1. First, to babble. Second, to mature. Third, separately. Fourth, neat. Fifth, to register. CAL I. FORNY.

ENIGMAS.

2.—My whole is a bird.
My first is in noble, but not in bright.
My second is in scurry, but not in fright.
My third is in stone, but not in rock.
My fourth is in dress, and also in frock.
My fifth is in rise, but not in stand.
My sixth is in scratch, but not in brand.
My seventh is in Harry, but not in Fred.
Now tell my name, Mollie, Winnie, and Ned.
S. BIRDIE DONNAS.

- 3.—First in vine, but not in tree.
Second in river, but not in sea.
Third in ace, but not in jack.
Fourth in plenty, not in lack.
Fifth in old, but not in young.
Sixth in rhyme, but not in song.
Seventh in idle, not in good.
Eighth in scarf, but not in hood.
Oh, a lovely lady's name
Is my whole, as all proclaim.

MARY L.

CONCEALMENTS.

4. Hidden Trees.—1. Will you help Amy? 2. That is a high crib. 3. Even I prefer the other. 4. I am less studious than you are.
5. Hidden Places.—1. It is strange no abler advocate could be found to plead this cause. 2. Was that a knock? It is papa, then, surely. 3. At a barbecue they have roasted ox for dinner. 4. O ma, haven't I been good to-day? The teacher marked me only once.

B. J. L.

TRANSFORMATIONS.

1. I am a rascal. Behead me, I am soldiers' quarters.
2. I am a garment. Behead me, I am a grain.
3. I am a tiny spot. Behead me, I am a measure.
4. I am an instrument of punishment. Behead me, I am an enclosure.
5. I grow in every garden. Behead me, I threaten.
6. I am a medicine. Behead me, I am an instrument necessary to civilization.

CHARADE.

My first you will see pertains to the mind,
My second three-fourths of an Asian gulf you'll find,
My third is what blacksmiths often do,
My whole is a name that is well known to you.

A. J. TAYLOR.

Answers to August Puzzles.

- 1—S T A R
T A L E
A L M S
R E S T
2 S U M
T W O
T O N
H A T
O E R
M O G
A H A
S O L

Montreal. St. Thomas.

- 3—Assassin.
4—Rose, sore.
5—In works of labor or of skill

I would be busy too,
For Satan finds some mischief still,
For idle hands to do.

ILLUSTRATED REBUS.

Be not the first by whom the new is tried,
Nor yet the last to cast the old aside.

Names of those who sent Correct Answers to August Puzzles.

A. Phillips, R. H. Gordon, Alice Lewis, Thomas Smiley, Geo. Jas. Montgomery, P. H. Hunter, May Ferguson, Lottie Hodgson, Henry Smith, Clara Woodhouse, Jane McLaughlin, J. A. Key, Chas. French, W. H. Bateman, A. J. Taylor, Esther Louise Ryan, E. N. Johnston.

HUMOROUS.

Pat (to Sandy)—“Shure now, Sandy, yer a good-looking fellow; but your face spoils yez greatly. You've the foine open countenance, though.”
Sandy—“Ou, aye, man, and ye hae the fine open countenance yersel', but it's below the nose.”

“Uncle Simon,” exclaimed a boy in breathless haste, rushing into a shop, “did yer heah dat yer wife has dun run away with a barber?” “No, chile; am it a fack?” “Yas, sah; she run away. Da was in sich a hurry dat de barber lef his hat in de house.” “Well, I se glad he lef his hat, fur it makes me de gainer in de transaction.” “But he come back an' tuck de hat, den run away an' lef yer wife in de house.” “Oh, Lord,” exclaimed the old man, “den I se de loser in de transaction.”—[Arkansas Traveller.

Minnie May's Department.

MY DEAR NIECES.—This month I propose to talk to you about music. Which one of you do not know the softening power of music, especially the music of the human voice? Who can be angry when the voice of love speaks in song? Sing to the wicked man, sing to the disconsolate, sing to the sufferer, sing to the old, and sing to the children, for music will inspire them all. The human voice is the most perfect musical instrument ever made, and well it might be, for it had the most skilful maker. We cannot join those who lament that the piano is heard where once the monotone of the spinning-wheel and the click of the shuttle were the only instrumental performances. It is a matter of rejoicing rather, that muscles of iron and fingers of steel, driven by the tireless elements, now perform the laborious work of cloth manufacture, and give leisure to cultivate refined tastes in the household. Music is to the ear and to the intellect what strawberries, peaches and other luscious fruits are to the taste. One of the greatest attractions for old and young, when visiting the cities, is the music that may be heard there. Why should the farmer's household not be as cheerful, as full of pleasure, as that of the merchant or the professional man? We know of nothing more heart-warming than to hear the whole family joining in a hymn or song. They will love each other and their house better for it. No family can afford to

what? ANS.—There are more than 1,400 species of snails. They have a spiral shell; the foot of the animal is long; there are four tentacles, the lower pair much smaller than the upper; the tongue is armed with many longitudinal teeth—sometimes as many as two hundred. Snails possess in a very high degree the power of repairing injuries, not only of the shell—although the removal of the whole shell is fatal to them—but also of the soft parts. When the tentacles are cut off, they grow again; and even if the head is cut off, a new head is produced. Snails feed chiefly on vegetable substance, though they are indiscriminate in their appetite, and even devour the dead of their own kind.

ST. KITS.—An engaged young lady, a former schoolmate, invited me to spend a few weeks with her, and while at her home her fiance paid me such marked attention that my friend became violently jealous. She did not say anything, but became decidedly cool to me, and spoke angrily to the young man. I left, and soon after my friend wrote to say that her engagement was broken off, and blaming me severely. Then the young man came to see me, and soon after proposed, saying that he had given up Annie for my sake. Now what should I do? I like him very much, but do not wish to act dishonorably towards my friend. ANS.—You should have thought of all this sooner. Knowing the young man to be engaged, you should have left your friend's house before you had given cause for jealousy, and then, probably, the whole trouble would have been averted. You have now injured your friend as much as you could, any way, so marrying the young man cannot be much worse. To betray the confidence of a friend is about the meanest thing one can do, and should be avoided at any pain to one's self. Your friend showed perfect confidence in both yourself and her lover when she threw you together in her home, and it was base, indeed, to steal her lover from her, and it is now too late for advice.

Recipes.

SWEET PICKLE.—To six pounds of brown sugar put two gallons of the best vinegar, and spice to taste; boil all together for 10 minutes, then set it to cool; fill the jar with the vegetables or fruits to be pickled and pour over the vinegar; when cool, if there should be a white scum on the top, boil the vinegar again, and add a little more sugar; when cold add it to the jar again; peaches can be pickled in this way.

PICKLED CABBAGE.—Take the red cabbage, remove outer leaves, and shred; sprinkle thoroughly with fine salt; let it remain with salt for two days, removing the water; make a pickle with vinegar, with four ounces of ground ginger, four ounces of pepper, one ounce of cloves, and boil it; put the cabbage in jars, packing closely; when the vinegar with spices is on the boil fill up the jars; will be good to eat in a week.—N. O. L. DALTON.

TOMATO CATSUP.—Take a bushel of tomatoes, cut them in small pieces, boil until soft, then rub them through a wire sieve, add two quarts of the best cider vinegar, one pint of salt, one-quarter pound of whole clover, one-quarter pound of allspice, one tablespoonful of black pepper, one good-sized pod of red pepper (whole), and five heads of garlic. Mix together and boil until reduced to one-half the quantity. When cold strain through a colander, and bottle, sealing the corks. It will keep two or three years as fresh as when made.

PEACH MARMALADE.—To make peach marmalade, pare, stone and weigh the fruit; heat slowly to draw out the juice, stirring up often with a wooden spoon. After it is hot boil quickly, still stirring, three-fourths of an hour; add then the sugar, allowing three-fourths of a pound to each pound of fruit. Boil up well for five minutes, taking off every particle of scum; add the juice of one lemon to every three pounds of fruit, and the water in which one-fourth of the peach kernels have been boiled and steeped. Stew all together for ten minutes more, stirring to a smooth paste. Put it up hot in air-tight cans, or, if you prefer to put it in glass jars, put it in them when nearly cold, and put white paper on the top of each jar.

Answers to Enquirers.

INQUIRER.—Will you please inform me of the character of snails? Do they eat anything? If so,



Illustrated Rebus won by LOUIE MESTON, Griffin's Corners, Ont.

The Rabbits' Funeral.

A TRUE STORY OF JUNE.

It was our first Sunday morning in the country, early in June. Frankie had brought with him, over several hundreds of miles of railroad, his favorite pets, a pair of pretty young "bunnies," so sleek and plump and full of quaint little rabbit ways, that we forgave them all the bother they had cost us while on the way.

For four days our Frankie had worked as hard as any little carpenter of eight years could work, and had built a house for his pets, and we were glad enough to get them out of their quarters in the kitchen where they scratched and gnawed about so at night that we lost many hours of sleep.

Frankie had enjoyed many a frolic with his little friends the rabbits, in the deep grass that spread around the house, since our arrival, and even the callers found pleasure in watching the pranks of the frolicsome little creatures.

They seemed so timid and trustful; so tame, and they had such beautiful eyes that one could hardly dream that such a sad fate awaited them; but when Frankie had finished his breakfast upon that bright Sunday morning, he slid down from his chair and ran out at once to feed his pets. We heard a cry, and in a moment poor Frankie was close in his mother's arms. Between his sobs he exclaimed, "they are both dead!" and so it proved.

There they lay, one, the black, with a great wound in his throat, and the other, a gray one, without a mark to show how he died. Poor little fellow! he was probably frightened to death. There they were, side by side, upon their straw, and no caresses could bring them back to life. One dear little grey paw rested lovingly across the mangled neck of the poor torn "blackie;" and they looked, as mamma remarked, "just like two wee bits of creatures tired of play in the clover, who were simply asleep." It is a touching thing to witness the first contact of a child with the presence of death, in even so small a creature as a pet rabbit or a bird.

Everybody said that a weasel had done it.

In the quiet hours of the night, this predatory and cruel creature had crept up out of the neighboring woods, and stolen the lives of his innocent victims.

There remained to us but the plain duty of burying them, and when it was suggested to Frankie that he should have a funeral for them, the diversion and labor of preparation quite quenched his tears. When one is plunged into distress of any kind, activity is the best kind of medicine.

So Frankie trudged off to the neighboring cottages and invited two little girls, Mary and Edna, to the ceremonies. His mother contributed two candy boxes, and the three little mourners decorated them with fresh wild flowers.

Out in the shade of the forest, just beneath a fine large tree, a little grave was dug, and the two paste-board coffins were carefully lowered, with becoming gravity, into their resting place, and after a last loving gaze at the slain pets, the covers were put upon them and the earth filled in. A board at the head now contains the words, *Frankie's pets died June 18th, 1882.*



That evening, when we had stowed the empty rabbits' house away behind the wood-pile, Frankie said: "Papa, when you are writing stories for little boys and girls, I think it would be nice to tell them about mine, because, you see, some little boy or his mother may read it who has got rabbits too, and he might be careful to build their house where the weasels couldn't reach them." I said, "And so I will;" and here it is.

On Practising Music.

Beginners are not fond of practising; but to a musician it is an absolute delight. No one knows really what practising means until he has come to enjoy it; it is a pleasure far greater than playing over in society what has been already learned; it is an occupation as exciting, though in a different way, as the excitement of reading new music. When we play we are liable to become depressed by the poverty of our own performance; when we practice hope spurs us on: it does not matter what faults we commit, we are only practising, and it is encouraging to feel that, as time goes on, our difficulties are conquered and overcome. They meet us halfway, and melt and vanish from us, even as, when we travel by rail, the landscapes through which we pass seem to advance towards us and recede behind us, and we are scarcely aware that it is we ourselves who press steadily forwards, whilst

world; to look for judgment and experience in youth; to endeavor to mould all dispositions alike; not to yield to immaterial trifles; to look for perfection in our own actions; to worry ourselves and others with what cannot be remedied; not to alleviate all that needs alleviation as far as lies in our power; not to make allowances for the infirmities of others; to consider everything impossible that we cannot perform; to believe only what our finite mind can grasp; to expect to be able to understand everything. The greatest of mistakes is to live for time, when any moment may launch us into eternity."

Love Lightens Labor.

A good wife rose from her bed one morn,
And thought, with a nervous dread,
Of the pile of clothes to be washed, and more
Than a dozen mouths to be fed.
There's the meals to get for the men in the field,
And the children to fix away
To school, and the milk to be skimmed and
churned
And all to be done this day.

It had rained in the night, and all the wood
Was wet as it could be;
There were puddings and pies to bake, besides
A loaf of cake for tea;
And the day was hot, and her aching head,
Throbb'd wearily as she said:
"If maidens but knew what good wives know,
They would be in no haste to wed!"



they stand still. — [Lady Lindsay of Balcarres, in the *Girls' Own Paper*.

Mistakes of Life.

