

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

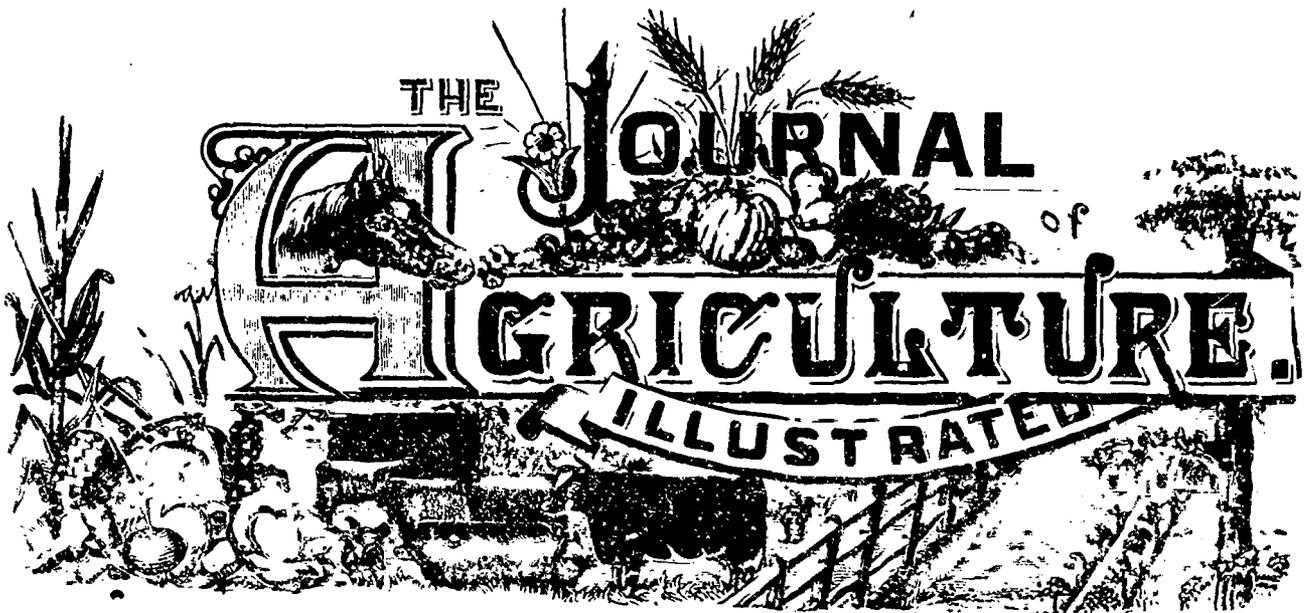
L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/  
Couverture de couleur
- Covers damaged/  
Couverture endommagée
- Covers restored and/or laminated/  
Couverture restaurée et/ou pelliculée
- Cover title missing/  
Le titre de couverture manque
- Coloured maps/  
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/  
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/  
Planches et/ou illustrations en couleur
- Bound with other material/  
Relié avec d'autres documents
- Tight binding may cause shadows or distortion  
along interior margin/  
La reliure serrée peut causer de l'ombre ou de la  
distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear  
within the text. Whenever possible, these have  
been omitted from filming/  
Il se peut que certaines pages blanches ajoutées  
lors d'une restauration apparaissent dans le texte,  
mais, lorsque cela était possible, ces pages n'ont  
pas été filmées.
- Additional comments:/  
Commentaires supplémentaires:

- Coloured pages/  
Pages de couleur
  - Pages damaged/  
Pages endommagées
  - Pages restored and/or laminated/  
Pages restaurées et/ou pelliculées
  - Pages discoloured, stained or foxed/  
Pages décolorées, tachetées ou piquées
  - Pages detached/  
Pages détachées
  - Showthrough/  
Transparence
  - Quality of print varies/  
Qualité inégale de l'impression
  - Continuous pagination/  
Pagination continue
  - Includes index(es)/  
Comprend un (des) index
- Title on header taken from: /  
Le titre de l'en-tête provient:
- Title page of issue/  
Page de titre de la livraison
  - Caption of issue/  
Titre de départ de la livraison
  - Masthead/  
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/  
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
								↓			



Published for the Department of Agriculture for the Province of Quebec, (official part) by  
EUSEBE SENECAI & FILS, 20, St. Vincent St. Montreal.

Vol. VII. No. 12.

MONTREAL, DECEMBER 1885.

\$1.00 per annum, in advance.

OFFICIAL PART.

Table of Contents.

Swedes .....	177
Obituary .....	183
Our Engravings .....	184
Fruit from the province of Quebec for the London exhibition...	184
A prize Heifer .....	185
The Chicago Grinding Mill .....	185
English vs. French Dairying .....	187
Butter-Packing .....	187
Table of Contents .....	187

SWEDES.

Sorel, November 2nd, 1885.

I am sure I don't know whence the French-Canadians got their name for this plant Chou de Siam. — The old English term for it is *ruta-baga*; a real botanical appellation, still used in the United States and in the Eastern Townships. It is not, properly speaking, a turnip at all, though, from its form, often called the Swedish turnip. The leaves are smooth, like a cabbage, which it is, as the French name, *Chou de Lapone*, indicates; though what Lapland can have to do with its origin I cannot see. It was first introduced into Scotland, in 1781, on the recommendation of Mr. Knowles, who brought it from Göttenberg. The full botanical name is *Brassica campestris, napo brassica, rutabaga; De Candolle*; which designates its origin, as *brassica*, in Latin, is a cabbage, and *napus* is used by Pliny to signify a sort of turnip. Stephens gives *Naponi de Naponia*, as the Italian name, which is grammatically incorrect; the real Italian is *Navone di Svezia*.

As will be seen by the illustrations, the swede is of an

oblong form; the colour underground is of a deepish yellow, and the upper part of a dusky purple. The leaves vary from a foot to fifteen inches in length, growing nearly upright, from a firm conical crown, which forms the head of the bulb. In choosing swedes to set out for seed, none should be kept except those having no depression round the neck, and for this reason: any depression in that part of the bulb is apt to collect water, which causes the whole to rot. I mention this, because one of those who are good enough to think my advice worth listening to brought me a swede weighing twelve pounds to ask if it would not be well to plant it for seed-bearing purposes. As all defects in the parent stock are liable to crop out in the progeny, I told my friend to select a perfectly shaped bulb, irrespective entirely of weight, if he wished to have perfectly shaped bulbs in his future crop: cultivation and manure would do the rest.

After storing, the swede, like all roots, loses water, and becomes specifically heavier, until it begins to send out leaves. Hence the advisability of preventing all heating in the cellars where roots are kept. Johnston gives the proportion of nutriment in swedes as 74½ parts in the 1,000, but his samples were probably taken from the North, where all roots are of better quality than those grown in our Southern counties, as I see Sir Humphrey Davy only gives 64 per 1,000 of nutriment from swedes grown in the neighbourhood of London.

Stephens says, speaking of the girth and weight of swedes: 'Picked specimens have exhibited a girth of from twenty-eight inches, varying in weight from seven pounds to nine and a half pounds, but the weight varies in a different proportion to the bulk, as one of twenty-five inches gave nine and a half pounds, whilst another of twenty-six inches only weighed seven pounds. It is no uncommon thing to see swedes from eight pounds to ten and a half pounds.' Exposed on my window side for the last fortnight, are three swedes that weigh respectively eleven, eleven and a half, and twelve pounds, girthing twenty five and a half, twenty-seven and a half, and twenty-seven and three-quarter inches, and as for the quality, no white-turnip could be more tender and succulent. These swedes are those I spoke of in the November

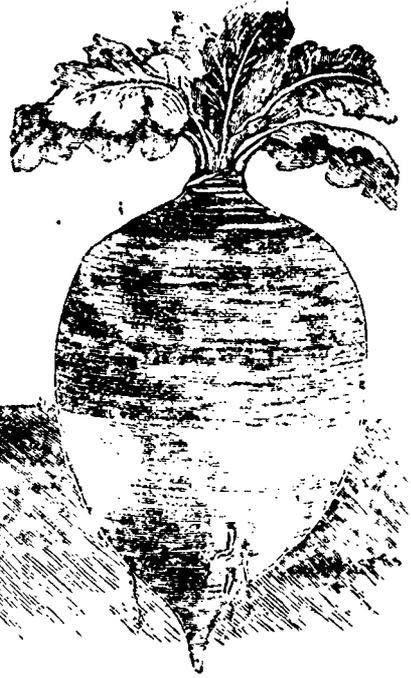
number—grown by Sôraphin Guévremont; they were sown on the tenth of June and harvested on the 16th of October. I must try and beat them next year, lest he grow too vain. The whole crop, whence these specimens were taken, I put to average five pounds each, *at least*; there is hardly a blank space anywhere in the field—two and a half acres—and if the calculation is correct, the bulbs on an acre should weigh forty-eight tons. To tell the honest truth, they are the finest lot I ever saw in any country. In my part of England—the S. E.—we think a good deal of eighteen or twenty tons to the acre, and even in Scotland, thirty tons are very rarely seen. And, observe, what a quantity of keep there is in them: allowing thirty-five pounds to a cow per day—full feeding—an acre would provide ten cows with that amount for two hundred and seventy days; in other words, for the whole winter. And it cannot be very difficult work. All the instruction this M. Guévremont has had, consists in replies to a few questions he asked last year in his visits (numerous

You will remark that a crop of 22 tons of mangels contain about 45 0/10 more nitrogen than a crop of 14 tons swedes; more than three times as much potash, four times as much soda, five times as much magnesia, three times as much phosphoric acid, six times as much chlorine, and four times as much silica, not forgetting that it is, as we saw last month, as easy to grow the twenty-two tons of the one as the fourteen tons of the other.

Lawson, in his list of seeds, gives the names of eighteen varieties of swedes. My favourite is the Bangholm purple-top; it is good in flavour, a plentiful cropper, and a first-rate keeper. In the Southern counties of England we never eat swedes—they are harsh and stringy,—but white-turnips we have at table all the year, round almost. In fact, until I went to Glasgow in 1846, I had never seen a yellow turnip or a swede cooked, and I can't say I care for them now. But a quickly grown white turnip, from the Sorel sands, well drained after boiling, and properly mashed with cream, pep-



LAING'S SWEDE TURNIP.



SHAMROCK SWEDE TURNIP.

enough) to my root crops. Of course, he has considerable powers of observation, and a retentive memory, which will serve him well next year, when he intends to embark in farming on a far more extensive scale.

According to Warrington, the constituents of swedes and mangels, taken from different soils, are as follows:

	Water.	Albuminoids.	Fat.	Soluble carhydrate.	Fibre.	Ash.
Mangels..	88.5	1.2	0.1	8.2	1.0	1.0
Swedes ..	89.3	1.5	0.2	7.3	1.1	0.6

It should be observed that the influence of high manuring is naturally to increase the luxuriance of a crop, and a luxuriant crop always contains more water than one in less active growth. Very large mangels, for instance, often contain as much as 94 0/10 of water.

A crop of twenty-two tons of mangels and another of 14 tons of swede contain, respectively, in pounds:

	Total pure ash.	Nitro-gen.	Sul-phur.	Po-tash.	Soda.	Lime.	Mag-nesia.	Phos-phoric acid.	Chlo-rine.	Silica.
Mangels. 690	147	14.0	262.5	140.6	53.3	46.9	49.1	90.4	25.6	
Swedes.. 238	102	17.8	79.7	32.0	42.4	9.2	21.7	15.1	6.7	

per and salt, is one of the most delicately flavoured vegetables I know. Unless quickly grown, it is uneatable. When placed in the root-cellar, turnips, carrots, and beetroot, should be covered up with sand, if you want them to taste fresh. By the bye, the *caveaus*—sunken cellars in the sand, out of doors, in which the people here keep their roots, preserve potatoes in far better order than do the cellars under the houses; they taste like freshly dug ones even as late as April.