Somebody has condensed the mistakes of life and arrived at the conclusion that there are fourteen of them. Most people would say, if they told the truth, that there was no limit to the mistakes of life; that they were like the drops in the ocean or the sands of the shore in number, but it is well to be accurate. Here, then, are fourteen great mistakes: "It is a great mistake to set up our own standard of right and wrong and judge people accordingly; to measure the enjoyment of others by our own; to expect uniformity of opinion in this

"Jennie, what do you think I told Ben Brown?
Called the father from the well;
And a flush crept up to his bronzed brow,
And his eyes half bashfully fell,
"It was this," said he—and coming near,
He kiss'd from her brow the frown;
"Twas this," said he, "that you were the best,
And the dearest wife in town."

The farmer went back to the field, and the wife,
In a smiling and absent way
Sang snatches of tender little songs,
She'd not sung for many a day.
And the pain in her head was gone, and the clothes
Were white as the foam of the sea;
Her bread was light and her butter was sweet,
And as golden as it could be.

"Just think," the children all called in a breath,
"Tom Wood has run off to sea!
He wouldn't, I know, if he only had
As happy a home as we."
The night came down, and the good wife smiled
To herself as she softly said:
"Tis so sweet to labor for those we love,
It's not strange that Maids will wed!"



A Judicious Wife.

A judicious wife is always nipping off from her husband's moral nature little twigs that are growing in wrong directions. She keeps him in shape by continual pruning. If you say anything silly, she will affectionately tell you so; if you declare that you will do some absurd thing, she will find some means of preventing you from doing it. And by far the chief part of all the common sense there is in the world belongs unquestionably to woman. The wisest things a man commonly does are those which his wife counsels him to do. A wife is a grand wielder of the moral pruning-knife. If Johnson's wife had lived, there would have been no hoarding up of orange-peel, no touching of all the posts in walking along the street, no eating or drinking with a disgusting voracity. If Oliver Goldsmith had been married, he never would have worn that ridiculous coat. Whenever you find a man who you know little about, oddly dressed, or talking absurdly, or exhibiting eccentricity of manner, you may be sure that he is not a married man; for the corners are rounded off, the little shoots pared away, in married men. Wives have generally more sense than their husbands, even though they may be clever men. The wife's advice is like the ballast that keeps the ship steady.

Small Savings.

The man who saves something every year is on the road to prosperity. It may not be possible to save much. If not, save a little. Do not think that a dollar or a dime is too small a sum to lay by. Every one knows how expenditures get away with large sums. But few seem to know that the rule is one that works both ways. If a dime spent here and a dollar there soon makes a large hole in a man's income, so do dimes and dollars laid away soon become a visible and respectable accumulation. In this country, any man may make himself independent, or keep himself under the harrow for life, according as he wastes or spends his small change. How many things do individuals and families buy that they do not need, or cannot afford. Think twice before you spend that small coin. Do not be stingy or mean, but also do not be foolishly self-indulgent. The self-indulgent person is far more likely to become ungenerous than the self-denying one. The money wasted on hurtful things alone—the medicines and drugs we mingle with our diet in the form of tea, tobacco, alcohol, and the like—stand on the very threshold of prosperity, and bar the way of thousands to a home in their old age.

CORN SILKS AS A REMEDY.—Who would have thought that the silk on an ear of green corn was a powerful and efficient remedy for dropsy, for bladder troubles and for the disease of the kidneys. In the Louisville *Medical News* we find an account of the medical properties of corn-silk and the cures that have been effected by its use. The way to use it is to take two double-handfuls of fresh corn-silk and boil in two gallons of water until but a gallon remains. Add sugar to make a syrup. Drink a tumblerful of this thrice daily, and it will relieve dropsy by increasing the flow of the urine most enormously. Other diseases of the bladder and kidneys are benefited by the remedy, which is prompt, efficient, and grateful to the stomach. The treatment can be continued for months without danger or inconvenience.

HUSBANDS AND WIVES.—A good husband makes a good wife. Some men can neither do without wives nor with them; they are wretched alone in what is called single blessedness, and they make their home miserable when they get married; they are like Tompkin's dog, which could not bear to be loose, and howled when it was tied up. Happy bachelors are likely to be happy husbands, and a happy husband is the happiest of men. A well-matched couple carry a joyful life between them, as the two spies carried the cluster of Eschol. They are a brace of birds of Paradise. They multiply their joys by sharing them, and lessen their troubles by dividing them; this is fine arithmetic. The wagon of care rolls lightly along as they pull together, and when it drags a little heavily, or there's a hitch anywhere, they love each other all the more, and so lighten the labor.

"The paper is now a necessity to us."
WM. DRYAN, Paris, Ont.

We are compelled by a press of matter to lay over a large amount of valuable correspondence, essays on cooking, and other matter until our next edition.

Agricultural Fairs.

Name of Fair.	Place where held.	Date.
Industrial	Toronto	Sept. 5 to 16
Permanent	Montreal	Sept. 14
Mitchell	Mitchell	Sept. 14, 15
Provincial	Kingston	Sept. 18 to 23
Huron West	Goderich	Sept. 19, 20
Southern Counties	St. Thomas	Sept. 19 to 22
Hullett Branch	Clinton	Sept. 19, 20
Peninsular	Chatham	Sept. 19 to 21
South Oxford	Ingersoll	Sept. 19, 20
Brock	Sunderland	Sept. 20, 21
Kinloss	Zurich	Sept. 21, 22
Hay Branch	Woodstock	Sept. 21, 22
Oxford N. and Blandford	Stratford	Sept. 21, 22
Perth North	Seaforth	Sept. 21, 22
Tuckersmith	Collingwood	Sept. 21, 22
Northern	Pinkerton	Sept. 22
Greenock	Essex Centre	Sept. 25 to 28
Essex North	London	Sept. 25 to 29
Western	Port Elgin	Sept. 25, 29
Saugeen	Cobourg	Sept. 26 to 28
Central	Hamilton	Sept. 26 to 28
Ontario, South	Clarksburg	Sept. 26, 27
Clarksburg	Staffa	Sept. 26, 27
Hibbert	Durham	Sept. 26, 27
South Grey	Palmerston	Sept. 26, 27
Horticultural	Paisley	Sept. 27, 28
Union	Harriston	Sept. 28, 29
Minto	Stavner	Sept. 28, 29
Nottawasaga	Flesherton	Sept. 28, 29
East Grey	Lansdowne	Sept. 29
Lansdowne	Lansdowne	Sept. 29, 30
Malahide	Exeter	Oct. 2, 3
Huron South	Belmont	Oct. 3
Dorchester	Newry	Oct. 3
Elma	Tara	Oct. 3, 4
Elgin West	Amherstburg	Oct. 3, 4
Essex South	Donipias	Oct. 3, 4
Garafraza West	St. Catharines	Oct. 3, 4
Lincoln	Alisa Craig	Oct. 3, 4
Northern	St. Mary's	Oct. 3, 4
East Zorra & South Easthope	Tavistock	Oct. 3
Romney	Wheatley	Oct. 3
Melancthon	Shelburne	Oct. 3
Central	Guelph	Oct. 3, 4
Egremont	Holstein	Oct. 4
Lennox	Napanee	Oct. 4, 5
Harwich	Harwich	Oct. 4, 5
Logan	Barnholm	Oct. 4
Leeds and Lansdowne	Lyndhurst	Oct. 4
North Lanark	Almonte	Oct. 4, 5
Peel	Brampton	Oct. 4, 5
East Flamborough	Dundalk	Oct. 4, 5
Muskoka and Parry Sound	Bracebridge	Oct. 4, 5
Riston	Wellesley	Oct. 4, 5
Wellesley	Wellesley	Oct. 4, 5
Tiverton	Tiverton	Oct. 5, 6
Listowel	Listowel	Oct. 5, 6
Markham	Markham	Oct. 5, 6
Blenheim	Drumbo	Oct. 5, 6
Grey Branch	Brussels	Oct. 5, 6
Esquesing	Georgetown	Oct. 6
Plympton and Wyoming	Wyoming	Oct. 6
Holland	Fullarton	Oct. 6
Fullarton	Springfield	Oct. 6
Springfield	Springfield	Oct. 7
Watt	Raymond	Oct. 7
Howland	Howland	Oct. 7
Nissouri East	Kintore	Oct. 10
Norwich	Norwich	Oct. 10, 11
Tilbury East	Town Hall	Oct. 10
Pelham	Fenwick	Oct. 10
Welland	Welland	Oct. 10, 11
Cheese Fair	Woodstock	Oct. 11, 12
Northern	Walkerton	Oct. 11, 12
Cardwell	Cardwell	Oct. 12, 13
Morris Branch	Blyth	Oct. 12, 13
Burford	Harley	Oct. 12, 13
Eramosa	Rockwood	Oct. 13, 14
Lanark	Middleville	Oct. 13
Wawanosh East	Belgrave	Oct. 18
Lanark	Middleville	Oct. 20
Charlottetown, P. E. I.	Middleville	Oct. 11 and 12
Turo, N. S.		Oct. 3 and 6

PRINCIPAL AMERICAN FAIRS.

American Institute, New York	Sept. 27, Dec. 2
Chicago, Chicago	Sept. 18 to 23
Chicago Exposition	Sept. 6 to Oct. 21
Cincinnati Industrial, Cincinnati	Sept. 6 to Oct. 7
Illinois, Peoria	Sept. 25 to 30
Illinois Fat Stock, Chicago	Nov. 16 to 23
Indiana, Indianapolis	Sept. 25 to 30
Iowa, Des Moines	Sept. 1 to 8
Kansas, Topeka	Sept. 11 to 16
Kentucky, Lexington	Aug. 29 to Sept. 2
Maine, Lewiston	Sept. 2 to 29
Michigan, Jackson	Sept. 18 to 22
Minnesota, Rochester	Aug. 31 to Sept. 8
Minn. Agricultural and Mechanical, Minneapolis	Sept. 4 to 9
New York, Utica	Sept. 25 to 29
Ohio, Columbus	Aug. 28 to Sept. 1
St. Louis, St. Louis	Oct. 2 to 7
Tompkins Co., Ithaca, N. Y.	Sept. 26, 27 and 28
Vermont, Burlington	Sept. 12 to 15
Wisconsin, Fond du Lac	Sept. 11 to 16

The attention of our readers is directed to the advertisement of James Sharman, of Stratford, Ont. Mr. Sharman manufactures an excellent 4-horse power Threshing Machine, which to farmers who wish to do their own threshing is specially recommended. This machine was in operation at the Provincial Fair at London in 1881, and gave great satisfaction.

C. C. Bridges, of Shanty Bay, Ont., says of the Empire Horse and Cattle Food: "I like the food well, and will soon send you a further order." Try some for yourselves and prove its value.

Manitoba Letter.

FROM A CORRESPONDENT.

West Lynne, August 10th, 1882.

The weather during the latter part of last month and the beginning of this has been hot, hotter than it has been for many years, the mercury rising to 105 in the shade, with a close, murky atmosphere, something rather unusual in this Province. Grave fears were entertained at one time for the safety of the wheat crop, owing to the excessive heat; but the tidal wave has passed over, the atmosphere is again clear, and no perceptible damage has been done to the growing crops, as the recent reports from all parts of the Province state that the crops are good, and a large yield is expected. According to the last revised assessment roll there is 20,000 acres under cultivation in this section, and the crops are above an average. Wheat is unusually well headed and filling fine. Oats and barley are extra good. Potatoes promise an abundant yield, and other root crops are good. Harvest is again at hand, though at a later date than last year. A few fields of barley were cut last week, and in a few more days the prairie will be dotted with self-binders, making a pleasing and interesting sight. Reapers are almost things of the past in this section, as the majority of farmers are using binders. Each binder saves the labor of five men and binds the grain neater and better than done by hand. A large quantity of hay has been put up in good order, and those that have secured more than they need for themselves, and have it for sale, will find a good demand for it at a paying price, owing to the large immigration into the Province, and the territory north and west of us. One party has contracted with the C. P. R. Co., to put up 500 tons for said Company. The total number of immigrants that have arrived in the country this spring at the Emerson Immigration Agency, up to the end of June, numbers 41,693. The monthly returns are as follows:—January, 2,527; February, 3,179; March, 8,659; April, 10,670; May, 8,831; June, 7,827. Farm hands are very scarce: from \$40 to \$50 a month are paid to men, and a full supply cannot be obtained at those figures. With scarcity of help and large crops to be saved the farmers will have a lively time for a few weeks. If it were not for the binders working so successfully a portion of the crops in this section could not be secured. The annual exhibition of Morris Electoral Division Agricultural Society, is to be held at West Lynne, on the 5th and 6th of October next. Liberal prizes are offered, and the directors are striving hard to make it one of the most successful Exhibitions ever held in the Province. Mr. Acton Burrows, Deputy Minister of Agriculture and Statistics, has been selected, at the request of Hon. J. H. Pope, and the Arts and Agricultural Association, to take charge of the exhibits from Manitoba and the North-west, that are to be sent to the approaching Provincial Exhibition at Kingston. William Stephenson, Manager of the Lowe Farm evidently intends to become an extensive stock raiser, as well as a great wheat grower. He has purchased from a prominent breeder in this locality a fine young Short Horn Bull to place at the head of a herd of sixteen cows. Shippers are greatly annoyed at the way in which the C. P. R. is managed, and a reform is loudly called for. One firm in Ontario shipped several car loads of mowers some time since, and no tidings have been heard of them. Another party shipped a car load of household goods at St. Thomas to Portage la Prairie, and after a month's delay and several trips from the Portage to Winnipeg, he found his goods at the side of the road; about a mile from the station, at Winnipeg, almost ruined.

Seed Wheat.

Farmers desiring new seed wheat would do well to consult the advertisements of Thos. Manderson, Geo. McBroom and Pearce, Weld & Co., which appear in this issue.

SIR,—I want to get a knitting machine. Please let me know where they are manufactured. Your early reply will oblige.

J. M., West Huntingdon.

[Perhaps some of the manufacturers of these machines might profitably use our columns.]

Read our fall campaign advertisement, and if you can spare a few hours, obtain a few new subscribers and secure some of our valuable prizes.

The Wheat to Grow.

RECOMMENDATIONS OF THE MILLERS.

At a meeting of the Waterloo County Millers' Association, held at Waterloo last week, after full discussion of the subject, it was decided:

1. To recommend farmers to grow the following varieties of fall wheat as possessing good milling qualities, viz.: Mediterranean, Scott, Michigan Amber, Democrat, and Treadwell. The Fultz was condemned as unsatisfactory, and it was decided that five cents per bushel less be paid for it than for the other varieties of fall wheat.

The Wild Goose spring wheat was condemned as a very poor wheat, and the following resolution passed respecting it: "Whereas a certain kind of spring wheat known as Rice, Wild Goose, or Aronecta, has been grown by farmers for the past few years, and a practice becoming prevalent amongst them and wheat buyers to mix it with other varieties, it not having the milling or flouring qualities similar to other kinds, therefore be it

Resolved,—"That the members of the Waterloo County Millers' Association will in future not consider (accept) the Rice, Wild Goose or Aronecta wheat as merchantable to be classed with other varieties (unless a change occurs in its favor), and therefore strongly urge upon farmers as well as wheat buyers, not to mix said wheat with other kinds, but to offer it separately and have it sold on its own merits."

On motion it was decided that in case any wheat buyer tries to fraudulently pass off such mixture on any member of the Association, on the refusal of said wheat buyer to rectify the matter, the Association would test the matter in a court of law.

Some valuable Clydesdale horses arrived here today by the steamer *Manitoba* for Messrs. Jeffery Bros., of Whitby.

The annual report of Samuel Wilmot, superintendent of fish culture for Canada, contains, as usual, a most interesting account of one of the most useful departments of our Government, and only our limited space forbids a brief review of the good work done by an able officer.

Any subscriber or other friend receiving two copies of our Exhibition or September issue, will kindly hand to any farmer not yet on our list.

Readers of the FARMER'S ADVOCATE who order any goods advertised in this issue, or ask for information about them, will help the FARMER'S ADVOCATE, and often help themselves also, by stating that they saw the advertisement in this journal.

The Canadian Fruit Express Company of Montreal is an organization which intends exporting fruit to Europe. J. M. Greenshields is Secretary-Treasurer. Some apples kept for two years were shown to have been admirably preserved by the system which they are using.

The Royal Agricultural Society of Great Britain has sent out Mr. Mollison, who will remain in Canada for three months to report fully upon the advantages of the Dominion for tenant farms in connection with the society.

If you wish to win a really good, valuable prize, send in one or more new subscribers for the coming year. If a sample copy is desired, forward a postal card.

SAVING FIFTEEN DOLLARS.—It is announced that Daniel F. Beatty, Mayor of Washington, N. J., will for ten days sell his Beethoven organ to anybody who sends him a copy of this month's FARMER'S ADVOCATE, for \$75. As the usual price is \$90, this will be a saving of \$15 to the purchaser. Read his advertisement.

It appears that, not to be behind other guilds, the threshers have held their "convention," and arranged a tariff of charges. The meeting was held in this city some days ago, and it was resolved that the following tariff of rates for threshing be adhered to until further notice: Wheat, 3½c. per bushel; barley, 3c.; peas, 4c.; oats, 2c.; or at the rate of \$1.50 per hour, as the farmer may prefer.

Wm. Blackwood & Sons, publishers, of Edinburgh, Scotland, have sent us "On Polled Cattle," by Messrs. MacDonal & Sinclair. This work is well illustrated and gives a full and very interesting account of the origin, improvement and characteristics of the Polled Aberdeen, or Angus cattle. The value of this work to our breeders generally will be soon appreciated. It is a book which no Polled breeder can do without.

The Western Dairymen's Association of Ontario will hold a cheese exhibition at Woodstock, Ont., on 11th and 12th October; \$1,000 to be awarded in prizes. Open to the world.

Oliver Ditson & Co., the well-known publishers, of Boston, U. S. A., make a very tempting offer in our advertising columns, and our music-loving readers will no doubt liberally patronize this reliable house.

Stock Notes.

John C. Ross, of Jarvis, Ont., has reached home with a fine importation of Cotswold, Oxford Down, Shropshire Down and Southdown sheep.

Our readers are directed to the advertisement of Shorthorn bulls for sale at Ridgewood Park, Goderich, Ont. These bulls all belong to the Princess family, and are well worthy to head any farmers herd.

The attention of our breeders is called to the great sale of 150 Herefords draft from the famous Brockhampton herd of Invincibles, to take place on the 14th inst. This sale is a draft from the well-known Brockhampton Herd of Invincibles, probably the largest herd of pure bred Herefords in the world.

A peculiar cattle disease is raging at Lynn, a little settlement near Five Islands, Colchester County, N. S. The animals affected lose the use of their limbs. Several cows have been shot to put them out of their misery, and it is reported that over twenty cattle have perished. The attention of the Minister of Agriculture is to be called to the matter.

Messrs. Anderson & Findlay, of Lake Forest, Ill., have some 35 head of Polled cattle just released from quarantine. These, added to what they already have, gives them a herd of about 70 head, of which they offer a number for sale.

No matter what your business or calling, it will pay you to advertise. You can have an advertising contract at any price from 50c. to \$500. Think it over.

Messrs. Dryden & Spencer, of Brooklyn, Ont., have collectively imported about 150 Shropshire sheep. They are making some excellent sales, as the demand is now fairly set in for this class of sheep.

The sixth annual sale of stock by the Ontario Experimental Farm, will take place on 13th Sept. Catalogues are now ready and can be had on application.

Mr. Henry Arkell, of Arkell, Ont., arrived home from England, per steamer Buenos Ayrean, with a flock of seventy-two Oxforddown and twenty-four Cotswold sheep, also one Lincoln ram, and ten Berkshire pigs. Sixty-two of the sheep are for himself, and thirty-four for Mr. Peter Arkell, of Teeswater, Ont.

Bow Park, Brantford, Ont., has had two valuable additions to their herd—Waterloo 36th, and roan Duchess 16th, both giving them red cow calves by 4th Duke of Clarence. The Canada West Farm Stock Association intend to make a grand exhibit at the fat stock show in November, to be held at Chicago, Ill.

An Order-in-Council has been passed declaring Patridge Island, near St. John, N. B., a cattle quarantine station between the dates of April 30 and September 30 in each year. Cattle for breeding purposes may be admitted for quarantine at such station subject to the regulations and restrictions contained in the "Health of Animals Order" dated April 23, 1880.

I. H. Dahlman, New York city, the largest horse dealer in America, said: "I handle from \$9,000 to 10,000 horses annually. The great proportion, nearly all the draft horses I handle are one-half and three-fourths blood Percheron-Normans. They are docile, intelligent, easily broken, steady in harness, powerful, compactly built, short in back, deep in body, and broad in chest, and the best feet of any horse in America, standing work on the pavements better than any other breed."—*Chicago Tribune*. The introduction of French horses is largely due to Western enterprise, and the country, in this respect, is greatly indebted to M. W. Dunham, of Wayne, Ill., who has imported and bred nearly 1,000 of them, which have been distributed to all parts of the United States and Canada for breeding purposes. He now has on hand about 400.

H. Walker & Sons, of the Essex stock farm, Walkerville, Ont., will make a grand exhibition of Percheron stallions and other thoroughbred horses at the Toronto and Western Fairs. Don't fail to see "Romulus."

Breeders and others who desire first class cuts of animals or implements, either taken before or at the coming exhibitions, would do well to write to this office for terms, &c., giving full particulars of wood cut desired.

E. Dillon & Co., Bloomington, Ill., writes:—"We have just arrived with our new importation of Norman-French horses. Sailed from Havre, France, July 10th, on steamer Denmark, with one hundred and three head of Norman horses; arrived in New York July 25th without the loss of one. We left New York via Pennsylvania Central R. R. in special train of 24 cars, and reached home in four days. Our horses are all in fine condition except one stallion that got injured on board the ship. They are mostly two and three years old, principally dark, dapple greys, and we have some beautiful dark bays and blacks.

The Hon. Walter Brougham, of Brougham Hall, Penrith, visited Mr. Wilken, Waterside of Forbes, Scotland, lately, and made some purchases of non-pedigreed heifers in calf to pedigreed sires, also one pedigreed heifer with bull calf at foot. The intention is to cross the heifers with a Shorthorn bull, to try to produce blue grays.

Mr. Andrew Easton, a native of Roxburghshire, has purchased a nice selection of Shropshire shearlings, mostly females, from the old established and carefully managed flock of Mr. Gibson, Woodmet. The animals have been secured at high prices, and are to be despatched to Mr. Easton's flock in Ontario, Canada. Mr. Simon Beattie has also made some purchases from Mr. Gibson with a view to exportation.

A Canadian Fresh Meat Importation Company has been formed in London, Eng., for the purpose of placing cheap and wholesome meat at the command of all classes. It will import only first quality fresh meats of all kinds from Canada into the United Kingdom. The capital stock of the company is £50,000 in shares of £1 each. The directors also draw attention in their prospectus to the well-known superiority of Canadian cattle over those exported from the United States. The company will be their own importers and sell direct to the consumer from its own depots. The average cost of the meat delivered in England is 5d. per pound. A contract has already been made with a responsible party in Canada to supply the meat.

Commercial.

THE FARMER'S ADVOCATE OFFICE, }
London, Ont., Sept. 4, 1882. }

The past month has, on the whole, been very favorable for harvest work. Still there are a good many oats still in the fields; the enormous crop of straw, and being badly lodged, making it very tedious work harvesting.

WHEAT.

The market for this article cannot be said to be settled as yet, the opinion of some being that prices must come still lower. There seems to be no doubt that the wheat crop of the United States and Canada is a heavy one, but whether sufficiently in excess of that of 1880 to tell on the market remains to be seen. The following very pithy remarks are from a New York product circular:

That six hundred million wheat crop of the United States in 1882.—Is it six hundred million? We estimate it at about five hundred million. If it is six hundred million bushels, what would be the probable average export price of wheat for the crop year 1882-3?

The importing countries of Europe for this crop year will probably not require to exceed 220,000,000 bushels of wheat. Wheat exporting countries, other than the United States, may have a surplus this crop year ranging from 120,000,000 bushels minimum to 150,000,000 bushels maximum. If the United States has a wheat crop of 600,000,000 bushels, then it has full 300,000,000 bushels surplus available for exportation. This would give the world an available supply for the crop year 1882-3 of 420,000,000 to 450,000,000 bushels, when only 220,000,000 to 250,000,000 bushels are wanted. A merchant of the Exchange, who has been long in the export business, who is quick at figures and sharp at drawing conclusions, says: "If we have a

600,000,000 wheat crop, what will be the average export price of wheat?

With us in Canada the yield will be heavy, and the sample, on the whole, we think, will be good.

BARLEY

Has suffered a good deal in some sections from the wet weather, and no doubt a good deal will be unfit for malting purposes.

CLOVER SEED

Is looking well, but the acreage is not large.

CORN

In Canada is not very heavy, but a fine, warm September will materially aid the growing crop.

The Toledo Produce Exchange Circular says: "Something unusual in the history of Ohio is now occurring in the mining region of the Ohio River."

HOGS

The price of hogs is very high, and farmers cannot look for much advance if prices can be maintained.

APPLES

The apple crop will not be a very heavy one, still there are a good many apples in some sections, and the quality of winter stock promises to be very good.

"The prospects for American apples during the coming season have not been so good for some time. For early shipments tough skin apples should be sent."

CHEESE

The trade in this article is at a stand still, the views of buyers and sellers being too far apart for business. July cheese have all gone forward, and the result is that factory men have got over the most anxious part of the season.

BUTTER

This article for export is at a stand still, and stocks are accumulating. The situation is so well portrayed by the Montreal Gazette that we give the same below:

Dull and unsatisfactory as the butter market continues to drag along, it is not without its interesting features, the farmers being upon one side, say with about 50,000 tubs (some estimated more and others less), while on the other side are the shippers ready to buy as soon as they can handle it to advantage.

is on hand at the commencement of the fall season, and when the demand sets in from the other side it will undoubtedly be for fine fall goods, as it has been repeatedly demonstrated of late years that English consumers, rather than take our stale summer butter, will fall back upon fresh continental butterine.