According to Sinclair, 1728 grains of *large* swedes contain 110 grain of nutritive matter, whereas *small* ones only yield 99 grains; a good reason, if true, why the farmer should try to raise the largest-sized swedes. But the fact is that the calculation is only correct within limits; a large swede, grown with a great dose of nitrogen is watery, and a small one, grown on poor land with a small dose of manure, is stringy and worthless. The crop is a thickly set one of moderate sized bulbs.

The following calculation will give some idea as to the yield that should be derived from a properly cultivated acre

of swedes : drills 27 apart and 10 inches between the plants, would give an area of 270 square inches to each bulb, or 23,232 bulbs to the acre. If each swede weighs at maturity only three pounds, the acre must yield 69,696 or 35 tons! How very far short of anything like this we fall. Why is it? Either we are careless about the setting out, or our swedes are very small.

*Manures for swedes.*—M. Ville's formula for manure for the root is, per acre :

Superphosphate of lime... ..	528 lbs.	\$6.00
Nitrate of potash (saltpetre)... ..	176 "	9.00
Calcic sulphate (plaster).....	352 "	0 65
	1,056 "	15.65

As to this, I would remark that the quantity of superphosphate is excessive; that a cheaper form of both nitrogen and potash is obtainable, and that, as a general rule, the calcic sulphate is necessary. My recipe is :

224 lbs. Superphosphate.....	\$3.00
112 lbs. Sulphate of ammonia.....	4.00
100 lb. Kainit .....	1.00
	8.00

Mind, I don't say that kainit is necessary. On the contrary, where land is properly farmed there will be no need of potash in any form; but on worn out sandy land I think it would be well to use a small dose of it. This recipe is meant to be used when no dung is applied; but the best treatment in my opinion is to give a half-dressing of farmyard manure and two hundred of superphosphate an acre. Unless the land wanted lime very badly I should not bother myself with plaster for this crop, but keep it for the clover, on which it is sure to pay. There is a good deal of sulphate of lime in the superphosphate. When half-dressings of dung are given, the superphosphate starts the young germ into active life and the dung carries the growth on to maturity.

I need not repeat the long story of the preparation of land for roots, as it was all told last month. The treatment is just the same as for mangels.

*Quantity of seed per acre.*—If the seed is good—it should always be tested—three pounds will be sufficient for an acre.

*Time of sowing.*—From the 20th of May to the 1st of July. For crop and quality, the first week in June will be found the best season.

*The fly.*—This beast, *haltica nemorum*, or turnip beetle, is a pretty dangerous enemy. In some parts of the province he does what he likes, and swedes and turnips are hopelessly surrendered to him. The only advice I can give on the subject is to cultivate the land thoroughly; to manure it well; and to sow plenty of seed; then, the young plant stands a chance of getting away rapidly and escaping from this annoying little fiend. I have succeeded in expelling the torment with a dressing of flour of brimstone and wood-ashes; but if a shower falls and washes the stuff off the leaves, the dose must be repeated. In places like Chambly, where the culture of the swede seems almost impossible, I should advise making the first sowing early, and in event of its failure trying again up to July 1st, or even, if the land is very well prepared, as late as the 10th of that month. I hear something about carbolic acid as a terror to this pest, but the reports want confirmation.

Last words : pull down the drills when singling; pull them down level.

DE OMNIBUS REBUS.

*Carp culture*—The carp culture of Central France is a form of industry which merits a great deal more attention and imitation than it has hitherto obtained. In the highlands of that districts there are ponds of all sizes, many of them large enough to be called lakes, but to the country people they are one and all "étangs" and nothing more. They are stocked with carp, and once every three years a great fishing takes place. All the able-bodied men of the country-side are engaged for a certain day in October to meet at one of the ponds; that on the highest level being taken first. The sluices of the pond are opened three days previously, and the water allowed to run slowly off, leaving the bed of deep mud which seems to be one of the necessaries of carp existence. When there is only a narrow rill of water left trickling down the middle of the pond, the fishing begins. On all sides, the carp lie floundering about, panting and gasping on the surface of the mud. The number and size of the fish is extraordinary; I have seen many weighing from 3½ lbs. to 6 lbs. a piece. In Sussex, too, in my own neighbourhood, are many ponds of the same sort, copied in fact, when laid out, from those in Auvergne, from which have been taken carp of the weight of even 30 lbs. As soon as the fishing is over in one pond, the sluices are closed, and the pond allowed to fill gradually, while the fishermen betake themselves to any other pond that is to be fished that year, according to the date of their re-stocking. When the emptied ponds are full again, the breeding-pond is drawn upon to supply young fish. This breeding-pond is never drained dry of water, but, when young fish are wanted, the breeding-pond is netted, and after the desired number of young is obtained, the old ones are returned to their home to breed undisturbed, while the young ones are transferred to the fishing ponds for their allotted space of three years. A systematic style of management, far superior to our happy-go-lucky English method, or rather want of method. At Chislehurst, Kent, there is an attempt to carry out a regular plan of carp-raising. There are four ponds, one above the other, viz a breeding-pond, a nursery pond and two feeding ponds, but, unfortunately, the soil is hostile to the growth of fish—a sandy gravel-bed with lime in abundance which soon covers the weeds with an incrustation—and the largest carp I ever saw taken only weighed 1½ lb., and was as bony as a sucker. I fancy these ponds were made after a plan extracted from an old French book called "La maison rustique," mentioned, if my memory serves me, by dear old *Isaak Walton*.

In another part of this number of the Journal will be found a letter from Mr. Baird, of Pennsylvania, U. S., recommending the introduction of carp-culture into Canada. Wherever cold springs abound, as in the neighbourhood of Compton and Coaticoke, the breeding of trout would, I believe, pay better than rearing carp. But in black or clayey soils, the latter fish would be better than nothing. After all said and done, as long as we can get fresh haddock for 7 cents a pound, and pickerel, black bass, &c., for 10 cents a pound, I do not think we need bother ourselves about breeding fish of the carp sort

*Shearing heavy in lamb ewes.*—A writer in one of the American agricultural papers recommends the shearing of ewes kept for early lamb-breeding about a fortnight before their time. If there is any desire felt by the proprietor of such to have a nice lot of dead lambs, I should strongly advise the adoption of this plan.

*Seed wheat per acre.*—My friend Mr. Lunan gives as a reason for sowing what I presume to call an inordinate quan-

tity of wheat to the acre, that unless the *braird* is thick, the hot suns of May and June will spoil the crop. To which I reply, that a more moderate seeding will allow of tillering, which will cover the ground more effectually, and prove a better protection from the sun than double seeding. Mr. Lunan sows four bushels to the acre on perfectly well prepared land; I contend that two and a half are sufficient.

I regret very much to see by the last mail that my old friend and farm-tutor William Rigden is dead. A more perfectly amiable man never breathed. It was impossible to put him out of temper, and he fulfilled all the duties of his position as a husband and the father of a family in a manner that left nothing to be desired. As a breeder of Southdown sheep, he was second only in judgment and skill to Jonas Webb. When I was living with him he occupied a farm of 650 acres at Hove, close to Brighton; but he afterwards removed to the neighbourhood of Kingston-by-sea. Mr. Rigden retired from business about twelve years ago, escaping the fall in prices of agricultural products which has so severely tried most of his brother farmers.

*Wheat crop of France.*—The returns of the French wheat-crop point to a total yield of  $14\frac{1}{2}$  million quarters = 116,000,000 bushels. Rather less than the crop of last year.

*English wants.*—England requires an importation of 136 million bushels to feed her people, the home grown crop being only 97 million bushels. India is already in the field, and has chartered vessels for 100,000 tons of wheat, equal to 3,700,000 bushels. If the price of silver falls much lower, India will furnish in a few years a very notable proportion of England's importation of the cereals.

*Potatoes.*—The rot is playing the very mischief with the potatoes. I hear that in the heavy land districts the farmers will, in many cases, hardly save enough for seed.

*Wheat-crop in U. S.*—Nine bushels is the average yield of the United States wheat, on every acre sown. Many acres failed entirely and were ploughed up, which increases the average per acre reaped to  $10\frac{1}{2}$ . I do not understand all the boasting they make about the richness of the land in the U. S. Either the land is not suited to wheat or the farming must be, as it is here, execrably bad. The truth is, I suppose, that the land is not *farmed*, according to the acceptation of the word in England, at all.

*Crib biting.*—This habit, as well as the *wind sucking* propensity, is incurable. A great deal may be done in the way of arresting the practice of cribbing by a strap fastened round the neck just behind the ears, and buckled as tight as possible so as not to choke the horse. In England, grooms are always on the look out for the commencement of these vices, if a horse plays with the manger for a second or so, the cry is immediately heard, "Got at cribbing?" An interrogatory the horse declines to answer, though by his leaving off directly, it is clear he understands it. All stable fittings in enamelled iron would prevent the inception of the vice, which, by the bye, is catching. I had a colt, by Elis a Derby winner, which would rush up to any post or bar when he was turned out to grass, and seizing it in his teeth, would blow himself up with wind in a few seconds. A magnificent beast, p to 14 stone with any hounds, but, owing to this propensity, he was always as bare as a board.

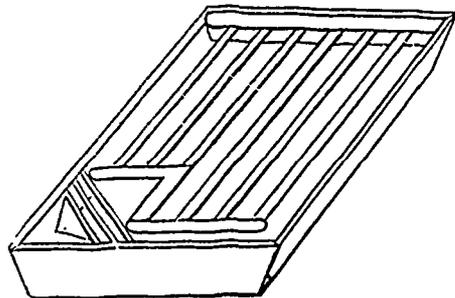
*Sawdust for manure.*—More inquiries as to the safety of

using sawdust as bedding for cattle: this time from the proprietor of a sawmill! There is no danger to be apprehended from its use in any way. My advice to every one who can get sawdust *gratis* is: sell your straw and use sawdust for littering all your stock. As to its breeding fleas or other troublesome parasites, that is all *stuff*.

*Moory soil.*—Black earth, bog-earth, or by whatever other name fen-land may be known here, can be reclaimed in various ways. If wet, it must be drained to start with, either by under-drains, or by cutting the land into blocks of from five to ten acres by open ditches three or four feet deep. When the subsoil is gravelly, the latter will be found the safer plan. This will lower the depth of the bog sometimes as much as two feet - by consolidation. A rough burning of the surface—enough to produce sixty loads of ashes per acre—should follow; and the ashes, spread carefully, would produce a crop of rape. The rape fed off with sheep would give a dressing of manure sufficient to grow a good crop of oats sown with grass-seeds, and there you are, fitted to start on a regular rotation. Don't try barley. A friend of mine did try it this season, and got about 800 bushels, but the colour was so bad that the Montreal brewers would not take it. Dr. Bruneau, of Sorel, will set to work on about ten acres of bog-earth this ensuing spring, and I shall watch his proceedings with much interest. Lime of course, is wanted for all these soils, but at forty cents a bushel it cannot be used. One hundred bushels an acre would be but a moderate dressing, and which of us would afford to spend forty dollars on an acre of land?