When it is considered that the United States have taken such an immense amount of Canadian produce this year, and when it is remembered that that country not only relieved the dullness of the butter market here last season, when England would not take a package, but actually imported the bulk of our surplus stock, we consider the improvement that has taken place there of late is a most important item of news, although as yet it has been of no benefit to this market; but if the price of choice dairy and creamery butter in New York and Boston continues to advance as it has done for the past two weeks, it must soon be felt here on corresponding qualities, although it seems to us too good a thing to expect thus early in the season.

Agents of the large dairy produce houses in Normandy and France attend the local markets, buy the butter from the farmers, who in their interest attend to rules laid down by buyers. It is then carted to the stores or factories, and then put through a machine, so that instead of having 1,000 different lots, varying from twenty to fifty pounds each, they turn out many tons per day of precisely the same sample.

FARMERS' MARKET.

LONDON, ONT., Sept. 2nd, 1882.

Table listing market prices for various goods like Red wheat, Deihl, Treadwell, Clawson, Corn, Oats, Poultry, Ducks, Geese, Turkeys, Chickens, Hops, Live Stock, Milch cows, and Live hogs.

FLOUR AND MILL FEED.

Table listing prices for Flour (Fall, Mixed, Family, Oatmeal) and Mill Feed (Cornmeal).

TORONTO, ONT., Sept. 2nd.

Table listing market prices for various goods like Wheat, Barley, Oats, Rye, Beef, Mutton, Lamb, Veal, Hogs, Potatoes, Apples, Peas, Beans, Onions, Chickens, Fowls, Ducks, Geese, Turkeys, Butter, Eggs, Wool, Hay, and Straw.

GRAIN AND PROVISIONS.

MONTEAL, Sept. 2.—The local grain market was quiet and without change to-day. Canada white winter is quoted nominally at \$1 18 to \$1 19; Canada red, \$1 30 to \$1 35; Canada spring, \$1 20 to \$1 25.

PROVISIONS.

The butter market is as dull as well can be. It is difficult to know at what prices exporters would take hold. This week's shipments of both butter and cheese are greatly in diminution of those of last week, being—Cheese, 15,691 boxes, and butter 156 packages, against cheese, 43,738 boxes, and butter 2,459 packages.

Liverpool, Sept. 2.—Flour, 12s; spring wheat, 9s; red winter, 9s 2d; white, 9s 9d; club, 10s 1d; corn, 7s 4d; oats, 5s 4d; barley, 6s 6d; peas, 7s; pork, 10s 6d; lard, 63s; bacon, 73s; tallow, 44s 6d.

Halifax, N. S., Sept. 1.—Flour market without change supply much in excess of demand; choice pastry, 88 to 88 50; superior extra choice, 86 90 to 87 10; superior extra, 86 55 to 86 70; extra superfine, 86 40 to 86 50; spring extra, 86 25 to 86 35; strong bakers', 86 85 to 87 10; superfine, 86 to 86 10.

St. John, N. B., Sept. 1.—Flour and meal—Canada spring extra per bbl., 86 25 to 86 35; Canadian extra, 86 45 to 86 55; Canada superior extra, 86 85; high grade family, 87 25 to 87 75; American strong bakers', 88 to 88 50; rye flour, 86 25 to 86 50; oatmeal, 86 10 to 86 25; cornmeal, 84 55 to 84 60.

DAIRY MARKET.

Liverpool, Eng., Sept. 2.—Per cable: Cheese, 56s. London, Ont., Sept. 2.—At to-day's market 32 factories offered 10,810 boxes. No sale was reported; 11c was offered and refused.

Little Falls, N. Y., Aug. 28.—We have had another dull day and very light sales. Many refused 10c., and a considerable number said they would not take 11c. The production is so much less than last year, when prices at this time were 11 1/2 to 11c., that factorymen feel sure that the market must improve.

Table with columns: Lots, Boxes, Price. Lists various lots of farm dairies and their prices.

Farm Dairies.—There were 731 boxes farm cheese sold at 10 1/2 to 10c., mostly at the latter price, and one small lot reached 11c.

Butter.—Butter has again advanced in price, 63 packages sold, prices of farm dairy being 26 to 29c., with the bulk at 29c.; creamery sold at 30c.

Utica, N. Y., Aug. 28.—A fair amount of business was transacted to-day at a single quotable price—10c. The market was dull, salesmen resisting the decline to the very last moments, and several going away without disposing of any cheese.

Butter.—Seventeen packages dairy butter brought 28c.

LIVE-STOCK MARKETS.

BRITISH MARKETS, CABLE.

CATTLE.

The demand is steady, but trading is slow. Supplies fair. Prevailing prices are as follows:

Table listing prices for Cattle: Finest steers, Good steers, Medium steers, Inferior and bulls.

[These prices are for estimated dead weight; offal is not reckoned.]

SHEEP.

There was also a heavy decline in the sheep market, and trade is considerably unsettled. Current rates are:

Table listing prices for Sheep: Best long woolled, Seconds, Merinos, Inferior and rams, Shorn sheep.

[These prices are for estimated dead weight; offal is not reckoned.]

GLASGOW—BY CABLE.

Glasgow, Aug. 25.—The market is less active than last week, but in prices there is no quotable change. English markets are duller, but there is no change from last week.

Present prices for cattle, hogs and sheep (dressed weight sinking the offal) are as follows:

Table listing prices for Glasgow: Top American steers, Good heifers, Good Canadian sheep.

MONTEAL, Aug. 29.—The offerings of milch cows at this market to-day were very limited, comprising only some twelve head. There was a fair demand, and all the offerings were disposed of. The two best cows on the market sold for \$123, and one of fair quality brought \$45. The remainder were all inferior beasts and sold at low prices.

NEW ADVERTISEMENTS.

Highly Important Notice to Breeders and Exporters of Pure-bred

PEDIGREE HEREFORDS.

Attractive and Bona-fide Sale of a Draft of 150 Head of the

Brockhampton Herd of Invincibles

—which— J. H. BARNEBY LUTLEY, ESQ. has honoured ROGERS HAMAR & PYE

To Sell by Auction on Thursday, the 14th Day of September, 1882, at

The Warren, Brockhampton, Bromyard, Herefordshire, England.

The Brockhampton Herd (which numbers nearly 300 head) may challenge any in the world for both numbers and quality...

Catalogues now ready, to be had of the Auctioneers, Pedigree Hereford Salesmen and Compilers of the Record and Register of Transactions in Hereford Cattle, Hereford, Herefordshire, England.

ROGERS' WHEAT!

This is a bald headed variety which we have received from Pennsylvania, and has given immense satisfaction there—the yield being from five to ten bushels per acre more than any other sort...

Price—per bushel, \$2.75; lot of five bushels or more, \$2.50; five pounds, by mail, postage prepaid, to any part of Canada, 75 cents. Cotton bags 25 cents each.

DEMOCRAT WHEAT!

After two years' trial in Canada on all kinds of soil, this variety has proved to be the hardest and most productive of all varieties, and for milling purposes has no superior...

Our stock is limited and we advise early orders, as my present prices only hold good as long as stock lasts.

Prices and samples mailed on application to any address.

GEORGE MCBROOM, Seed Merchant and Importer, LONDON, ONTARIO, CANADA

HAVING lately arrived from England, I now offer for Sale

30 Oxforddown Shearling

—AND— Two Shear Ewes, One Shearling Ram and Seven Ram Lambs,

Bred by Mr. Wm. Arkell, of Hatherop, Mr. Hobb's Maisey Hampton and Robt. Hobb's Kelmsett; also twenty Cotswold yearling and ten Shear Ewes, one two year Shear Ram and Three Ram Lambs, bred by Mr. Robt. Jacobs, of Burford, and Mr. Henry Akers, of Black Burton, Oxfordshire, England.

Some of the lots are from the first and second prize pens at the Royal Show. The Oxforddowns were also highly commended at the same Exhibition.

HENRY ARKELL, Arkell P. O., Ont.

DEMOCRAT WHEAT.

The "DEMOCRAT" stands to-day at the head of the list for reliability, being very hardy, not subject to winter killing, blight or rust, very productive, yielding from 5 to 10 bushels more than any other variety...

PEARCE, WELD & Co., Seed Merchants, London, Ont.

POULTRY FOR SALE.

PAIRS OR TRIOS OF YOUNG OR OLD BIRDS from 30 varieties of Land and Water Fowls, such as extra Bronze Turkeys, 4 kinds of Geese, 3 of Ducks, Games, Houdans, P. Rocks, Cochins, Brahmas, etc., etc.

W. H. BROWNE, COLUMBUS, ONT.

PROVINCIAL EXHIBITION MONTREAL,

September 14th to 23rd.

Agricultural and Industrial.

\$25,000.00 IN PREMIUMS

Ample grounds and magnificent buildings for the display of Live Stock, Manufactured Articles, Agricultural Implements and Machinery in motion.

The Exhibition will be open on the 14th September; Cattle and Live Stock will come in on the 18th, on and after which date the Exhibition will be complete in every detail.

Reduced rates are offered by all the principal Railway and Steamboat Companies.

Exhibitors will please make entries as early as possible. For Prize Lists, Blank Forms of Entry and all information, apply to the undersigned.

GEORGE LECLERE, Joint S. C. STEVENSON, Secretaries.

76 St. Gabriel Street, Montreal.

BY AUCTION.

33 Thoroughbred Shorthorn Cattle

30 Leicester Sheep,

and a few choice

BERKSHIRE PIGS, on

THURSDAY, OCTOBER 5, 1882

WM. DOUGLAS, Caledonia P. O.

Four miles west G. T. and N. & N. W. Rys.

WHITE MOUNTAIN—A new Beardless-

variety of Fall Wheat, with large white grains. For hardness it has no equal, and as for productiveness the yield tells: 100 bushels being raised from four bushels sown on pea stubble the past season.

It has been offered for sale in the Dominion to offer in order to secure a continuance of custom to offer nothing which I have not tested and can recommend. I trust that those who order the White Mountain will be as well satisfied with it as I have been.

Prices—\$2 per bushel; bags 25c extra when single bushel is ordered, but for every two bushels ordered bags gratis. Remit by P. O. order or bills in registered letter. In ordering state whether you want it sent by freight or express, also the name of your nearest railroad or express office with your P. O. address. To prevent mistakes write as plain as possible. Address to THOMAS MANDERSON, Guelph Township, Ont.

State where you saw this advertisement.

MERCHANTS' UNION BARBED

FENCE COMPANY,

LONDON, ONTARIO.

A fence which will turn anything, and is not Dangerous to Man or Beast.

A FLAT STEEL STRIP BARBED FENCE

This fence will be on exhibition at all the principal fairs during the coming fall. It is only manufactured by the Merchants' Union Barb Fence Co., of London, who hold the patents for the Dominion, and are outside of any or all combinations.

POT-CROWN STRAWBERRY PLANTS

Newest and Best Varieties combined with the most liberal offers ever made to the public.

Send stamp for Catalogue. Address—

E. P. ROF, CORNWALL-ON-HUDSON, N.Y.

I HAVE 20 EWES OF THE OXFORD DOWN Breed, and 10 Rams of the same Breed, to sell. All imported just lately from the best flocks in England. I intend to exhibit at Toronto, Kingston and London.

PETER ARKELL, Teeswater P. O., Ont.

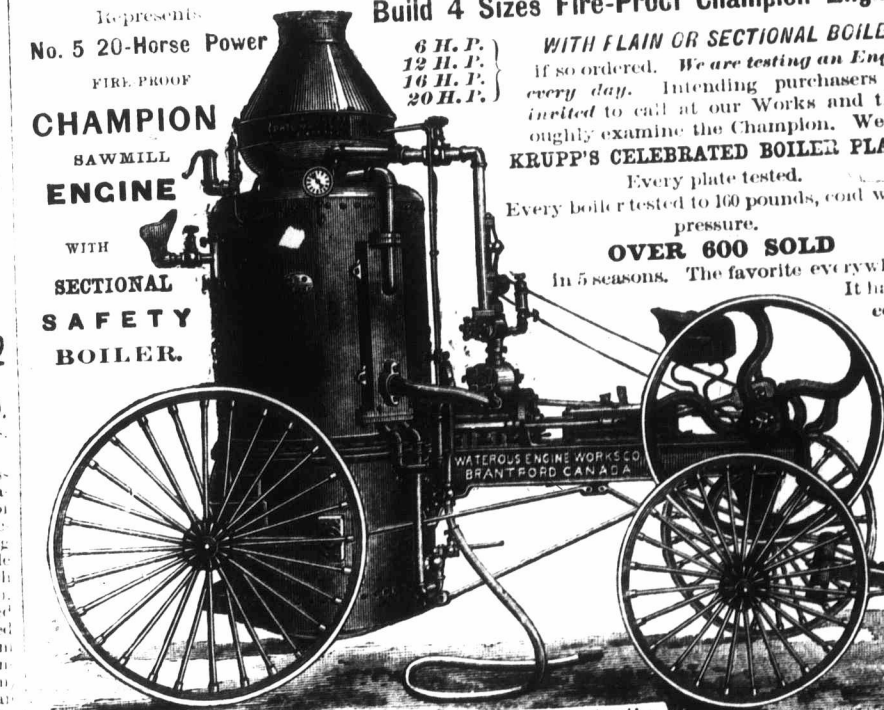
AGENTS WANTED EVERYWHERE to sell the best Family Knitting Machine ever invented. Will knit a pair of stockings with HEEL and TOE complete, in 30 minutes. It will also knit a great variety of fancy-minutes. It will also knit a ready market. Send work for which there is always a ready market. Send for circular and terms to the Twombly Knitting Machine Co., 163 Tremont Street, Boston, Mass.