*Tobacco.*—M. Prudhomme, of this town, brought me to day a sample of Connecticut tobacco of this year's growth. The crop was really ripe, and the leaves having been pressed under heavy weights, the colour was equal throughout and the flavour good. M. Prudhomme is a very careful, intelligent man and perfectly willing to be taught what he does not know, as indeed are most of the surrounding farmers. It is a pleasant sight for me to go along the road from Sorel (le fort) to Saint-Anne, and observe the difference between the root-crop cultivation this year and what it was in 1884

*Roasting apparatus.*—Annexed will be seen an engraving of a roasting apparatus which I have used for the last twenty-five years. The arrangement is simple enough. There are two pans, the lower of which is kept full of water, and the upper has a sunken well, into which flows all the melted fat for basting. The meat is placed on the frame work, which may



be made of stout iron-wire, tinned if desired. This apparatus is, I believe, the invention of Count Rumford, who flourished in the last century. Without going so far as to say that roasting in a close oven is better than roasting at an open fire, I can safely aver that meat cooked on this apparatus is vastly superior to the ordinary way of treating it in this country. Always keeping in view that the primary problem

in roasting is to raise the temperature throughout to the cooking-heat with the smallest desiccation of the natural juices of the meat, and applying to this problem the laws which govern the diffusion of vapours, it is easy to understand the theoretical advantages of cooking in a closed oven, the space within which speedily becomes saturated with those particular vapours that resist the further vaporisation of these juices. I advise the cook who uses the apparatus to make the oven thoroughly hot before the introduction of the joint; the effect will be to partially carbonize the exterior of the meat (coagulated albumen), and prevent the exudation of the juices. A little lowering of the fire ten minutes afterwards will do no harm, but a quickly roasted joint is always preferable to a slowly roasted one. As I remarked last month about frying, a little reflection will show that, theoretically regarded, a given piece of meat would be better cooked in a closed chamber, radiating heat from all sides towards the meat, than it could be when suspended in front of a fire, and heated only on one side, while the other side was turned away to cool more or less, according to the rate of rotation.

London meat-markets. — Prices of live stock, &c. of 1881 compared with 1885.

METROPOLITAN CATTLE MARKET.

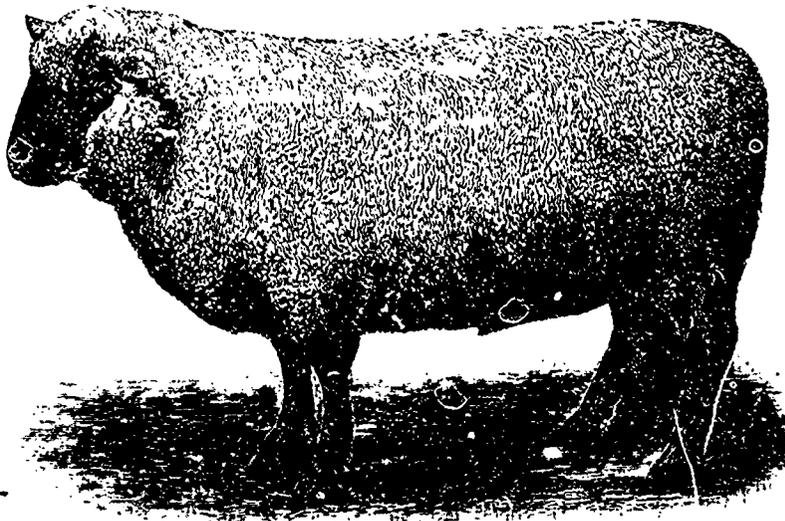
Monday, Oct. 24 1881.

From Scotland there are 80 beasts; Ireland, 1000; mid-land and home counties, 2450.

(Per stone of 8 lbs.)

	s. d.	s. d.		s. d.	s. d.
Best Scots. Here			Best Longwools...	6 4	to 6 8
fords, &c .....	5 8	to 5 10	Do. Shorn .....	..	— ..
Best shorthorns...	5 4	— 5 8	Ewes & 2d quality	5 4	— 5 10
2d quality beasts.	4 0	5 0	Do. Shorn.....	..	— ..
Best Downs and			Lambs .....	..	— ..
Half-breds ....	6 8	— 7 0	Calves .....	5 0	— 5 10
Do. Shorn.....	..	— ..	Pigs.....	..	— ..

Beasts, 3710, Sheep & Lambs, 8410; Calves, 200.



MR. J. HOBART WARREN'S LAST IMPORTED SOUTH-DOWN RAM.

One word more to the cook. Don't roast, or bake, two sorts of meat at the same time in the same oven. The combined flavours of beef and pork are not agreeable to an educated palate.

ERRATA.—At page 131, col. 1, 3rd line from the bottom, for \$100, read \$160.—At page 133, col. 2, 7th line from top, for seventy read thirty.—At page 164, col. 2, 36th line from bottom, for was read were.

Deep-ploughing or subsoiling.—An infinity of nonsense is written during the year on this subject. I repeat what I have said twenty times at least in this Journal: aim at a furrow at least ten inches deep. But get it by degrees and always before a manured crop. Dr. Hoskins thinks maize does not require deep ploughing. It may not absolutely require it, but I knew, from observation of the crop, it is none the worse for it, and the succeeding crops of the rotation will benefit amazingly by the previous deep cultivation given in the preparation of the land for corn. As for subsoiling, we have so few farms where more than one pair of horses are kept, that I need not enlarge upon it.

METROPOLITAN MEAT MARKET.

Monday, Oct. 24.

Trade was rather better last week for beef and pork. Mutton continues a dull trade, there being such a plentiful supply. The consignments of home and continental meat were fair except American, which is decidedly falling off.

(Per stone of 8 lbs. by the carcase.)

	s. d.	s. d.		s. d.	s. d.
Beef .....	3 4	to 5 4	Mutton.....	3 4	to 5 4
American ditto...	3 10	— 4 8	American ditto....	..	— ..
Australian mutton ..	..	— ..	Pork .....	4 2	— 6 0

Best Aylesbury Fresh Butter..... 17s. per doz. lb.  
Second do do .. 13s.

JAS BAKER, 256, West End, Central Market, Smithfield.

METROPOLITAN CATTLE MARKET.

Monday, Oct. 12th 1885.

Our foreign supply consists of 480 beasts, 1,400 sheep, and 10 calves.

From Scotland there are 20 beasts; Ireland, 600; Mid-land, Home, and Western Counties, 2,350; Canada, 200.

s. d. s. d.		s. d. s. d.	
Best Scots, Here-	Best Longwools...	4 6	— 5 0
fords, &c .....	Do. Shorn .....	—	—
5 0 to 5 4	Do. Shorn .....	—	—
Best Shorthorns. 4 6 — 4 10	Wes & 2d quality. 3 8 — 4 4		
2d quality beasts. 3 8 — 4 4	Do. Shorn .....	—	—
Best Downs and	Lambs .....	—	—
Half-breeds .... 5 2 — 5 6	Calves.....	3 8	4 10
Do. Shorn.....	Pigs .....	—	—
Beasts, 3,350 ; sheep and lambs, 8,990 ; calves, 230 ; pigs, ... ; milch cows. 50.			

METROPOLITAN MEAT MARKET.

Monday.

The market abundantly supplied with all kinds of meat, both English and foreign. The trade has been dull, and prices low considering the favourable weather on Saturday. The market closed with a quantity of meat on hand.

(Per stone of 8 lbs. by the carcase.)

s. d. s. d.		s. d. s. d.	
Beef.....	2 4—4 4	River Plate ....	2 0—2 4
American..	2 8—3 4	Lamb .....	2 4—4 0
Mutton, English...	2 8—4 0	Veal .....	2 0—4 4
New Zealand.....	1 8—2 8	Pork .....	3 6—4 8

Best Aylesbury Fresh Butter..... 16s. per do. lbs.

Second do do ..... 12s. "

J. BAKER, 256, West End, Central Market, Smithfield.

*British Dairy-Farmers' Association.*—The association met in London on the 7th of October, and a very interesting meeting it must have been, though with cheese and butter at their present low prices, the British Dairyman cannot be in very good spirits. However, as long as the top price for Cheshire and Gloucester cheese of the best quality is five dollars a cwt. above the top price of American cheese, it cannot be said that cheese-making is a lost art among the English. The prize given by Lord Vernon for the best herd of dairycows went to Preston, Lancashire.

The milking trials are worth studying. Milking Shorthorns again are prominent, the style I advocate, the usual English dairyman's shorthorn, having beaten all the other breeds in the yard. Unfortunately, the list does not distinguish between Guernseys and Jerseys, so we cannot give the superiority to either of the Channel Island breeds. (1) An Ayrshire, it will be observed, ran the first and second prize Shorthorns very close I shall be able to give a fuller account of the actual yield of the prize-cows, as regards quality, when I receive my English papers of the 19th.

THE MILKING TRIALS

During the progress of the Dairy Show there was a most interesting competition held in the shape of testing the milking powers of the cows. There were some 73 animal entered for trial, divided into four sections—including pure-bred Shorthorns, ordinary Shorthorns, Jerseys, and Guernseys, and a class for mixed or other breeds, in addition to some entries for a special prize offered by Mr. Thorley. The trials were conducted on Wednesday under the superintendence of some of the members of council and the Society's chemist. The cows were milked out clean the evening before to the satisfaction of the stewards at 6 o'clock. And then at 8 a. m. and 6 p. m. on the trial day, the milk of each was weighed, and then sampled by the chemist for percentage of cream and analysis. The results were published on Friday, but the details of the trial, as to how the points were awarded to each, the percentage of cream, butter-fats, weight, time from

(1) By a later mail I hear that the Guernsey had it.

calving, &c, will not be made public till the Society shall issue their *Journal*, when we apprehend there will be a most interesting and instructive record presented to the public. Through the courtesy, however, of some of the members of council we are able to present to our readers the total points made by the prize-winners, which are appended:—

Pure-bred Shorthorns : 1st, No. 2, belonging to Mr. J. N. Edwards, points 80.53 ; 2nd, No. 5, belonging to Mr. J. Garne, points 79.78.

Shorthorns : 1st and champion cup (presented by Messrs. Tunks and Tisdall), No. 14, belonging to exors of late Mr. T. Birdsey, points 98.30 ; 2nd, No. 32, belonging to Mr. J. Phillips, points 98.10.

Jersey and Guernsey : 1st, No. 105, belonging to Mr. T. Barham, points 92.31 ; 2nd, No. 91, belonging to Mr. J. R. Corbett, points 88.03.

Other Breeds or Crosses : 1st, No. 131, Ayrshire cow belonging to Mr. Ferme, points 97.72 ; 2nd, No. 162, Shorthorn and Ayrshires cross belonging to Mr. Walter, M. P., points 85.38.

Mr. Thorley's Prize : 1st, No. 38, Shorthorn, belonging to Mr. G. F. King, points 84.49.

Goats : 1st, No. 434, belonging to Mr. J. S. Rawson, points 48.03.

Putting them altogether, therefore, it appears that the best milker is a Shorthorn with 98.30 marks out of 100, the second a Shorthorn, with 98.10 marks, and the third an Ayrshire, with 97.72—this latter yielding 53 lbs. of milk, and showing 12½ per cent. of cream.

We are exceedingly well pleased with the steps taken by the British Dairy Farmers' Association in this direction, and it is gratifying to find that it is appreciated by the owners of cows, as shown by the numbers entered. The prime object of a cow is to give the largest quantity of the best milk and trials such as these are calculated to stimulate breeders to greater improvement in the milking powers of their stock. Milking records are comparatively new on this side of the water, but our American cousins have been working long at them, and are far ahead of us in this respect, though in some cases they have no doubt gone too far. We are glad, therefore, to see this department coming so well to the front, and so much patronised, and hope it will be still further developed.