2806 Lbs. Weight of Two Ohio Improved Chester Hogs. Send for description of this famous breed, Also Fowls, L. B. SILVER, CLEVELAND, O.

SONGS, One Cent Each

- 1 Baby Mine. 2 The Old Cabin Home. 3 The Little Ones at Home. 4 See That My Grave's Kept Green. 5 Grandfather's Clock. 6 Where Was Moses when the Light Sweet By and By. 7 Went Out. 8 Whoa, Emma. 9 When you and I were Young. 10 When I Saw Sweet Nellie Home. 11 Take This Letter to My Mother. 12 A Model Love Letter.—comic. 13 Wife's Commandments.—comic. 14 Husband's Commandments. 15 Little Old Log Cabin in the Lane. 16 Marching Through Georgia. 17 Widow in the Cottage by the Sea. 18 The Minstrel Boy. 19 Take Back the Heart. 20 The Faded Coat of Blue. 21 My Old Kentucky Home, Good Night. 22 I'll be all Smiles to Night Love. 23 Listen to the Mocking Bird. 24 Her Bright Smile Haunts Me Still. 25 Sunday Night When the Parlor's The Gypsy's Warning. 26 'Tis But a Little Faded Flower. 27 The Girl I Left Behind Me. 28 Little Buttercup. 29 Carry Me Back to Old Virginia. 30 The Old Man's Drunk Again. 31 I Am Waiting, Essie Dear. 32 Take Me Back to Home & Mother. 33 Come, Sit by My Side, Darling. 34 Kiss Me, Kiss Your Darling. 35 A Flower from Mother's Grave. 36 The Old Log Cabin on the Hill. 37 Coming Thro' the Rye. 38 Must We, Then, Meet as Strangers? 39 The Kiss Behind the Door. 40 I'll Remember You, Love, in My Prayers. 41 You May Look, but Musn't Touch. 42 There's Always a Seat in the Parlor for You. 43 I've no Mother Now, I'm Weeping for You. 44 Massa's In de Cold, Cold Ground. 45 Say a Kind Word When You Can. 46 I Cannot Sing the Old Songs. 47 Norah O'Neal. 48 Waiting, My Darling, for Thee. 49 Jennie the Flower of Kildare. 50 I'm Lonely Since My Mother Died for You. 51 Willie, We have Missed You. 52 Don't You Go, Tommy, Don't Go. 53 I'll be all Smiles to the Poor House. 54 Don't be Angry with Me, Darling. 55 Flirtation of the Fan. 56 Why did she Leave Him? (Lover). 57 Thou Hast Learned to Love Another. 58 There's None Like a Mother. 59 Whose False, but I'll Forgive. 60 You Were Saffly, Mother's Dying. 61 Will You Love Me, When I'm Old. 62 Annie Laurie. 63 Sherman's March to the Sea. 64 Come, Birdie, Come. 65 Love Among the Roses. 66 Old Arm Chair (as sung by Barry.) 67 The Sailor's Grave, (In the Garden) 68 Farmer's Daughter; or Chickens 69 Oh! Dem Golden Bippers. 70 Poor, but a Gentleman Still. 71 Nobody's Darling but Mine. 72 Put My Little Shoes Away. 73 Darling Nellie Gray. 74 Little Brown Jug. 75 Bon Bon. 76 Good-Bye Sweetheart. 77 Sadie Hay. 78 Tim Flanagan's Wake. 79 The Hat My Father Wore. 80 I've Only Been Down to the Club. 81 Kiss Me Again. 82 The Vacant Chair. 83 The Sweet Sunny South. 84 Come Home, Father. 85 Little Maggie May. 86 Molly Bawn. 87 Sally in Our Alley. 88 Poor Old Ned. 89 Man in the Moon is Looking. 90 Broken Down. 91 My Little Omg, Waiting for Me. 92 I'll Go Back to My Old Love Again. 93 The Butcher Boy. 94 'Tis O'wino Back to Dixie. 95 Where is My Boy To-Night. 96 The Five Cent Shavo. 97 Ring, Not Darling. 98 Dancing in the Sunlight.

We will send by mail, post-paid, any ten of these songs for 10 cents; any twenty-five songs for 15 cents; any fifty for 25 cents. Or we will send all the above one hundred songs, post-paid for 40 cents. Remember, we will not send less than ten songs. Order songs by NUMBERS only. Send one or three cent postage stamps. Valuable Catalogue Free. Mention this paper. WORLD MANUFACTURING CO., 122 Nassau Street, New York.



The sectional safety boiler is manufactured expressly for the "North West" trade. This boiler is so arranged that it is readily taken apart in section enabling purchasers to clean thoroughly every part of it and prevent burning on Western prairies. Largely used by the Pacific Railway Company and all the large Colonization and Rancho Companies.

ADDRESS WATEROUS ENGINE WORKS CO., BRANTFORD, CANADA.

SEND FOR NEW CIRCULAR

EMPIRE Horse and Cattle Food

From the Original Recipe of MR. JOSEPH THORLEY, of London, England.

See our Illustrated Farmer's Almanac, with Produce Table of Live Stock, with space for registering names of animals, sent free on application.

Read the following Testimonials, which will speak for themselves:

Ontario Agricultural College,
Guelph, June 20, 1882.

To the Empire Horse and Cattle Food Co.:

DEAR SIRS,—We have made a thorough trial of your "Empire" Food during the last two years, and can with confidence recommend it to those requiring to tone up, top off, appetize, and generally invigorate all kinds of live stock.

Yours,
W. M. BROWN,
Professor of Agriculture and Farm Supt.
Norwich, May 2nd, 1882.

D. A. Kirk, Druggist:
DEAR SIR,—During the past winter we have used several kinds of horse and cattle foods in feeding our large stock of cattle, such as "Thorley Improved," "Yorkshire," and "Empire," and we unhesitatingly pronounce the "Empire" to be the best, after giving it an impartial trial, and would recommend it to all who keep live stock. One animal that was fed on the "Empire" Food gained 110 lbs. in 26 days, or at the rate of 4 3/4 lbs. per day.

Yours truly,
A. J. STOVER & SONS,
Breeders of Shorthorn Stock.

Manor Farm, Gowan Station, May 1, 1882.

Empire Horse and Cattle Food Co., Mitchell, Ont.:

GENTLEMEN,—Yours of May 1st to hand. I shall be obliged by you sending me 300 lbs. more of your Food to Gowan Station. With regard to this article, having used it both in this country and in England, I think I am justified in giving my opinion on the matter. I think it is quite equal to, and probably better than any other food of the kind. My stockman here is well satisfied with it, and tells me that its use is easily seen in the handling of the animals he feeds it to, and I am sure for myself that it is an article well worth using.

Yours,
C. C. BRIDGES,
Shanty Bay P. O., County of Simcoe,
Importer and Breeder of Hereford Cattle, Shropshire Down and Southdown Sheep.

Woodstock, Ont., June 24th, 1882.

To the Empire Horse & Cattle Food Co., Mitchell:

GENTLEMEN,—Speaking about your food, after testing it thoroughly myself and getting opinions from a great many of the principal farmers in this section, I can recommend it very highly. I feel satisfied it is far ahead of any other food that I have seen offered for sale. I have now handled it for nearly two years. At first I thought it advisable to order only 100 lbs. at once, which I did for some time, but now, as you will see by last order a few days ago, I get it by the ton. All you require is to keep the Food up to its present and past standard, and I am sure you won't need to ask people to buy it. It will sell itself.

Yours truly,
W. H. MILLMAN.

Stratford, Ont., June 29, 1882.

To the Empire Horse and Cattle Food Co., Mitchell, Ont.:

GENTS,—After giving your Horse and Cattle Food a trial, we have just purchased a further supply, which is the best testimonial we can give as to its merits. I may say that formerly one of our horses, when heavily driven, would sometimes lose its appetite. Now it is always ready for its food. Since using your food our horses have done their work well, and kept in good condition. When in England I visited the Thorley Manufactory, and when visiting yours in Mitchell I could not help noticing the sameness, both as regards smell and appearance of the ingredients used at both places, and have every confidence that your Food is identical in all its essential ingredients with that which has caused Thorley's name to become a household word in England, and has given his celebrated food such a world-wide reputation.

I am, yours truly,
W. E. SHARMAN (Gadsby & Sharmar),
Marble Works, Stratford.

Thorold, June 29th, 1882.

Empire Horse and Cattle Food Co., Mitchell, Ont.:

GENTLEMEN,—We have great pleasure in recommending your Horse and Cattle Food to the public. Every one here that has used it speaks very highly of it. The amount of it that we have sold since it was first introduced here, Dec. 5th, 1881, speaks for itself. Our orders will show that we have sold 2,000 pounds. We will send you a number of testimonials from our customers, and hope we will have them in time for your almanac.

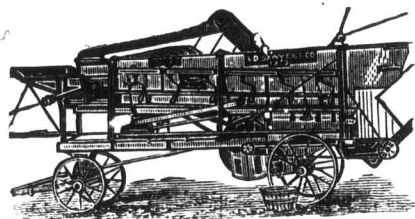
Yours truly,
GEARIN BROS.

MANUFACTURED BY THE
Empire Horse & Cattle Food Co.,
MITCHELL P. O., ONT.

HAMILTON Agricultural Works

The Pioneer Threshing Machine Works of Canada.

ESTABLISHED 1836.



Our Celebrated GRAIN SAVER is the Best and Most Perfect THRESHER and SEPARATOR made in the Dominion, being first over all others for

**Durability, Workmanship, Fast & Clean Work,
Perfection of Parts, Ease of Management,
Simplicity of Construction, Light-
ness of Draft, Capacity for Work.**

We have Machines working in all parts of Canada, giving the very best satisfaction, when driven by either Steam or Horse Power.

**It is a General Favorite with the Farmers, who prefer it
for Fast and Clean Work.**

SPECIAL SIZE MADE FOR STEAM POWER.

Address us for Circular and Price List of THRESHERS, CLOVER MILLS, HORSE POWERS REAPERS AND MOWERS. A personal inspection is solicited.

L. D. SAWYER & CO.,
HAMILTON, ONT., CANADA.

173-leom

A Monthly issue of over 2,000 Policies.

THE LONDON MUTUAL FIRE INSURANCE COMPANY OF CANADA

The only "FIRE MUTUAL" licensed by the Dominion Government.

40,000 Members. Head Office—438 Richmond-St., London, Ont.

DIRECTORS—James Armstrong, M.P., President; Daniel Black, Vice-President; Richard Biddulph, Angus Campbell, Samuel Eccles, Mr. Sheriff Springer, James Grant, J. Armstrong (Yarmouth), and John Hodgson, Tilsonburg. W. R. Vining, Treasurer. C. G. Cody, Fire Inspector.

D. C. MACDONALD, Secretary and Manager.

STATEMENT—1st January, 1882.

Amount of Available Premium Notes, unassessed balance.....	\$200,190 63
Assessments in course of collection.....	13,131 95
Bills Receivable.....	30,546 46
Agents' Balances secured by Members' Due Bills and Agents' Bonds.....	409 05
Office Furniture and Plant.....	500 00
Balance on Mortgages.....	648 53
Dominion Deposits for security of members.....	30,000 00
Accrued Interest.....	1,049 32
Cash in Federal Bank.....	10,032 00
Treasurer's hands.....	696 13
	\$287,204 07

LIABILITIES.

Borrowed Money.....	None.
Losses Adjusted, but not due.....	\$4,975 30
	\$282,228 77

Assets over Liabilities.....

This old and well-tried Company does a larger business in Ontario alone than any other Company, Stock or Mutual, English or Canadian, in the whole Dominion, having in the year 1881 issued no fewer than 13,949 Policies, a number never before exceeded, excepting by itself. The year 1881 was a most trying one for Insurance Companies, and this Company had an exceptionally heavy bill of losses, yet trying one for Insurance Companies, and this Company had an exceptionally heavy bill of losses, yet according to the Dominion Government returns, it was the only Canadian Company whose income exceeded its expenditure for the year. For insurance apply to any of the Company's Agents throughout the Province, or address the Manager, London, Ont.

BUCHANAN'S IMPROVED PITCHING MACHINE!

This is the Pitching Machine that has gained such universal favors throughout Canada. "No Equal or No Sale," has always been our motto. We will send to any responsible farmer on trial Works as well in peas and barley as it does in hay. Write for Circulars and Price List to

M. T. BUCHANAN.

196-41 DORCHESTER STATION, Ont

Important Sales in England.

Mr JOHN THORNTON will Sell by Auction on Thursday, October 5, about fifty head of Bates Short-Horns, including Kirkleyvintons, Wild Eyes, Cleveclands, and other choice sorts, bred by Duke of Tregunter 5th 33743, the property of Lord Feversham, at Duncombe Park, Helmsley, Yorks.

On Thursday, October 26, about fifty Short-Horns, the property of B. St. John Ackers, Esq., at Prinknash Park, Gloucester including many first-class animals of Booth blood that have been prize-winners. The success of Mr. Ackers' animals at the Philadelphia Exhibition, and also at the Royal English Shows is widely known. Catalogues may be had of JOHN THORNTON, 7 Princes St., Hanover Square, London, W.

FARMERS' SONS are greatly benefited by taking a COURSE at the

LONDON Commercial College!

This is the oldest, most popular, and most largely patronized business training school in the Dominion. Hundreds of young men from the country have secured good positions, at remunerative salaries, in Mercantile, Manufacturing and Banking establishments, after taking a few months course at this Institution.

For circulars containing full particulars,

Address—
W. N. YEREX, Principal,
Box 315, London, Ont.

W. & F. P. CURRIE & Co., 100 Grey Nun St., Montreal,

MANUFACTURERS OF

SOFA, CHAIR & BED SPRINGS

A LARGE STOCK ALWAYS ON HAND

IMPORTERS OF

Drain Pipes, Vent Linings, Flue Covers,
Fire Bricks, Fire Clay, Portland
Cement, Roman Cement, Water

Lime, Plaster of Paris, Eorax,

Whiting, China Clay, &c.

198-1

JERSEY BULLS.

OAKLANDS REX,

(No. 6830 A., I. C. C.)

This Albert-Pansy Bull, whose ancestors are among the greatest butter makers of living cows, and who is admitted to be one of the richest bulls living, and

LE BREVE,

(No. 5604 A., I. C. C.)

Chosen by Mr. Willis P. Hazard, acknowledged to be the best judge of Jerseys on this continent, is in his opinion "the best bull to be bought in America, regardless of price." Will serve a limited number of pure Jersey Cows at \$50 each. Keep \$2 a week.

The skin of both these Bulls is as yellow as gold, hair soft and hide most mellow. Le Breve is half brother to Welcome 1st Gueon. Prize bull over all Jerseys, and half brother to Noble 1st, prize bull over all England.

The Pure Jersey Bull
SIR GEORGE OF ST. LAMBERTS,

(No. 6036 A., I. C. C.)

Whose get can now be seen at any farm, and cannot be surpassed in quality and individual excellence, and whose half brother Nancy of St. Lamberts, made me 12 lbs. 13 ozs. of butter in seven days, at 2 years old. Will serve approved grade cows at \$5 each. Keep \$2 a week. None but A 1 cows or heifers approved of.

DAVID ROSS, Manager.

VALANCEY E. FULLER,

Oaklands Jersey St. Farm,

HAMILTON P. O.

FERTILIZERS.

—THE—

Brockville Chemical & Superphosphate Co'y

(Limited)

BROCKVILLE, ONTARIO.

MANUFACTURERS OF
Sulphuric, Nitric and Muriatic Acids
and of
Superphosphate of Lime.

—PRIZE MEDAL, CENTENNIAL, 1876—

This Superphosphate is manufactured from best Canadian Rock Phosphate, thoroughly dissolved and ammoniated, and is guaranteed of superior quality. Put up in barrels, 250 lbs. each net (8 to the ton). Price \$32.00 per ton, f.o.b. rail or boat. Send for circular. 190-1

DR. W. E. WAUGH,

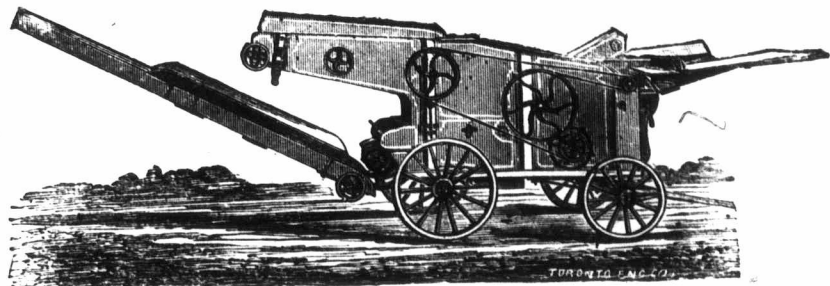
OFFICE—The late Dr. Anderson's, Ridout Street
LONDON, ONT. 193-4



FIFTEEN SOLID REASONS WHY THE WILLIAMS MACHINES Are the Best to Buy.

- 1st-They are built on the most approved mechanical principle. 2nd-Only the very best material is used in the construction. 3rd-All the essential working parts are made of finely-tempered English Steel. 4th-The fitting and adjustment is done by the most thorough and skilful workmen that money can procure. 5th-The woodwork is made of the best Black Walnut, thoroughly secured and beautifully polished. 6th-Our new patent Anti-Friction Stand does away with the noise of the old style, besides making the machine more light and easy running. 7th-They are the easiest Sewing Machine to learn. 8th-They are so extremely simple that a mere child can use them. 9th-The Self-Threading Arrangement does away with more than half the work of threading the machine. 10th-They do not get out of order if well oiled and properly used. 11th-With proper and intelligent care, a genuine Williams Singer will last an ordinary lifetime. 12th-They are built by a Canadian Company, and the money paid for them circulates in Canada and adds to the prosperity of our country. 13th-They are the most popular Sewing Machine in the market. 14th-They are built by a strong, reliable Company, whose guarantee is of some real value. 15th-They give better satisfaction than any other make.

Head Office-347 Notre Dame Street, Montreal, Q.



In Three Sizes-28, 31 and 36 in. Cylinder: 28 and 31 in. Cyl. for Farmers own use; 36 in. Cyl. for Large Farms or Travelling.

Straw thoroughly agitated. Shoe full width; end shake; complete cleaner; no waste, light running. PRICE 28 in. Cyl. Machine, 2-wheel truck, with Pitt's power, gear, carriers, complete, \$270.00. Send for circular with prices and testimonials.

JAMES SHARMAN, Stratford, Ont.

201-a



G. M. WEBER & Co., of KINGSTON, ONT., manufacture the best PIANOS

made in Canada. They are distinguished for the following qualities:-The tone is round, full and rich; the power equal to a grand; the touch elastic, and the repetition rapid; the workmanship and material of the very best material. Prices low. Send for catalogue. Address P. O. Box 979 Kingston. 198-d

FARMS FOR SALE

In Western Ontario a number of choice Farms. Full description list sent on application. Correspondence invited, full information given, and on personal application at my office plans of the townships shown, enabling strangers to see the position of properties and their proximity to towns, railway stations, &c. Farms with acreage to suit every one. Send to

CHARLES E. BRYDGES, Real Estate Agent

Land Office, 98 Dundas street west, London, opposite to the City Hotel, for list of farms for sale. 176-

THE BOOMER & BOSCHERT

CELEBRATED CIDER

PRESSES, GRATERS, Elevators, Pumps, Evaporators, etc. Send for Catalogue B. BOOMER & BOSCHERT PRESS CO. N.Y. City Office, 62 Vesey St. SYRACUSE, N.Y. 201-a

Windsor Hotel

PRINCESS STREET, KINGSTON, ONTARIO.

Centrally Located. First-class Billiard Parlor. Modern Improvements. Good Sample Rooms.

TERMS MODERATE. MARTIN O'BRIEN, Proprietor 197-e

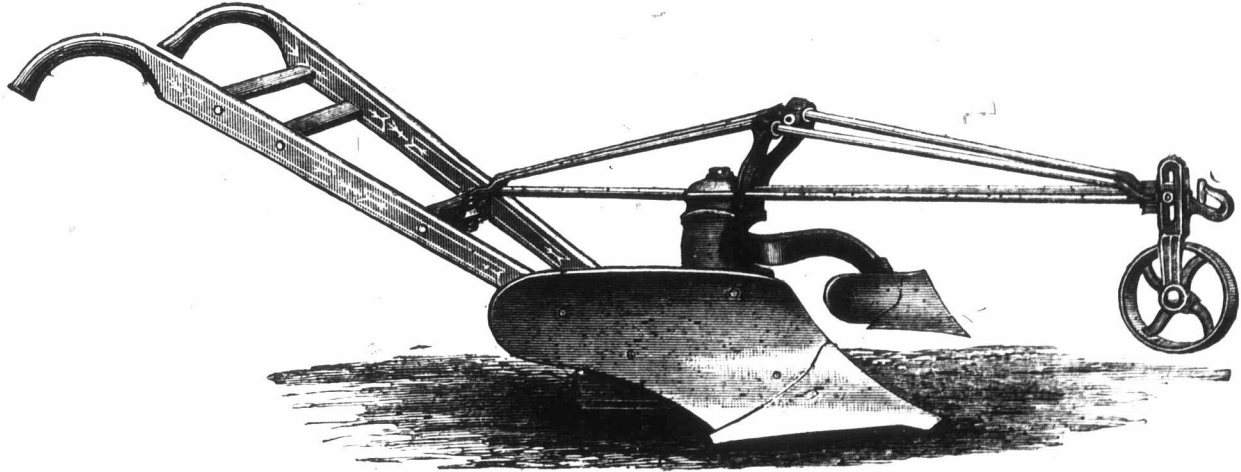
E.P. ROE'S ILLUSTRATED CATALOGUE

is now ready-sent free to all applicants. A superb stock of Pot-Grown Strawberry PLANTS. Plant now for Strawberries next June. A large and fine stock of the celebrated Bidwell, Jersey Queen, Seneca Queen and Manchester.

All the New and Standard SMALL FRUITS and GRAPE VINES. Address E. P. ROE, Cornwall-on-Hudson, N.Y. 201-a

THE "SEEGMILLER" TRUSS BEAM PLOW!

Flexible Wheel, Universal Standard Jointer Attachment.



This Celebrated Plow is made in Canada. It combines all the advantages of the best American chilled plows, with additional improvements. The material used in their construction is the best made; they are constructed by the most skilled mechanics; their durability and efficiency are unsurpassed. The thousands of testimonials from those using them are such as to satisfy all that this is the plow for the million.

I desire to inform the farmers of Canada that, although I am about to remove to the United States, to take charge of the Benton Harbor Plow Works, Benton Harbor, Michigan, I shall still retain an interest in the Seegmiller Plow Works, at Goderich, Ont. The Benton Harbor Plow Works have been erected for the special purpose of manufacturing the "Seegmiller" Plow to supply the demand which has arisen from its introduction among the farmers of the West. The manufacture of the "Seegmiller" Plow will be continued at the Goderich Factory by the firm under the style of Seegmiller & Co. They have already at this factory manufactured 2,500 plows for this season's trade, and are continuing their manufacture at the rate of 600 per month. However, the demand is increasing, and to meet this increasing demand they are enlarging their premises and hope shortly to be in a position to supply the Canadian trade. They will also continue to manufacture shares of the best charcoal iron for the "No. 40" and "E 2 Oliver" Plows, unequalled for wearing qualities. Farmers desiring the "Seegmiller" Plow, or repairs of either it or the "Oliver No. 40" or "E 2," and who are not near an agency, can be supplied by addressing Seegmiller & Co., Goderich, Ont. To such persons a reduction in the price of shares will be made if they are ordered by the dozen. Where Seegmiller & Co. have no agents, for \$10 they will send a Seegmiller Plow to any farmer in Ontario, Quebec, New Brunswick, Nova Scotia or Prince Edward Island. Parties willing to act as agents will do well to correspond with Seegmiller & Co. These plows sell very readily wherever introduced, and the discounts to agents are liberal. I desire to thank my numerous customers for their patronage, and also the many intelligent farmers and agents who have assisted me in bringing the "Seegmiller" Plow before the public, and who, by making manifest its merits, have contributed to gain for it the favor with which it is so universally regarded. SAMUEL SEEGMILLER.

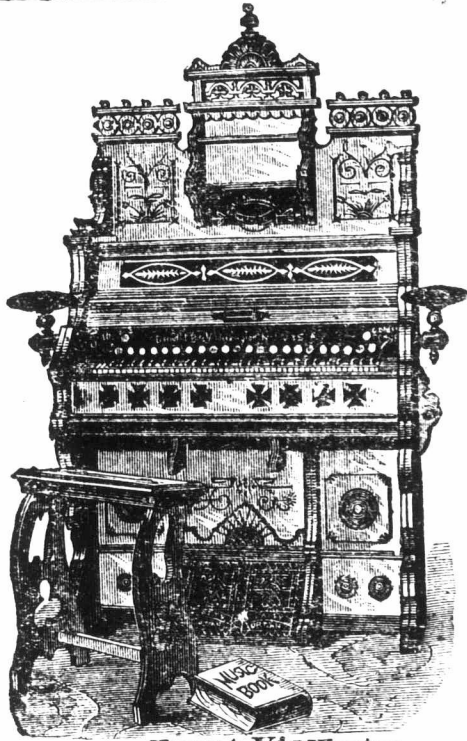
Plows sent, freight prepaid, to any firm in Ontario, Quebec, the Maritime Provinces and Manitoba. Address-

SEEGMILLER & Co., Agricultural Foundry, GODERICH, ONT.