*In Ireland*, butter varies in price from 60 shillings to 120 shillings a cwt. At the Nantwich cheese-fair in Cheshire, cheese sold at from 20 shillings to 68 shillings the cwt. I should like to know the difference in value of Mr. Reburn's butter from Ste-Anne de Bellevue, and the butter of Mde Salstoffe, of Ste-Barbaric, who churns once a week in the heat of summer !

*The Delaitouse.*—A French invention, by which the necessity of squeezing the water out of the butter is avoided. The butter is taken out of the churn in the granular state and put into this apparatus, which is, in fact, the well known centrifugal drier. By the centrifugal force, the butter-milk, or the water with which the butter has been washed, is driven outward, leaving the butter in a perfectly dry condition, from which it can be moulded into any required shape.

*English cheese prices.*—My brother writes to me from Hill Court, Glostershire, as follows : "Prices have been anything but remunerative—fancy a lot of the best single Gloster fetching no more at any market this year than 44 shillings the cwt." = 8½ cents ; "and some of the thick cheese,

called Cheddar, was disposed of at 47s." He may well add "I shall hold my rent day in about a month, and the returns of rent to my tenants which I shall be obliged to make is not an agreeable prospect." He did return 20 0/0.

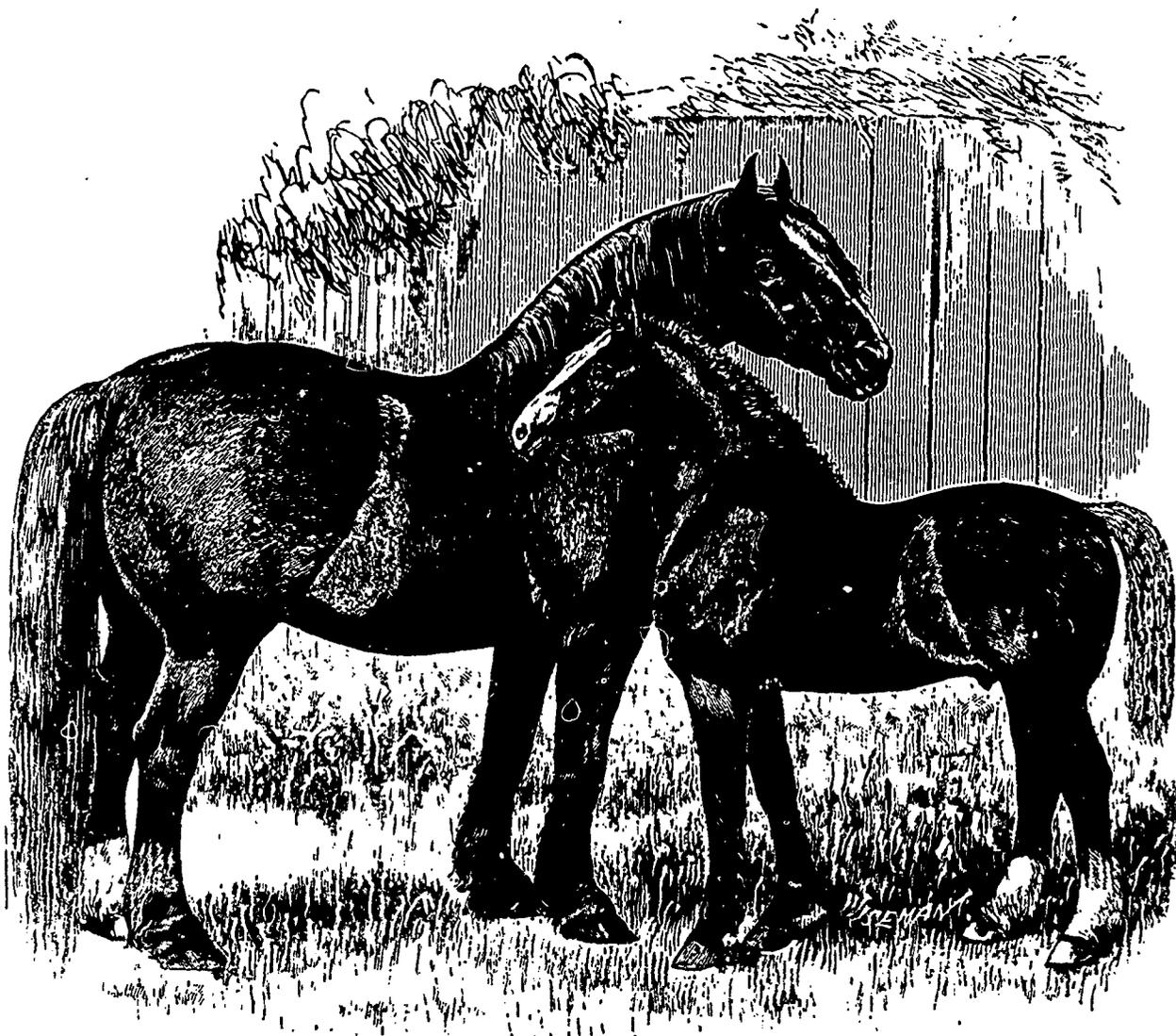
ARTHUR R. JENNER FIST.

#### OBITUARY.

THE LATE WILLIAM RIGDEN.

It is with very sincere regret that we announce the death

practice and reputation as a very successful farmer. Since it was written, the great meeting at Bedford has been held, and Mr. Rigden has again found himself in that front rank of Southdown breeders which he had occupied for many previous years. But it is not only the flock which makes Mr. Rigden's farm noteworthy: as the producer of bread and milk as well as mutton, it is also a capital example of first-rate agriculture. The neighbourhood of Brighton provides not only an admirable market, but a most valuable manure heap, and with the aid of these two requisites, Mr. Rigden's



CLYDESDALE MARE, DARLING XII, AND HER FOAL.

of our old friend Mr. Rigden, so well known as one of the leading Sussex tenant-farmers, and one of the most prominent breeders of Southdown sheep. The following note is quoted from *The Agricultural Gazette* of 1874:—

"Mr. William Rigden of Hove, Brighton, enjoys a well-deserved reputation as a most successful breeder of Southdown sheep; at the present time he stands quite in the foremost rank, both as a prize-taker, and for the prices which his rams and ewes average at his annual sales and lettings." This is the opening sentence of a very interesting report extracted from *The Field*, which does justice to Mr. Rigden's

farm has made an admirable contribution to the food supply of the country. Its indirect influence upon the quality and quantity of dark-faced mutton—through the many Southdown sires which it annually distributes all over England—is perhaps an even better illustration of the judgment, energy, and skill, which are here brought to bear on the profession of the farmer.

"Mr. Rigden has long been an active member of the Council of the Royal Agricultural Society of England, and in his own county he is held in high esteem as a public-spirited and energetic agriculturist."

Mr. Rigden retired from farming soon after the date of this short appreciative notice. His retirement was enforced by a paralytic stroke, from which, however, he ultimately recovered. His death took place in the 68th year of his age.  
*Agricultural Gazette, Eng.*

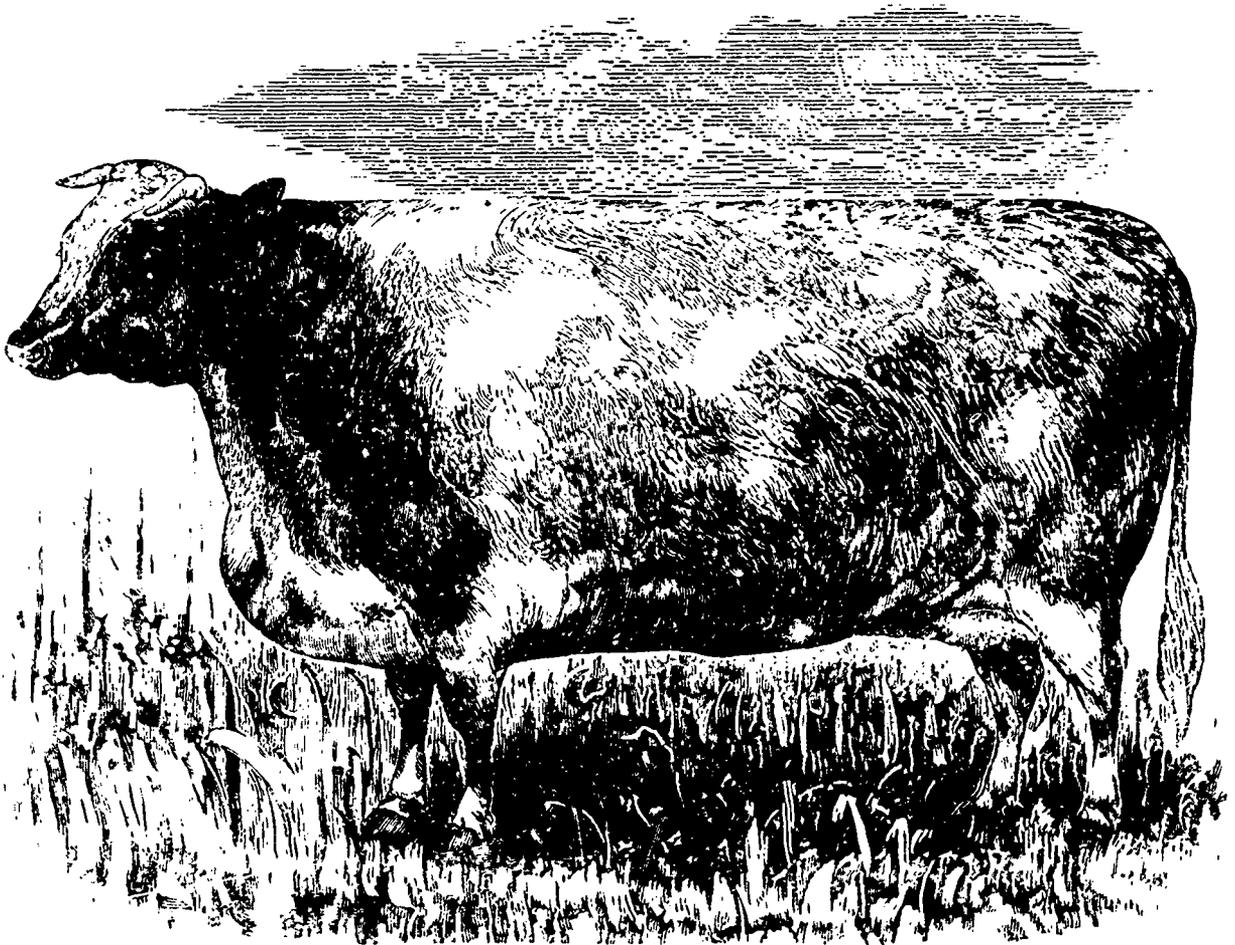
As to the list of prices in the English meat-market, I have to remark that those of 1885 are lower by nearly four cents a pound than the prices of 1881! Store stock are now fifteen dollars a head cheaper than they were this time last year.

*Corn and potatoes.*—A correspondent of the *Vermont*

look carefully after their stored crop. I have long been in the habit of inserting among both potatoes and mangels a small faggot extending from the ground to the top of the heap. This produces a current of air, and prevents rotting.

*Our Dairy industry.*—The Dairymen's association of the Province of Quebec will hold its annual meeting at Saint-Hyacinthe on the 14th and 15th of January 1886. From all I hear about this association I can confidently recommend all my readers who are not otherwise engaged to attend this meeting. Although the majority of the members are French, English is spoken when necessary to accommodate those who only understand that language.