BEATTY THE FAMOUS 27 STOP BEETHOVEN ORGANS.

Suitable for the Parlor, Chapel, Lodge, Church or Sabbath School.

PRICE Boxed with Organ Bench, Book and Music, ONLY \$90.00



Front View THE BEETHOVEN ORGAN. Height, 75 ins., Length, 45 ins., Depth, 21 ins. New Style No. 9000, Handsome Solid Black Walnut Case with Organ Bench and Music Book. 27 STOPS, 10 FULL SETS GOLDEN TONGUE REEDS.

A BRIEF DESCRIPTION.
CASE.—Handsome Solid Black Walnut, manufactured so as not to take the dirt or dust. Thoroughly seasoned and kiln dried, so that it will stand the test of any climate, hard some rubbed Varnish finish and polished; carved and ornamented with arabesque designs in gold, fret music desk, pocket, handles and lampstands. It is built to last, not for show.
ACTION.—Containing 27 Stops, with a great variety of stop combinations, enabling the performer to imitate by following the simple instructions sent a French Horn, Violin, Piccolo, Saxophone, Full Orchestra, Cello, Church Pipe Organ, and many other beautiful effects. In addition you have the regular ordinary organ at your command.

- 27 STOPS as follows:**
- | | |
|------------------------------------|------------------------------------|
| 1. Cello, 8 foot tone. | 11. Flute, 8 foot tone. |
| 2. Melodist. | 12. Dulciana, 9 foot tone. |
| 3. Clarinet. | 13. Clarinet, 8 foot tone. |
| 4. Manual Sub Bass, 15 foot tone. | 14. Vox Celeste, 8 foot tone. |
| 5. Saxophone, 8 foot tone. | 15. Violin, 4 foot tone. |
| 6. Bourdon, 15 foot tone. | 16. Vox Humana, 8 and 4 foot tone. |
| 7. Viola Gamba, 8 foot tone. | 17. Piccolo, 2 foot tone. |
| 8. Diapason, 8 foot tone. | 18. Complex Harmonique. |
| 9. Viola Dolce, 4 foot tone. | 19. Grand Organ Knee Stop. |
| 10. Grand Expression, 8 foot tone. | 20. Right Knee Stop. |
| 11. French Horn, 8 foot tone. | 21. Automatic Valve Stop. |
| 12. Harp Pedal. | 22. Right Duplex Damper. |
| 13. Vox Humana, Tremulant. | 23. Left Duplex Damper. |
- With grand and thrilling necessary and combination effects.
- BELLOWS.**—Finest Treble Rubber, Upright Pressed, three bellows combined, with four Steel Springs, with Automatic Valve Stop, an ingenious arrangement for preventing an over supply of air.
- REEDS.**—10 full sets Reeds. Are of the Celebrated Golden Tongue (patented), the tongue of which are secured to the block by dovetailing instead of ordinary rivet, which soon breaks or rattles. The Golden Tongue never breaks or wears out, holds its tone perfectly. No tuning is ever required after leaving factory.
- VOICE.**—Superb, Thrillingly Sweet and Pure. I challenge comparison with any instrument ever manufactured at four times the price. An Organ like the above containing the same variety of music would cost through high priced organ manufacturer.

ers at least \$150. This combination of Reed Board and Stop Work, bear in mind, in the BEETHOVEN is patented. No other organ maker dare build it. **PRICE.** The price of this Organ, which includes a music book, organ bench, choice music, &c. securely packed and delivered on board the cars at Washington, New Jersey, is ONLY \$90.00. **TERMS.**—The terms are Net Cash. Remittances may be made by Bank Draft, Post Office Money Order, Registered Letter, or Express pre paid. **WARRANTED.**—The BEETHOVEN is warranted for six years. Shipped on one year's trial.

FACTORY.—Corner Railroad Ave. and Beatty St., Washington, New Jersey. Largest in the world. Running day and night to fill all orders promptly.

To Whom it May Concern:
If the Beethoven Organ, after one year's constant use, does not give you perfect satisfaction in every particular, and is in any way not as represented in this advertisement, I hereby bind myself to take it back and refund you your money paid in current funds, with legal interest of New Jersey, (six per cent.) I further agree to pay freight charges on the instrument both ways, the money to be refunded immediately upon receipt of the instrument at Washington, New Jersey. I further agree, if requested, to exchange it for any other organ or piano as shown in my catalogue.

Very truly yours,
Daniel Beatty

HOW TO ORDER.—Enclosed find money for Beethoven Organ. I have read your statement in regard to it in this advertisement, and I order you on condition that it must prove exactly as represented in every particular, or I shall return it at the end of one year's use and demand the return of my money, with interest from the very moment I forward it, at six per cent., according to your offer. Be very particular to give your Name, Post Office, County, State, Freight Station, and on what Railroad. Be sure to remit by Bank Draft, Post Office Money Order, Registered Letter or Express pre paid.

SPECIAL TEN DAY OFFER TO THE READERS OF THE FARMER'S ADVOCATE.

I desire the Beethoven Organ introduced among the readers of this newspaper within the NEXT TEN DAYS, so that all can see and appreciate its wonderful merits and stop combination effects. Now, if you will REMIT ME seventy five (\$75.00) dollars, I will ship you this Organ immediately, and send you a receipted bill in full for ninety dollars (\$90.00), which is the regular and only price at which this Organ is sold. The price will soon be advanced to \$125.00, on account of the increase in the price of labor and material used in its construction.

I desire this instrument introduced without delay, and make this special offer so you may order one now. I look to future sales for my profit, as the Beethoven makes me thousands of friends. I regard this number of introducing it better than spending hundreds of dollars in newspaper advertising. The Organ speaks for itself. Often 20 sales have been traced from the first sold in a new neighborhood.

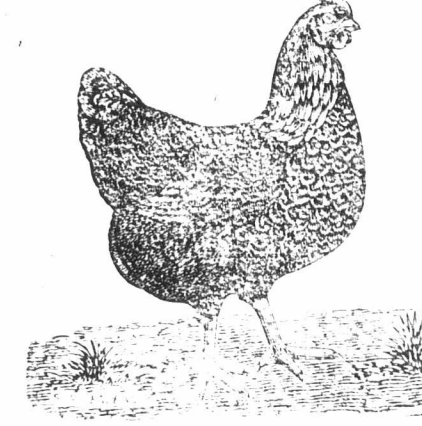
DATED, WASHINGTON, NEW JERSEY, SEPT. 1st, 1882.

N. B. - As this special offer is limited and will not be repeated, if you have not the money in hand, it will pay you to borrow a part from your friends, and thus secure the best organ that can be offered, at a less price than an ordinary organ by other makers is usually sold at.

Address or call upon **DANIEL F. BEATTY, Washington, New Jersey.**

Ontario BUSINESS College.
BELLEVILLE, ONTARIO.
Conducted by Practical Accountants.
During the present year students have been in attendance from Bermuda, West Indies, New York, Pennsylvania, New Brunswick, Quebec, Manitoba, and all parts of Ontario. For circulars, address, ROBINSON & JOHNSON, 201-203, Belleville, Ont.

East Hamilton Poultry Yards



WHITE LEGHORNS, PLYMOUTH ROCKS.
Write for circulars
PHOS. GAIN, Hamilton, Ont.

43rd ANNUAL FAIR
Tompkins Co., N. Y., Agricultural Society
ITHACA,
September 26, 27 and 28.

Ithaca is the seat of the Cornell University where students, families and visitors from every part of the world will be found, affording exhibitors and breeders a rare chance for exhibition.
Owners and Breeders of Heavy Horses especially solicited to exhibit.
Address: O. P. HYDE, Secretary, ITHACA, N. Y., U.S.A.

WANTED.
100 HEAVY DRAUGHT HORSES
4 to 10 Years, 1,350 to 1,600 lbs.
Apply to
GRAND'S REPOSITORY.
207-209, ADELAIDE ST. TORONTO

THE GREAT Central Fair
HAMILTON, ONTARIO.
SEPT. 26, 27, 28 & 29

Larger Amounts are offered in Prizes than at former Exhibitions for Stock, Poultry, Agricultural and Horticultural Products, Implements, Manufactures, Fine Arts, Ladies' Work, &c.
Special Prizes for Speeding in the Horse Ring.
The Railway Companies will carry Passengers and Exhibitors for one fare for the double journey.
The Prize Lists and Entry Forms address: DONALD H. DAVIS, Secretary, Toronto; T. C. BRUCE, Treasurer, Hamilton.

Ontario Veterinary College
TEMPERANCE STREET, TORONTO.

The most successful Veterinary Institution in America. A Course of 100 Lectures. Fees, Tuition, 100 per session. Session 1882-3 begins Oct. 1st. Apply to the Principal, PROF. SMITH, V. S. COLLEGE, TORONTO, CANADA.

CANADA'S GREAT FAIR!
and Agricultural and Industrial EXHIBITION
for 1882 at the
CITY OF TORONTO,

FROM
5th to 16th September.
\$26,000 IN PRIZES!
The largest amount ever offered for Live Stock, Agricultural Products and Manufactures, etc., etc. The magnitude of this exhibition, the beautiful park and building in which it is held, and the large number of special attractions which are offered to visitors, in addition to the regular exhibition, makes it the

Grandest Event of the Year!
Nearly 100,000 visitors each year.
Full particulars in the Prize List, which will be sent anywhere on application by post card or otherwise to the Secretary, at Toronto.
The attractions this year will surpass anything before offered.
Entries should be sent in at once.
J. J. WITTHROW, President
H. J. HILL, Secretary, Toronto

40 Cards: 30 Chromo, Glass and Mottos, in case. Name in gold and jet. Inc. Cards, 10 Lily & supported Glass, 10 Transparent, 20 Mottos, Scroll and engraved, in colors in case, and 1 Love Letter name on 21-100 West & Co., Westville, Ct. 201-2

Established 1876.

The Whitfield Model Stock and Dairy Farm.

ROUGEMONT, P. Q.

A Draft of 200

PURE-BRED & HIGH GRADE BULLS, COWS AND HEIFERS, consisting of POLLED ABERDEEN, HEREFORDS, SHORT HORNS, GALLOWAYS, etc., FOR SALE.

Catalogues will be ready in a few days. Rougemont is only 34 miles from Montreal by South-Eastern Railway.

Address— GEO. WHITFIELD, Proprietor, Or, JOHN GRANT, Stock Manager, 201-41 ROUGEMONT, P. Q., Canada.

NURSERY STOCK.

A LARGE SURPLUS of APPLE AND CRAB TREES.

Berberry for Hedging, 2 to 3 ft Austrian Pine, 2 to 4 ft

Cherry Currants and Houghton Gooseberries; 50 Varieties of Raspberries and Strawberries, including newest sorts. Russian Mulberries, 3 to 12 inches, 40 cts. each, or 3 for \$1, by Mail, postage paid.

Address, ALEX. PONTEY, St. James' Park Nurseries, London, Ont. 201 & 218

COTTON YARN.

WHITE, BLUE, RED AND ORANGE. Warranted the very best quality. None genuine without our label. Also, BEAM WARPS for Woolen Mills. Send for Circulars, etc. Address, WM. PARKS & SON, New Brunswick Cotton Mills, St. John, N. B.

de-12

SPRINGBROOK SHORT-HORNS AND COTS SWOLDS FOR SALE.

A lot of fine-wooled Cotswold Sheep for sale, including 12 yearling rams, a lot of yearling ewes, ewe and ram lambs. This flock has been awarded all the first prizes offered for flocks Canadian and imported for the last two years at the Toronto Industrial and Ontario Provincial Shows, and are second to none in Canada.

Also, 8 young Short-Horn Bulls. This herd was awarded five first prizes and gold medal sweepstakes at the Centennial. Also, first prize for the best herd at the Toronto Industrial, 1881; first prize for the best herd and first prize for breeders' herd at the Provincial Show at London in 1881.

JAMES RUSSELL, 201-a Richmond Hill P. O., Ontario, Canada.

THE RUSSIAN MULBERRY

Was brought from 49° north Lat. in Europe, and introduced into this country by Russian Menonites, many of whom settled in Nebraska several years ago. The trees are of a distinct variety, do not degenerate from the seed, are of rapid growth, and after the third year from the seed are continual bearers of a fine fruit, which much resembles the Blackberry in form and color, and is somewhat similar in taste. This tree is very hardy and tenacious of life. Utility and ornament could not be better blended in any tree. For further particulars and price list of this and other specialties, address

HUYDE & MILES, 201 F. D'RWITT, NEBRASKA, U. S. A.

FERTILIZER.

Cheapest and Best in the World.

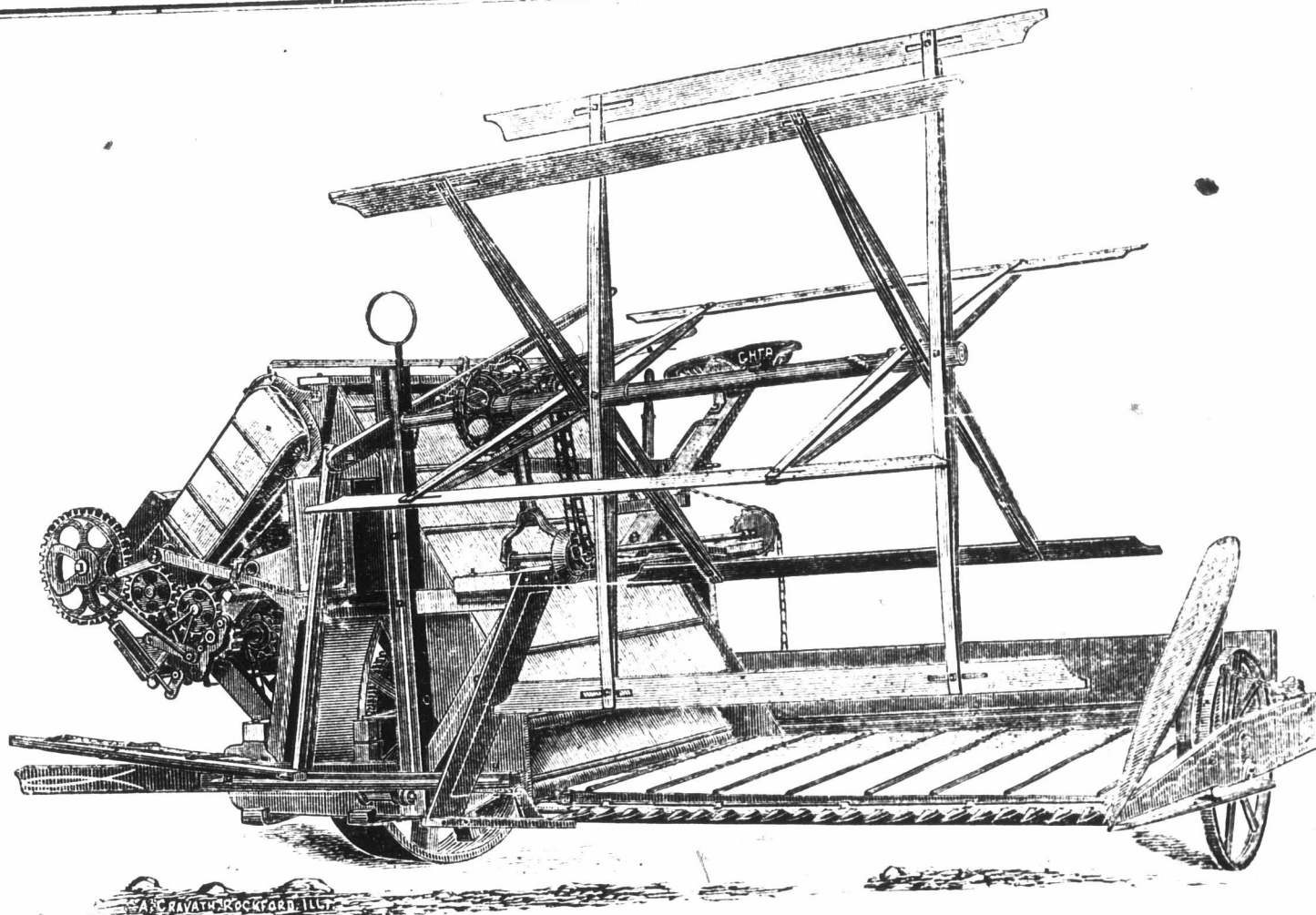
Gypsum, or Pure Land Plaster.

See at Toronto, Kingston and London Exhibitions, or write for Circulars to GRAND RIVER GYPSUM COMPANY, TORONTO, ONTARIO.

FOR SALE.

NEW PORTABLE AGRICULTURAL ENGINE & BOILER (Haggart make.)

NEVER USED. PRICES LOW. Address JAMES ROBERTSON & Co., Metal Merchants, Toronto, or Box 223 London 197-a



GLOBE HARVESTER & TWINE BINDER.

REAR VIEW

This is the only Harvester and Binder that will meet all Requirements of the Farmer.

Let every Farmer examine this Machine at the Toronto, Kingston and London Exhibitions.

Made only by the

GLOBE WORKS COMPANY, - LONDON, ONT.

LUMBERS' BOTANICAL REMEDIES



Lumbers' SURE CURE for PILES
A Speedy and Permanent Cure for this Painful Malady.

Lumbers' AGUE CURE
A never-failing cure for Intermittent Fever, or Fever and Ague, in all its stages. And it will also be found invaluable in all nervous and bilious diseases.

Lumbers' LIVER PILLS
These remove obstructions of the Liver and act SPECIFICALLY UPON THIS ORGAN, changing its secretions. They are excellent in all affections of the Liver, generally removing the pain in the side and shoulder in a short time.

Lumbers' CATARRH REMEDY
Nature's Remedial Agent for this stubborn Disease. Simple, Safe and Sure.

Lumbers' TONIC MIXTURE and Anti-Dyspeptic Purgative Pills
A Speedy and Permanent Cure for Dyspepsia or Indigestion, Sour Stomach, Loss of Appetite, Headache, Dizziness, and all those complaints peculiar to females.

Lumbers' PULMONARY POWDERS
For Obstinate Coughs, Wheezing, Tickling in the Throat, Pain and Tightness in the Chest, and Difficulty of Breathing. Very efficacious in Asthma, Bronchitis and Severe Inflammation of the Lungs.

Lumbers' Specific for the Kidneys
For the Gravel, Difficulty in Voiding Urine, attended with heat and Scalding, and all affections of the Kidneys. In Inflammation of the Kidneys it gives prompt relief. It will also be found a sovereign remedy in Whites or Fluor Albus, Gonorrhoea, &c.

Lumbers' KING of LINIMENTS and RHEUMATIC PILLS

For Rheumatism, Neuralgia, Spinal Irritation and Weakness, Lumbago, Sprains, Contraction of the Tendons, Ague in the Breast and Face, and all pains situated in any part of the body. The pills are a very valuable and successful remedy for Acute and Chronic Rheumatism, used in connection with the King of Liniments.

For Sale by all Principal Druggists

WM. LUMBERS, Sr.,
SOLE PROPRIETOR,

288 Carlton St., Toronto, Ont.

AGRICULTURAL SAVINGS & LOAN COY

Incorporated by Act of Parliament.
OFFICES—Cor. DUNDAS and TALBOT STS.
LONDON, ONTARIO.

Capital, \$1,000,000
Subscribed do. 600,000
Paid Up. 410,700

Money loaned on the security of Real Estate at lowest rates.

MORTGAGES PURCHASED

SAVINGS BANK BRANCH.

Deposits of \$1 and upwards received. Interest allowed at from 5 to 6 per cent. per annum.
JOHN A. ROE, Manager.

FOR FALL PLANTING Fruit & Ornamental TREES, SHRUBS, ROSES, &c.

The largest and most complete general stock in the United States, including many Choice Novelties. Abridged Catalogue mailed free to all applicants. Address,
ELLWANGER & BARRY, MOUNT HOPE NURSERIES ROCHESTER, N. Y.

MANITOBA vs. MANITOULIN ISLAND (LAKE HURON.)

We cannot offer you a balmy day of 40 degrees below zero, or a summer frost, or a blizzard, or a flood, or a grass-hopper plague every few years, or the potato bug, or alkaline water to drink, like Manitoba; but we can offer you unequalled farm land, magnificent natural pastures, cash markets, good schools, good water, good fishing and no potato bugs.

NEARLY 100 IMPROVED FARMS FOR SALE AT REASONABLE PRICES.
Send 6 Cents for Descriptive Catalogue.
MANITOULIN LAND AGENCY
199-c BOX 9, MANITOWANING.

Western Fair LONDON, SEPT. 25, 26, 27, 28 & 29

\$15,000.00 IN PRIZES

OPEN TO THE WORLD

Large prizes will be given for trials of speed in the horse ring, which has been enlarged to a half-mile track.

Five Indian bands will compete for prizes. Exhibitors will address J. B. Smyth, Secretary, London, Ont., for Prize Lists and any other information required.

J. B. SMYTH, Secretary. JOHN PLUMMER, President.

GRAND DOMINION

37th PROVINCIAL EXHIBITION

Under the Management of the Agricultural and Arts Association of Ontario

TO BE HELD AT **KINGSTON**

FROM 18th to the 23rd September, 1882

\$20,000

OFFERED IN PREMIUMS AND DOMINION MEDALS

Entries must be made with the Secretary at Toronto on or before the undermentioned dates, viz:—

Horses, Cattle, Sheep, Swine, Poultry, Agricultural Implements, on or before Saturday, Aug. 19. Grain, Field Roots, and other Farm Products, Machinery and Manufactures generally, on or before Saturday, August 26th.

Horticultural Products, Ladies' Work, Fine Arts, etc., on or before Saturday, September 2nd. Prize Lists and Blank Forms for making the entries upon, can be obtained of the Secretaries of all Agricultural and Horticultural Societies and Mechanical Institutes throughout the Province.

CHARLES DRURY, President, Ottawa Hill. HENRY WADE, Secretary, Toronto.

BULBS FOR AUTUMN PLANTING. A large importation from Holland, just received. Illustrated Catalogues on application.

J. A. SIMMERS' Reliable Seed House, Toronto, Ont.

New Brantford Single Drill, WITH FERTILIZER ATTACHMENT.

Send for testimonials showing the profits resulting from the use of Artificial Manures.

We also Manufacture the Best **Single Drill, Single Seeder, Drill & Seeder Combined,**

Ever introduced in the Canadian market.

Send for Descriptive Circular giving full information.
J. O. WISNER, SON & CO.,
Brantford, Canada.

BABY! BABY!

Can be kept quiet and comfortable by wearing around its little neck one of NORMAN'S ELECTRIC TEETHING NECKLACES. They are better than all the Soothing Syrup in Christendom. They give no shocks and are comfortable. Price 50c. Sold by all druggists. Ask for them and take no other.

SMALL FRUITS

New Strawberries, New Raspberries, New Currants, New Grapes.

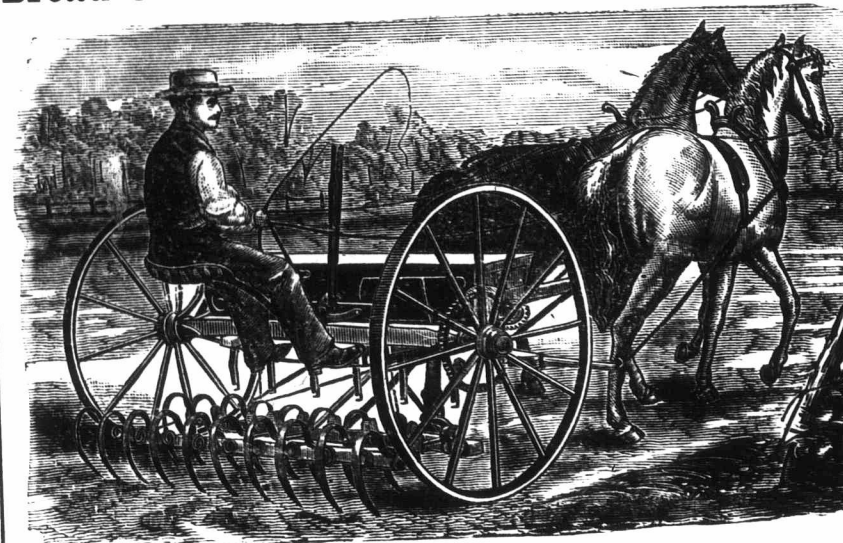
MOST ATTRACTIVE CATALOGUE. Of all kinds of Small Fruits ever issued in Canada.

FREE TO ALL who apply by post-card or letter. Address

T. C. ROBINSON
Owen Sound, Ont.

Low Prices! Splendid Plants! By Mail or Express as purchaser desires.

MANN'S Broad-Cast Seeder and Harrow Combined.



SOWS OVER SEVEN FEET IN WIDTH.

THE ABOVE CUT REPRESENTS OUR NEW BROAD-CAST SEEDER, with SPRING TOOTH HARROW ATTACHMENT for covering the grain. This Machine we have perfected to meet a growing demand for an implement that will sow broad-cast and complete the work in once passing over the ground. The principle of sowing is the same as that in our well-known Broad-Cast Seeder, while the covering attachment has proved itself to be as complete a success in its work as the Seeder has shown itself to be for sowing.

This Machine may also be used as a Harrow alone, making one of the best Implements of the kind in the market; and by the construction of the Teeth they may be quickly changed to work at any required depth or angle, having a range of from two to six inches in depth of working, thus making a Cultivator or Harrow as required.

In durability, lightness of draft and perfection of its work, we claim for this Machine that it has no superior among the many implements of the kind now before the people.

Order early, as only a limited number are being built for this season's trade.

J. W. MANN & CO.,

BROCKVILLE, ONT., and OGDENSBURG, N. Y., U. S. A.

The LONDON FURNITURE Manufacturing Company,

184 to 198 King Street, London, Ontario,

are Selling Very Low for Cash. Call or Send for Prices Before Purchasing.