ARTHUR R. JENNER FUSI



SHORTHORN HEIFER, LADY CAREW 13TH. Re-engraved from the *London Live Stock Journal*.

*Watchman* proposes to plant corn and potatoes in alternate rows. A good idea, I think, and in practice not unlike my plan of planting alternate rows of cabbage and tobacco.

#### OUR ENGRAVINGS.

*Clyde Mare and Foal.*

*Southdown Ram.*

*Swedes.*—v. article on.

*Baking apparatus.*

*Illustrations of the Chicago Grinding Mill.*

*Prize Heifer.*

*Storing root-crops.*—I strongly advise all root-growers to

Fruit from the province of Quebec for the London Exhibition.

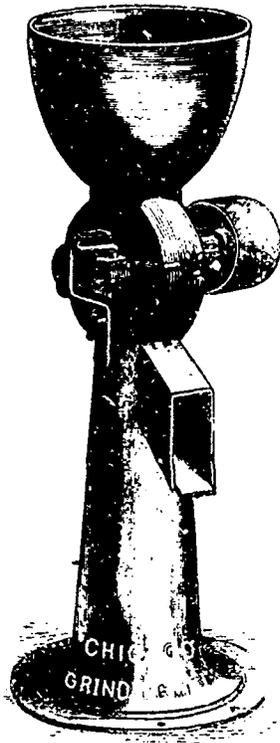
The Federal Government has requested the Horticultural Society of Montreal to make a collection of the fruit of the province of Quebec for the Colonial Exhibition which is to be held in London next April. Those who have specimens of apples, plums, peaches, pears, grapes, &c., which they desire to send to London, can do so with great ease. They have only to address them to Mr Henry S. Evans, secretary to the Horticultural Society, 93 McGill Street, Montreal:—not more than half a dozen of each variety of apples, peaches, plums, pears, &c., and not more than two bunches of each variety of grapes.

Mr Evans will preserve the fruit in glass jars, in such a manner that it shall retain all its bloom, and appear as if freshly gathered. — *From the French.*

#### A PRIZE HEIFER.

THE Shorthorn cattle have held their place wonderfully well, in spite of the fact that they have been bred at different times for every conceivable purpose. They have taken numberless prizes at beef contests, and more than once they have taken dairy prizes away from the regular butter breeds.

There are plenty of practical stockmen who claim that the best and cheapest "general purpose cow" will be found in the Shorthorn thoroughbred or high grade. Out of the thousands of graded cattle in this country, it is probable that as many trace their "blue blood" to Shorthorn parentage, as to all other breeds. In every neighborhood where good, shapely



cattle are appreciated the "red, white and roan" are to be found. Shorthorns are really divided into two classes: dairy animals, and those bred for beef exclusively. We give at an illustration of the latter class, Lady Carew, 13th, re-engraved from the London Live Stock Journal.

This fine three-year-old heifer was bred by her owner, Mr B St. John Ackers. She is by the fine Booth bull Royal Gloucester, 45,525, out of Lady Carew 5th. She won the champion prize for the best Shorthorn female at the Royal Show last July, and has secured many other honors. She is of magnificent shape with the least possible waste. "Beef steak down to the heel" would about describe her legs. (1)  
h. *New-Yorker.*

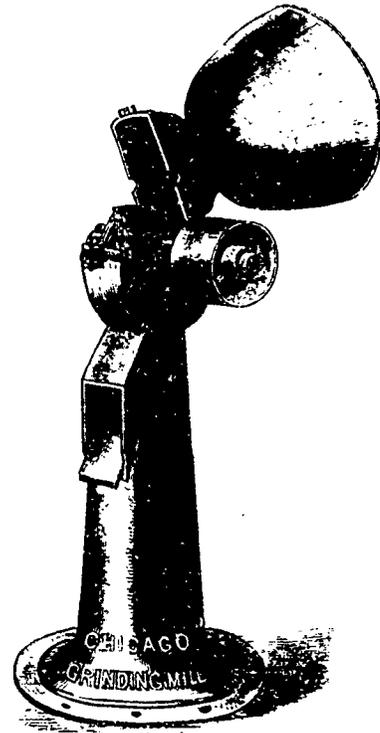
#### THE CHICAGO GRINDING MILL.

This mill having received a strong recommendation, we write for information and received the following:

(1) "True, in this country, but in England we salt the 'round' and make steaks of the rump."  
A. R. J. F.

"The advantages, or rather the necessity, of grinding corn, oats, etc., before feeding, are too well understood by farmers and stock-raisers to need any comment, as the saving in feed when ground is more than sufficient to pay for grinding it, to say nothing of the superior condition of cattle fed on ground feed. For this reason, the owner of a good feed mill will always find it a very profitable investment, as it more than pays for its life in a very few months, and a great additional gain can be made by grinding for neighbors.

"Desirable as it is for farmers to grind their own feed, instead of paying toll to the miller, and going to the trouble of bringing the feed to the mill and back, there has heretofore been the great drawback that feed mills constructed for the use of farmers and stock-raisers were suffering under great imperfection. Poor work, when compared to what is done by the miller, and too much power necessary to operate them, were the disadvantages common to every style of feed



mills, without any exception. Instead of grinding the material, they crack it, leaving rough, ragged edges on the produce, which can easily be seen under a magnifying glass, and are very detrimental to the stomach of the cattle. Besides this, no feed mill had been constructed ere this, but what required new plates very often, as their kind of corrugations was such as to wear out very fast. Then they were too high-priced machines, for the few cheap feed mills in the market are too poor machines to deserve the name of a feed mill at all. We ask any farmer if he ever saw a feed mill that was giving full satisfaction to the owner, as to price, necessary power, quality of work, capacity and durability. Certainly, nobody has, for there was none.

"Farmers who already have feed mills, and horse, steam or wind power to drive them, will find it a profitable investment to discard their old mills and put in a "Chicago." The superior work done by this mill will very soon pay for the change.

"Now to say a few words about our Chicago Grinding Mill:

"In consequence of the above-named defects in the machines that were in the market before it, ours has had the heartiest reception from the very first moment of its appearance, and now, after a comparatively short time, there are already *over three thousand of them in use* by farmers, stock-raisers and millers, giving the best of satisfaction everywhere, and receiving the recommendation they deserve by all who use them.

"The plates are of chilled iron, corrugated in such a way as to combine all the advantages that can be asked in a grinding mill. Above all, they do their work in a manner that leaves nothing to desire, as they grind the material fully as well as can be done by any miller, and we guarantee that their work cannot be equaled by any feed mill designed for the use of farmers or stock-raisers, and that no machine of whatever description can do better. Then our grinding-plates are made so that the grinding is done on all parts of the plates while all other plates do the grinding principally on the outer rim. This allows our plates to be of small diameter, resulting in an enormous saving of power, and wearing the plates evenly and slowly. We also control the

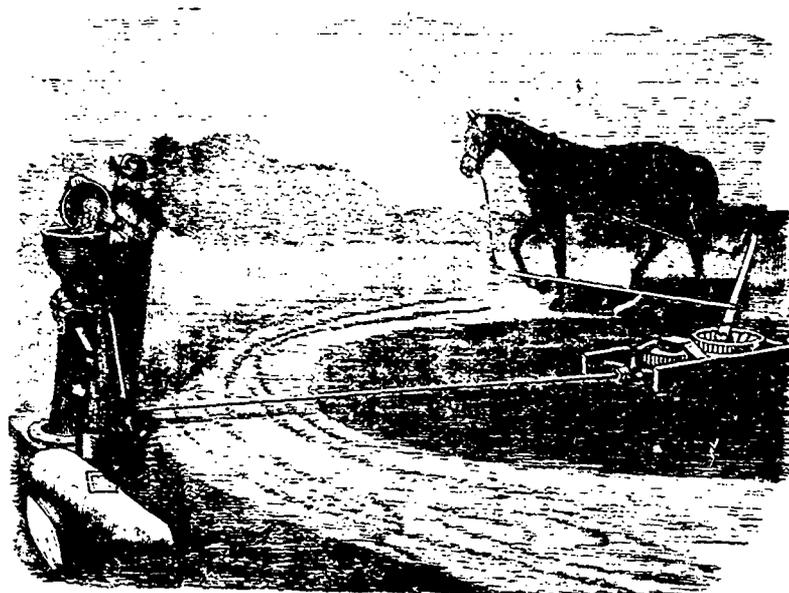
same size, and we build them of the best material, with self-oiling boxes, lined with babbitt metal. They are durable and substantial, and, taking the other advantages into account, we claim to build a feed mill which no other machine of the kind can equal, and is by far the cheapest, all things considered.

"Having demonstrated the truth of our claims in so many instances, we have reduced prices to "rock bottom," and hence no longer send on trial, but sell only for cash with order to parties not known to us, and cash on receipt of machine to all others.

"If machine is not satisfactory, and we are notified within thirty days after same has been received, and we do not make it satisfactory, machine can be returned, and money paid will be refunded.

"We guarantee our machine to be and to do fully all we claim. And we claim:

1. To build a mill that will grind feed *better* than any other known device.
2. To do this with less power than any other.
3. That our mills are the most simple and durable made.



patent of a device for discharging immediately from between the plates all the material ground fine enough, whereby a further saving of power, easy and free discharge of the material, and still greater capacity, are obtained.

"By means of a small thumb-screw shown on the left side of the mill, the plates can be instantly regulated to grind finer or coarser, and so exactly that the plates will not touch each other when the mill is running empty. While the spring in connection with the thumb-screw holds the plates together, it allows them to go apart when pieces of iron, wire, nails, etc., enter the mill. As soon as the nail, etc., is discharged, the springs bring the plates back to their former position, ready to continue the grinding without any interruption, the plates being too hard to be hurt by the nail, etc.

"When, after long use, the plates are worn out, new ones can be put in their place by anybody in ten to fifteen minutes. The little thumb-screw in front of mill being loosened, the top can be swung back, whereby easy access to the interior parts is obtained. A set of extra plates are furnished with each mill.

"Our mills have a much larger capacity than others of

4. That they are the cheapest in first cost, as well as in other essential features.

Size	Capacity per hour.	Price.	Extra plates per pair.	Pulley.	Height.	Revolutions	Horse power
1	5-6 bu-h.	\$25 00	\$2 00	5 x 3 in.	2 ft 6 in.	600	1
2	10-12 "	35 00	2 50	5 x 3 "	2 " 9 "	600	2
3	18 20 "	50 00	3 00	6 x 4 "	3 "	600	3
4	31 35 "	75 00	3 50	7 x 5 "	3 " 3 in	600	4
5	50-55 "	100 00	4 00	8 x 6 "	3 " 6 "	600	5

"A pair of plates will grind from 10 to 15 thousand bushels of corn, or about 100,000 bushels of oats, according to size of mill.

We have accordingly ordered a No 3 mill for our experimental farm at Three-Rivers. We shall fully report results later on in the Journal of Agriculture.

Ed. A. Barnard.  
(Director of Agriculture.)

**English vs. French Dairying.**

Cheshire, with its 700,000 acres, and containing more cows than any county in England, if we except Somerset, Lancashire, and Yorkshire, all of which are very much larger, may be considered the county which produces more milk per acre and per head of the population than any district in the United Kingdom, and yet that quantity is not sufficient. We want to see a greater yield per cow—a greater production per acre, which means an increase in the number of cows as well, and an improvement in the quality of the cheese and butter. How can these improvements, then, be brought about? Let us first see what it is possible for a people to do; and as it is necessary to point out something which our neighbours have not attained, we will instance a Norman department, Calvados, which contains 450,000 inhabitants, or about 100,000 less than Cheshire. Here, the butter made in a year is about 25,000,000 kilogrammes, or nearly 55,000,000 lb. (English), and valued at over 80,000,000 f., or £3,200,000. Of this amount only 3,000,000 kilogrammes are consumed in the department; consequently eight times as much is manufactured as is consumed, while one-third is exported, and chiefly to England. If we turn to the cheese industry—which, unlike the Cheshire, is almost entirely in soft cheeses, which are so much laughed at by some of our reforming authorities—we find that there are made of the Pont l'Évêque 2,000,000 f. value; Mignot, 200,000 f.; Livarot, 4,500,000 f.; Camembert, 3,000,000 f.—total, 9,700,000 f. value; or nearly 10,000,000 f. in value. In other words, the cheese and butter industry of this small county reaches nearly 100,000,000 f., or £4,000,000. Now taking the cows in Cheshire at 90,000, and including all those in calf as well as those in milk, and assuming that each produces £20 a year, they would just produce one half of the above amount. Of course, however, this could not nearly be reached, inasmuch as a large percentage of the animals included in the estimate would not reach anything like the sum we name. With regard to this estimated yield per cow, it is a question which bears closely upon the value of stock. If a cow gives an average of 10 quarts a day during ten months, or say 300 days, her total yield reaching 750 gal., she is a good animal; and it should be the aim of the dairy farmer, not only to reach, but to exceed this quantity. At 7d. per gal., however, this sum would only reach £21 17s. 6d., which is nothing like what our

French neighbours realise from their cheese and butter, and many of our own countrymen from milk alone. Ex.

**BUTTER-PACKING.**

In packing butter for transport some precautions must be observed. New tin vessels give butter a very disagreeable rancid taste, and they must be well scalded and scrubbed with hot water and soda or soap before use. Also, the butter ought not to come in direct contact with the metal, which can be avoided by lining the sides of the vessel with thin wooden slabs or wrapping the butter in clean linen or parchment paper. Oakwood has a peculiar smell coming from the tannin, and pinewood also, derived from its resinous components, even beechwood has a wood smell, though not so strong as the others. This smell will spoil the flavour of butter most certainly if not done away with before the casks, firkins, tubs, &c., are used for the first time. The best way to do this is to scald them first with hot water, then fill them with salt water, and after standing for twenty-four hours empty them and rinse them with cold water. When they are to be filled with salted butter, rinse them out first with cold water, then rub the bottom and the sides with a handful of salt.

Now, the butter is formed roughly into pieces of 1 lb. or 2 lb., and the shape of a spinning top, and these are thrown with force one next to the other into the barrel, so as to make one layer on the bottom. This finished, another layer is put on in exactly the same way, and so on until the vessel is full, which takes several days, or even longer in smaller dairies. To finish the filling, the surface is made even with a small wooden spade, a handful of salt strewn on the butter and covered with a circular piece of linen, gauze, or parchment paper, when the cover is fastened down, and the vessel is ready for transport. The work of filling in the described way requires practice, because not the smallest interstices may remain between the lumps of butter, and the whole must look like cast in a mould. If any interstices are left, which are full of air, each of them is a centre of putrefaction, which spreads and spoils the whole of the butter sooner or later. Before wooden barrels, &c., are used again, they must be scalded thoroughly with boiling water, or better with steam, and scrubbed with soda. Lack of cleanliness in this work spoils the best butter packed in such vessels afterwards. Ex.

**TABLE OF CONTENTS.**

Agricultural pupils.....	3, 17	Barn, the general purpose .....	12, 26	Barley, depth of furrow for.....	72
“ schools—Ste-Anne, &c. ....	120, 17	Barnard on potato planting.....	24	“ two or one furrow for? .....	72
“ Association—the E. Town-		Barley.....	70	“ after sheep-fold .....	72
“ ships .....	9	“ kinds of .....	70	“ on stale furrow .....	72
“ experiments .....	174	“ six- and four-rowed.....	70	“ drilling seed of .....	72
“ essays .....	3	“ classification of .....	70	“ broadcasting seed of.....	72
“ college at Guelph, report of		“ malting .....	70	“ seed per acre of.....	73
“ the .....	107	“ value of.....	70	“ purity of seed of.....	73
“ lectures .....	3	“ swells in malting.....	71	“ harvesting .....	73
“ Societies, Journals, Director		“ weight and yield of.....	71	“ rules for growing.....	73
of, on .....	120	“ Chevalier .....	71	“ threshing .....	73
Ammonia .....	2, 121, 129	“ Winter.....	71	“ bot. name of.....	116
Analyses of hen-manure .....	92	“ on clays .....	71	Beans.....	4, 131
“ of fertilizers.....	90, 92	“ fertilisers for .....	71	Berkshires.....	3, 26, 173
Apatite .....	132	“ after rape.....	71	Berthier, exhibition at.....	91, 165
Apples, varieties of .....	131	“ after sum fallow.....	71	Bourque & Paul's stallions.....	166
Artichokes .....	3	“ acrospire of.....	71	Brood-mares, Hillhouse on.....	196
Asparagus .....	3	“ Bass' lot of.....	71	“ points of.....	169
Ayrshire cattle.....	91, 147, 152, 165	“ rootlets of.....	71	“ care of.....	169
		“ value of cummins .....	72	“ first foals of.....	169
		“ test of .....	72	“ at foaling time.....	169
		“ N. limits of.....	72	“ food for.....	170
		“ sowing .....	72	Bulls and hogs at Knowlton.....	42
Bakewell's Leicesters .....	68				

Butter to keep..... 15	Cabbage, field after culture of..... 140	Calves, for veal, marketing..... 154
“ .. 29, 106	Calf-raising..... 84	“ not to suck..... 154
“ churning whole milk for..... 132	Cattle, Canada's trade in..... 187	“ for dairy cows..... 154
“ packing..... 132, 187	“ Pool on..... 127	“ skim-milk for..... 154
“ “ vessels for..... 132	“ filthy stalls for..... 1	“ temp. of milk for..... 154
“ to pack..... 15	“ diarrhoea in..... 3	“ .. 84
Butterine..... 166	“ Shorthorn..... 44	Creamery, factory and silo..... 77, 78, 155
Blue grass..... 38	“ useful vs. pedigree..... 14	“ but'er..... 105
Beet, sugar—in Eng..... 84	“ in winter, care of..... 24	Orib-biting..... 125
Bones..... 89, 130, 134	“ short supply of..... 127	Chickens for market, feeding..... 125
British flocks..... 107,	“ Guernsey bull..... 25, 44, 87	“ fatteners or finishers of..... 126
“ Merinoes..... 107	“ the model cow..... 47	“ how to fatten..... 126
“ Leicesters..... 107	“ Canadian..... 152	“ French mode of fattening..... 126
“ Cotswold..... 107	“ Béland's..... 152	“ buckwheat and milk for..... 126
“ Lincolns..... 107	“ Arsenault's..... 152	“ finely ground oats for..... 126
“ Cheviots..... 107	“ herd book for..... 1 2	“ corn meal for..... 126
“ Hampshire-downs..... 107	“ Canadian vs. Ayrshires..... 153	“ treatment of..... 156
“ Southdowns..... 107	“ Canadian-Jerseys..... 153	“ cure of dropsy in..... 156
“ (Oxfords)..... 107	“ Shorthorn, to judge..... 41	Cows, yield of milk of..... 126
“ Romney Marsh or Kents..... 107	“ Wyoming..... 46	Collies, Scotch..... 126
Begonia rubra..... 121	“ Hereford, sales of..... 47	Condimental food, price of..... 133
Bugs, the rose..... 122	“ how to judge..... 44	“ constituents of Thor-
Beans..... 145	“ breeds of—compared..... 47, 48	“ ley's..... 133
“ haricot or French..... 145	“ Guernsey, for butter..... 153	“ “ price of Thorley's..... 133
“ kinds of..... 145	“ Jersey..... 55, 87	“ “ Lawes on..... 133
“ land for..... 145	“ fastenings for..... 79	Cotton-seed meal vs. corn-meal..... 140, 157
“ price of..... 145	“ chains or hooks for..... 79	“ composition of..... 140
“ at Joliette, crop of..... 145	“ partition posts for..... 79	“ nutrition in..... 140
“ culture of..... 145	“ calf-raising..... 84	“ undecorticated—dangerous..... 140
“ fallow crop of..... 145	“ “ skim or whole milk for..... 84	Crops, yield of in 1885..... 151
“ rolling after sowing..... 145	“ “ wheat-meal for..... 84	
“ thinning out..... 145	“ “ when to wean..... 84	
“ horse-hoeing..... 146	“ “ winter best for..... 85	
“ why sown on drills..... 146	“ “ eggs for..... 86	
“ plaster for..... 146	“ “ Patterson on..... 86	Dairy show in London, Eng..... 14 28
“ harvesting..... 146	“ “ linseed for..... 86	“ “ judges at..... 14
“ soup of..... 146	“ Guernsey, Staniforth on..... 87	“ “ Shorthorn 1st prize at..... 14, 182
“ Broad..... 146	“ “ .. 44	“ “ Dutch and Ayrshires at..... 14
“ Windsor..... 146	“ Jersey, price of..... 87	“ schools..... 19
“ Mazagan..... 146	Carolina rock, Hoskins on..... 156	“ industry, M. Barré and the..... 65
“ Winter or Russian..... 146	Carp in France..... 166	“ his letters to the papers..... 65
“ weight of..... 146	Carrots, Prudhomme's..... 166	“ his charges against Director of Ag..... 65
“ t-perature endured by..... 146	Cemetery plants..... 121	“ who he was in 1871..... 65
“ proper soil for..... 146	Clover, best hay of..... 91	“ his mission to Denmark..... 66
“ per acre, yield of..... 146	Clothing for horses..... 8	“ letters from..... 66
“ for hunters &c..... 146	Colic, cure for..... 54	“ his attainments..... 66
“ constituents of..... 146	Corn fodder..... 24, 49, 175, 176	“ at the St. Denis factory..... 66
“ for sheep..... 146	“ phosphate for..... 1	“ industry, Barnard on..... 103
“ Egyptian..... 146	“ yield of, in U. S..... 90	“ management of the—Murray on the..... 89
“ and linseed..... 146	“ to keep crows, from..... 70	“ temperature of cow house..... 89
“ culture of..... 146	Cottage, seaside..... 76	“ cooked vs. raw food..... 89
“ a fallow crop..... 146	Crossing in general..... 91	“ consumption of food..... 89
“ in rotations..... 147	“ law of..... 91	“ bean-, pea- and linseed-meal..... 89
“ hand-hoeing of..... 147	“ Shorthorn and Ayrshire..... 91	“ cleanliness in..... 89
“ the “nigger” in..... 147	Carthorses, on judging heavy..... 95	“ clover-hay best for..... 89
“ with pease..... 147	“ points of..... 95	“ long-hay for rumination..... 90
“ seed per acre..... 147	“ defects of..... 95	“ early cabbages in..... 90
“ rape between rows of..... 147	“ Spooner on..... 95	“ cost of cow-keep..... 90
“ harvesting..... 147	“ form vs. pedigree..... 95	“ green hay vs. ripe..... 90
“ threshing..... 147	Celery, the white-plume..... 124	“ proper temperature of..... 148
“ plaster for..... 147	“ blanching..... 53	Dairying, Eng. vs. French..... 187
	“ “ in cold frames..... 53	Dairyman, the..... 130
	“ “ in trenches..... 53	Deep-ploughing..... 142
Cabbage, culture of..... 3	Council of Agriculture..... 97	“ “ on sands (v. note)..... 142
“ starting—hotbeds for..... 68	“ “ a failure..... 120	“ “ on clays..... 142
“ for cows..... 15	Cheese, soft..... 172	Draining, on the principles of..... 60
“ Bailey's method..... 68	“ in France..... 172	“ fall for..... 60
“ winter..... 3	“ Camembert, Ireland on..... 52	“ distances in..... 61
“ worms, cure of..... 166	“ “ rennet for..... 52	“ hollows..... 61
“ Brodie on the..... 166	“ “ tins for..... 52	“ depths for..... 61
“ sorts of..... 123	“ half-skim..... 105	“ levelling for..... 61
“ field..... 139	“ factories..... 106	“ general rules for..... 81, 36
“ varieties of..... 139	“ E., lish factory..... 132	Drill system, the..... 131
“ “ value of..... 139	“ cow-feeding for..... 132	Ensilage..... 12, 25, 29, 32, 55, 84, 171
“ “ thousand-headed..... 139	“ Price of skim at N. York..... 133	“ Fry's system of..... 13, 133
“ “ drilling..... 139	“ how to make firm..... 131	“ sweet..... 13
“ “ planting..... 139	“ Voelcker on thermometer in making..... 152	“ beats of..... 14
“ “ seed, price of..... 139	Calves, Stewart on rearing..... 154	“ killing germs in..... 14
“ “ fertilisers for..... 139	“ chosing..... 154	“ Crozier on..... 25
		“ in England..... 32, 65
		“ popular..... 32
		“ tests of..... 32

Ensilage, yield of maize for .....	32	Food and effects of buckwheat and mid-	43	Horses, care of.....	169
“ value and cost of .....	32	“ dings on .....	43	“ first foals.....	169
“ Highland Society's experiments		Frying .....	152	“ time of foaling.....	169
“ on.....	174	Furrows, depth of, for roots.....	24	“ care of, during foaling.....	169
“ bad for milch-cows .....	57			“ food for.....	169
“ Lawes and Voelcker on .....	132			Hoskins on fertilisers.....	46, 83
“ for milch-cows.....	136	Garden, the vegetable.....	3, 123	“ prices of fertilisers.....	46
“ gives flavour to the milk .....	136	“ asparagus .....	3	“ quantities per acre of fertilisers	46
“ saves haymaking .....	136	“ artichokes .....	3	“ on clover and phosphate.....	83
“ a hunter fed on .....	136	“ beans, Lima .....	1	Hops in New York.....	83, 134
“ congress, the American .....	137	“ “ Early Mohawk.....	4	“ tying .....	83
“ vs. roots.....	148	“ “ Valentine .....	4	“ training to poles .....	83
		“ “ crystal wax.....	4	“ apbie, mould and rust.....	81
Errata .....	181	“ Cauliflowers to keep.....	4	“ extent of yards.....	83
Ewes, shearing heavy.....		“ Celery .....	4	How the farm pays, Orozier and Hender-	
“ to make take to lamb .....	111	“ Chervil .....	4	son on.....	22
Experimental farm, the Sussex.....	132	“ Chicory .....	1	“ gentlemen-farmers .....	22
“ “ Jamieson on the.....	132	“ Endive .....	4	“ British farming.....	22
“ “ The Ontario — ad-		“ Horseradish.....	4	“ rape .....	23
“ vanced report of		“ Kale .....	4	“ drains and roots .....	23
“ 1885 .....	147	“ Leeks .....	4	“ firming soil after setting .....	23
“ “ dairy tests at.....	147	“ Lettuce .....	4	“ potato planting.....	23
“ “ yield of Ayrshires.....	147	“ Spinach .....	4	“ mangels, thinning .....	24
“ “ “ Holstein .....	147	“ Onions .....	4	Hordeum distichum—barley .....	116
“ “ “ Jerseys .....	147	“ Parsley .....	4	House-plants .....	123
“ “ colour of Guernseys.....	147	“ Radishes .....	4	“ “ Pansies.....	124
“ “ ensilage vs. roots.....	148	“ Rhubarb.....	4	“ “ Hepatica .....	124
“ “ green-fodder in winter		“ Salsify .....	4	“ “ Siberian Squill.....	124
“ “ cream, Jeep setting		“ Scorzonera .....	4	“ “ Snowdrop .....	124
“ of .....	148	“ Sorrel .....	4		
“ “ proper temp. of dairy		“ Squashes .....	123	Improved farming, Malcolm on.....	93
“ “ trial of separators.....	148	“ Tomatoes.....	4	Industries, Agricultural, P. C.....	125
“ “ experiments with milk		Goslings, how to rear.....	29	“ farms too large in P. Q.....	125
“ of ten breeds of		“ gray sort best.....	29	“ Lectures on, beet-sugar facto-	
“ cows.....	149	“ weight of good.....	29	ries in .....	125
“ “ what cattle suit On-		Guano in Australia, use of.....	165	“ starch, glucose—fertilisers—	
“ tario best.....	149	Gazette des Campagnes, the.....	120	“ factories in .....	125
“ “ permanent pasture.....	149	Geraniums, to winter.....	123, 124	Insects in house-plants, to destroy.....	151
Experiments, value of.....		Glucose factories.....	125		
Explosion of boilers, to prevent.....	150	Gooseberries, English .....	26	Jamieson on fertilisers .....	132
Fair, the Toronto.....	112	“ Warrington red.....	26	“ on apatite, vs. Lawes, Voelcker	
Farm accounts .....	53	“ early sulphur .....	27	and Aitken .....	132
Farmyard dung, Lawes on .....		“ Iron monger .....	26	Jerseys in England, sale of.....	133, 147, 165
Fertilisers, sources of .....	30	Grapes, the Champion or Beaconsfield.....	151	“ at Shrewsbury .....	55
“ .....	125	Grasses—timothy .....	24, 83	“ price of in Island of.....	88
“ G. Cook on.....	30	“ permanent.....	91		
“ nitrogen .....	31, 92	“ Orchard.....	24, 80, 83, 106, 141	Lactic acid.....	133
“ “ nitrate of soda.....	31	“ mixtures of .....	24	L'Assomption, college of .....	17, 19
“ “ dried fish, dried blood		“ Italian rye.....	24	La Traverse, his mangels .....	166
“ “ cotton-seed meal.....	31	“ clover for hay .....	24	Leicester sheep .....	5
“ “ sulphate of ammonia		“ cost of seed .....	24	Liquid manure .....	1
“ “ taukage .....	31			“ “ drains for .....	1
“ “ ammonite .....	31	Harvest in England.....	167	“ “ tanks, pump and cart	
“ “ guano.....	31	Hay.....	91, 109, 131, 151	for.....	1, 2
“ phos. acid.....	31, 92, 134	Health, hereditary influence on.....	172		
“ “ bones.....	31	“ roaring, &c.....	173	Markets, cattle.....	10
“ “ .....	134	“ ophthalmia .....	173	Mangel .....	161
“ potash—kainit.....	31, 92	Harrowing young corn.....	69	“ nativity .....	161
“ cost of.....	31	Heliotrope, the .....	122	“ sorts of.....	161
“ Brodie & Harvie's.....	91, 94	Holsteins .....	147	“ preparation of land for .....	161
“ “ value of.....	91	Horse-breeding, Dr McEachran on.....	7	“ treatment of heavy land for.....	161
“ price of, in England 1885 .....	121	“ “ A. Campbell on.....	45	“ autumn-cleaning for.....	161
		“ “ throughbred crosses.....	7	“ winter furrow for .....	161
Flat, sowing roots on the.....	131	“ “ clothing and cleanliness.	8	“ Gray's method for.....	162
Flocks, British.....	107	“ “ stable-management .....	8	“ Jas. Drummond's for.....	162
Fodder for dry seasons .....	107	“ hoeing in droughts.....	157	“ flat-work sowing of.....	162
Fowls, aged valuable .....	138	Horses, clipping vs. long coats.....	8	“ spring preparation for.....	162
Fruit garde, the.....	143	“ to tell age of.....	39	“ steeping seed of.....	162
“ trees management of.....	143	“ washing feet of.....	9	“ manures for, cost of.....	162
Food and quality of milk, Stewart on.....	43	“ grease in symptoms of.....	9	“ Ville on manures for.....	163
“ “ German School .....	43	“ “ poulticing for.....	9	“ Pusey on growing.....	163
“ “ analogy of fats in milk and		“ “ liniment for.....	9	“ guano for .....	163
“ meat .....	43	“ points of .....	168	“ distance between rows of.....	163
“ “ effects of various grasses on.....	43	“ to tell age of.....	151	“ spreading dung for.....	164
“ “ “ corn and cotton-meal		“ paces of.....	168	“ sulph. ammonia for.....	164
“ on .....	43	“ Hithouse on.....	169	“ dry vs. steeped-seed.....	164
“ “ “ of bran and palm-meal		“ brood-mares .....	169	“ rolling drills of .....	164
“ on .....	43	“ points of.....	169		



Rugden, William.....	133	Swede, shape and colour of.....	177	Wheat, grubbing, harrowing, rolling.....	118
Roasting apparatus.....	180	“ for seed, best shape of.....	178	“ after bastard fallow.....	118
Rose-radish, the Chinese winter.....	121	“ when heaviest.....	177	“ spring culture of fall.....	119
Roots, nutritive value of, Sanborn on.....	109	“ nutriment in the.....	178	“ cure of smut in.....	119
“ for steers “ “ “.....	109	“ weight and measurement of the.....	176	“ why not sow in fall.....	119
Roses, to prune and peg down.....	112	“ dung and fertilisers for... 93, 178		“ Major Campbell's practice.....	119
“ hedge of .....	112	“ M. Guevremont's..... 166, 177		“ seed per acre.....	119
Rotation for oats, best place in.....	37, 38	“ at Sorel, good crop of.....	177	“ Lunan's seeding..... 119, 179	
“ weeds and seeding.....	37	“ keep in an acre of.....	178	“ crop of—in France, England, 1885.....	186
“ best.....	37, 38	“ varieties of.....	178	“ amount of wanted in England.....	186
Schools, Agricultural, Barnard on.....	7	“ Caveaus for keeping.....	178	Weeds, what they are.....	137
“ “ Ste-Anne... 17, 18, 19		“ large or small preferable.....	178	“ hay of, for sheep.....	137
“ “ Oka..... 20		“ yield per acre of.....	179	“ natural grasses are.....	137
“ “ Richmond... 17, 18		“ manures for.....	179		
“ “ Sorel..... 17, 20		“ Ville's manures for.....	179		
“ “ Wentworth..... 20		“ Jenner Fust's, for.....	179		
“ “ pupils at..... 18		“ potash for.....	179		
“ “ dairy-schools at..... 19		“ seed per acre of.....	179		
“ “ l'Assomption .. 17, 19		“ season of sowing.....	179		
Seedsman's catalogues.....	165	“ to kill the fly on.....	179		
Separator, the.....	94, 148	“ pulling down drills of.....	179		
Shallow-culture for corn, Hoskins on.....	175	Tares or vetches .....	129		
Sheep, dipping for parasites in.....	159	“ with or without manure.....	129		
“ scab in..... 81, 159		“ fineness of roots of.....	129		
“ dipping.....	159	“ sorts of and botanical name of.....	129		
“ sturdy and foot rot in.....	160	“ plaster, ashes, phosphates for..... 129, 130			
“ extracting the “blob” hyatid) in.....	160	“ Ville on manure for.....	129		
“ diarrhoea in.....	160	“ nitrogen, ammonia sulphate for.....	129		
“ scab at Sorel 1885.....	160	“ guano, and Jenner Fust's formula for.....	130		
“ James Ward on breeds of.....	5	“ preparation of land for.....	130		
“ Scotch black-faced.....	5	“ quantity of seed per acre for... 130, 132			
“ Cheviots.....	5	“ preparation of land for..... 130, 132			
“ Kents or Romney-Marsb.....	5	“ derivation of name of.....	130		
“ Oxfords, South-downs.....	5	“ as a hay-crop.....	130		
“ Shropshires, Hampshire-downs.....	5	“ how and when to sow.....	130		
“ Leicesters, Cotswolds.....	5	“ for milch-cows.....	130		
“ cross breed from Shrop ram... 5		“ to save seed of.....	130		
“ Do from Hampshire down... 5		Tobacco.....	131		
“ at Holey fair.....	5	Tomatoes grown in boxes..... 69, 123			
“ Shropshire.....	63	“ early, time of sowing.....	82		
“ “ origin of the .....	63	“ cutting back, hardening off.....	82		
“ “ Leicester, South-Downs, Cotswold, all used.....	63	“ planting out, mistakes in growing.....	82		
“ “ started about 1882.....	63	Trifolium incarnatum or Crimson clover.....	120		
“ “ no horns & gray faces... 63		“ Beal, Hicks, and Skelton on.....	120		
“ “ weight of.....	63	“ how and where to sow.....	120		
“ “ of wool... 63		Trotting stallion, McEachran on a.....	93		
“ “ management of.....	63	Vegetable garden.....	123		
“ Oxfords.....	67	Warble fly, Ormerod on the.....	59		
“ original cross Hants and Cotswold.....	67	Wheat, Lawes on.....	6		
“ Twynam on.....	67	“ nitrogen for.....	6		
“ Twynam's challenge.....	67	“ de seed fr. ægilops ovala.....	113		
“ price of Oxford.....	67	“ price of, in 1853.....	113		
“ mutton vs. wool of.....	68	“ not much in P. Q.....	113		
“ most profitable breed of.....	68	“ selection of seed.....	116		
“ Ellman's South-downs.....	68	“ kinds of.....	116		
“ scab in, order in Council on 81, 159		“ Talavera..... 116, 117			
“ to be isolated.....	81	“ bald and bearded.....	117		
“ weed hay for.....	137	“ rachis and spikelets of.....	117		
“ duty of Vet. inspector.....	81	“ ear and grain, classification of weights per bushel of.....	117		
“ appraised value of.....	82	“ kiln-drying.....	117		
“ sheds to be disinfected.....	82	“ flour, bran, &c., from.....	117		
“ penalty for moving.....	82	“ Manitoba.....	131		
“ husbandry, American.....	110	“ baking flour from.....	118		
“ raising; wheat-a iddlings for.....	110	“ adulteration of flour from.....	118		
“ when to start keeping.....	124	“ unfermented bread from.....	118		
“ price of.....	124	“ fall cultivation of—after potatoes, &c.....	118		
“ soil and water for.....	124	“ stale furrow for.....	118		
“ Vergil on.....	124	“ how to sow.....	118		
“ thoroughbred rams to get.....	124	“ when to manure for.....	118		
Silos, number of in England.....	127				
Smilax, cultivation of.....	121				
Strawberries, Vick on.....	122				
Swede, the.....	177				
“ derivation of.....	177				
“ French and Italian names of.....	177				
“ botanical name of.....	177				

ILLUSTRATIONS.

Baking apparatus.....	180
Barley.....	70
Barn, front view of.....	12
“ back view of.....	13
“ elevation of.....	26
“ plans of.....	27
Berkshire sows.....	57
Boar, head of.....	172
Bulls, Justice—polled Angus.....	55
“ Jersey..... 93, 136	
“ Cotewayo—Guernsey.....	104
“ 22nd. Duke of Airdrie — Short-horn.....	105
Celery, blanching.....	53
Clyde Stallion—the Druid.....	56
“ mare and foal.....	183
Cows.....	
“ old Grannie—Angus.....	
“ Jersey.....	45
“ “ Elsie Lane.....	52
“ Guernsey—Elegante.....	77
“ “ and calf.....	149
“ Hereford—Lucy.....	137
“ Holsteins, group of.....	88
Drains, illustrations of.....	60, 61
Draught-horses, French.....	101
Drill, the Planet jr. garden.....	150, 151
Grape, the Niagara.....	85
Heifer a prize 1885.....	184
Hereford and Shorthorn ox.....	37
Horse-hoe.....	76
“ mouth of the.....	39
“ points of the.....	168
House, elevation of.....	24, 72
“ plans of.....	72
Mangels, oats, potato and Tartar.....	35
Rams Leicester..... 173, 174	
“ Oxford.....	69
“ Southdown.....	131
Swedes.....	178
Tedder, the.....	175
Wheat.....	115, 116, 117

CORRESPONDENTS.

Campbell, Archie.....	45
Harvie and Brodie.....	94
Hoskins, Dr.....	46, 83
Malcolm, F.....	93
Mousseau, Al.....	152
Staniforth.....	87
Williams, J. S.....	42

CONTRIBUTORS.

Barnard, Ed. A.....	17, 65, 94, 103, 153
Ireland, T. C.....	52
Jenner Fust, Arthur R.....	1, 2, 3, 5, 6, 7, 8, 14, 15, 25, 31, 33, 46, 47, 49, 50, 54, 70, 78, 91, 93, 106, 108, 109, 113, 119, 120, 121, 129, 130, 131, 132, 133, 134, 145, 147, 149, 150, 151, 152.
McEachran, Dr.....	8, 21, 74, 93

## NON-OFFICIAL PART.

## TWO NOTED MINSTRELS.

Who Have Won Fortunes and What They Say About Stage Life.

*From Stage Whispers.*

"Billy" Emerson has recently made a phenomenal success in Australia, and is rich.

Emerson was born at Belfast in 1846. He began his career with Joe Sweeney's minstrels in Washington in 1857. Later on he jumped into a prominence in connection with Newcomb's minstrels with whom he visited Germany. He visited Australia in 1874 and on his return to America joined Haverley's minstrels in San Francisco at \$500 a week and expenses. With this troupe he played before her majesty, the queen, the Prince of Wales, and royalty generally. After this trip he leased the Standard theatre, San Francisco, where for three years he did the largest business ever known to minstrelsy. In April last he went to Australia again, where he has "beaten the record."

"Billy" is a very handsome fellow, an excellent singer, dances gracefully, and is a true humorist.

"Yes, sir. I have traveled all over the world, have met all sorts of people, come in contact with all sorts of customs, and had all sorts of experiences. One must have a constitution like a locomotive to stand it."

"Yes, I know I seem to bear it like a major and I do, but I tell you candidly that with the perpetual change of diet, water and climate, if I had not maintained my vigor with regular use of Warner's safe cure I should have gone under long ago."

George H Primrose, whose name is known in every amusement circle in America is even more emphatic, if possible, than "Billy" Emerson, in commendation of the same article to sporting and travelling men generally, among whom it is a great favorite

Emerson has grown rich on the boards and so has Primrose, because they have not squandered the public's "favors."

## A WONDERFUL OFFER.

Every Farmer and Stock-breeder should send One Dollar to the Rural Home Co., of Rochester N. Y., for a year's subscription to THE AMERICAN RURAL HOME, and receive FREE a copy of The Farmers' and Stockbreeders' Guide, a new and reliable work just issued. The book contains over four hundred pages, is printed on nice paper, fully illustrated and bound in cloth. It is by no means a cheap John affair, but a valuable compilation of the writings of Youatt, Mills, Skinner and Clater, and is the most reliable and comprehensive work ever issued on the subject. The diseases of oxen, sheep, swine and horses, with the causes, symptoms and treatment are given with such simple direction that every farmer may become his own cattle doctor. It treats of the anatomy of all domestic animals and practically deals with the use of Oxen, breed of Sheep and Stable management. Any one after consulting its pages can select a carriage, wagon or saddle horse and be a good judge of cattle. It is invaluable to every one who has to do with the Farm or Stable and will give hundreds of dollars to its fortunate possessor. As to the AMERICAN RURAL HOME, it is generally considered to be the best paper of its class published. We are acquainted with the publishers and proprietors and can vouch for the genuineness of their offer. Paper one year with book postpaid, One Dollar. Send for sample copy with list of more than one hundred bound books which are given away. Address Rural Home Co., limited, Rochester, N. Y.

## A CELEBRATED PIANO.

(FROM THE NEW YORK SUN.)

For nearly fifty years, the Pianos made by Wm. Knabe & Co. of Baltimore, and 112 Fifth Avenue, New York, have been before the public. Their fame for singing quality of tone, ease of action, durability, and workmanship was long ago established. The most thorough and conscientious attention is paid by the firm to every detail. In the construction of their Pianos the best Rosewood, English Oak, Mahogany and Ebony are used. The evenness of the scale is marvellous and the upper tones especially, are as clear and sparkling as a bell. Knabe & Co.'s Pianos are used at Dr. Damrosch's concerts. The firm established an agency in Mexico not long ago, and orders are already pouring in.

## Nervous Debilitated Men

You are allowed a free trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent cure of Nervous Debility, loss of Vitality and Manhood, and all kindred troubles. Also, for many other diseases. Complete restoration to health, vigor and manhood guaranteed. No risk is incurred. Illustrated pamphlet, with full information, terms, &c., mailed free by addressing Voltaic Belt Co., Marshall, Mich.

## BEET-SUGAR INDUSTRY.

A gentleman who, for the last 15 years, has been technical manager of large beet sugar factories in Germany, wants a similar position. Being up with the latest contrivances and improvements he is capable of gaining the best results as to producibility. First-class references can be furnished. A letter addressed to 240 B West Chicago Av., Chicago, Ill. will meet with prompt attention from JULIUS FENNER.

## SARGENT'S CELEBRATED LOAD-LIFTER

This labor-saving machine has proved a success for the past three years. The load with the rack can be elevated to any height required. Thousands are in use in various places. This machine has been awarded all first prizes and diplomas. Beware of infringement. The rack can be raised by a man as well as by horse-power. Any party wishing a load-lifter from different parts, who do not know the agent for that district, or any person wishing to buy a "right," will apply to the patentee.

Sargent & Ruddell have combined their respective patents, which will defy competition for the practical use of this celebrated machine. Parties desiring the like would do well to send for circulars before purchasing any rival machines.

WM. SARGENT, Berkeley P. O., Ont.

**A PRIZE.** Send six cents for postage, and receive free, a costly box of goods which will help all, of either sex, to more money right away than anything else in this world. Fortunes await the workers absolutely sure. Terms mailed free.

TRUE & Co., Augusta, Maine.

The only Practical Swing Stanchion Invented, and the only one that is connected together at the top when open. C. D. BROOKS, PROP'R., Addison, Steuben County, N. Y. Manufactured and for sale by FENNELL & ANTHES, General Agents, Berlin, Ont., Canada.

A Liberal Discount to the Trade.

TO BREEDERS AND AGRICULTURAL SOCIETIES.

## FOR SALE.

A few choice head of Thorough-bred Ayrshires, male and female, from the undersigned's celebrated stock, so much appreciated for its well known milking properties, and which, as such, obtained, twice, the 1st prize at the Ottawa Dominion Exhibition, also the 1st prize for the best herd at Hochelaga County Exhibition for 1884. For particulars apply to

JAMES DRUMMOND, Petite Côte, Montréal.