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THE

Canadian Agriculturist,

AND

JOURNAL OF THE BOARD OF AGRICULTURE

OF UPPER CANADA.

VOL. XI. TORONTO, OCTOBER, 1859. No. 10.

ON PRESERVING ROOT CROPS.

It is fortunate for the Province with, perhaps, as scanty a crop of hay as ever was known, that turnips, mangel-wurzel, potatoes, carrots, &c., are more than usually abundant. With our cold, long winters, the supply of an adequate amount of good provinder to cattle, is among the most serious and pressing questions that can engage the attention of the practical farmer; for without sufficient food of the right quality, together with the necessary warmth and protection it is impossible to prevent the best animals from deteriorating. In the present exigency of a very short crop of hay, much may be done to mitigate the evil by carefully husbanding the various materials of cattle food which we possess, and a little extra attention to these matters will be highly remunerative to the owners of stock.

Of all the cultivated roots the *Sweedish Turnip* is the most permanent and valuable as a cattle food, abounding in highly nutritious ingredients. This root is every year becoming more extensively cultivated, and the prospect of a good remunerating crop in most part of the Province, the present season, is highly encouraging. What now principally remains is to secure the crop in the best possible condition. In this climate late sown Swedes will rapidly increase in size during the month of October, particularly if the weather be warm and moist: in England the growth extends through November, and sometimes to near Christmas. In this country people often commit the error of allowing their turnips to remain too long in the field, as the rigours of our winters make it necessary that they should be pulled, and properly secured. Turnips intended for Spring feeding ought to be removed from the ground by the beginning of November, at the latest, for any considerable degree of frost will injure them for keeping. An airy, well ventilated cellar or root-house, affords the best means of storing them, so as to allow access during the winter months. But when turnips are intended for feeding to cattle in Spring, there is no better way than to pr[illegible] them into heaps in the field. This operation, however, requires the exercise of judgment and care, or the object may be entirely frustrated. As soon as the bulbs have been properly tailed and topped, taking special care not to cut too closely,

they should be put into longitudinal heaps on the surface, or a little below it, gradually drawing in the sides to the slope of an ordinary roof. A moderate covering of straw, with a little earth to keep it firm, will be sufficient till the severe weather of winter begins, when the heap will require a thickness of some dozen or fifteen inches of straw or leaves when pressed, with a covering of earth somewhat thicker. But it should be carefully borne in mind that Sweedish turnips are unlike potatoes or mangel-wurzel, and will endure a moderate amount of frost without any serious injury. Indeed more Swedes probably are injured and sometimes destroyed, from too much protection than from too little. The great point is to keep them sufficiently dry and warm, to exclude severe frost and at the same time prevent fermentation. If turnips are put into too warm places or in large heaps, without the means of evaporation, they will be sure to ferment and rot; which result will often happen in a too close root-house and in large heaps in the open air, when too closely confined. Hence the preservation of roots through the winter months requires a watchful attention. In preserving in heaps out of doors, apertures or chimnies, should be left every few yards, extending from the bottom to the top filled loosely with straw; the tops of them should always be left open except in extremely cold weather, when a board or sod may be placed over them for a few days. These apertures which keep the mass cool, and thus prevent fermentation and, allow moisture to evaporate, are the safety valves of the farmer's turnip heap. In cellars or root-houses the windows or doors should be partially left open in milder weather, and thus secure the same ends.

These remarks, in a modified form, perhaps, will apply to the preservation of root crops in general: only in case of potatoes and mangels, the smallest degree of frost must be shut out, if possible, and consequently they require a greater thickness of external covering than Swedes. We put into a heap in the field the end of last October, some potatoes, (cups), which came out in May in as good condition as when lifted, with scarcely a bud vegetating, and which, after being put into a cool, dry cellar, were quite fit for the table to near the end of August. Where large quantities of parsnips are grown, it is a good plan to leave a portion in the ground all winter and they can be taken up quite fresh in the spring. All stagnant, surface water should be prevented, and a little loose litter spread over the bed will be advantageous.

By giving a little more attention than is usually done to the preservation of root crops, the cutting of straw, which is this year both good in quality and abundant in quantity, and the feeding with bran and grain, the deficency in the hay crop may, in a great degree, be compensated, and our horses and cattle carried through the approaching winter, in comparative comfort and good condition.

Correspondence.

THE LAKE DISTRICT OF ENGLAND, AND THE HIGHLAND SOCIETY'S SHOW.

(*From our Own Correspondent.*)

MANCHESTER, August 9th, 1859.

To the Editors of the Agriculturist,—

* * * * * * *

I was much delighted with my trip into the north, particularly with the scenery at the English Lakes. It far surpassed in grandeur anything I had previously seen, in fact I may say imagined. It is impossible to give any one anything like a correct idea by description. I shall send a few views by mother which I purchased at Keswick. I

went by rail to Windermere, where I arrived about noon; I then bought a small map of the lake district and marked out my route; having done so, I put my leather bag over a stick on my shoulder, and started on my pedestrian tour. Having but a short time, my object was to see as much as I could; so having my bag with me I stayed wherever I might be when night came on. Leaving the village of Windermere, I walked to Bowness on the lake; this is a very pretty little place—the old church yard with its dark Yews, and the old weather-worn church, long and low, is the most venerable object in the place. From here I went by a small steamer on the fair Windermere to Ambleside; the scenery was truly grand, as on the one side nothing could be seen but mountains towering one above another until their summits were lost to my sight in the dark clouds above. Having got some refreshment I walked to Coniston, at the head of a beautiful piece of water bearing the same name. This was a grand walk, and on this day I much felt the want of a companion, but as I could not be favored with one I made up my mind to enjoy this indescribable scenery in solitude.—Every now and then a scene presented itself which caused me to rest and think of those who were so far from me. Leaving Coniston I wandered over the hills and through the passes on my way towards Grassmere, and after having roamed about four miles on roads, a greater portion of which was passible only by the pedestrian and saddle, the shades of night came on, and the mountains seemed to clothe themselves in dark blue and black. This was the most solitary walk I ever had, and when the dark rolling thunder clouds and shades of night gave a black hue to the mountains, many of whose summits were entirely obscured, it presented an aspect which I think I can never forget. I still wandered on and shortly viewed two or three houses, which I soon reached and obtained a comfortable bed for the night. Having past a very comfortable night I started off early and reached Grassmere after about two hours and a half's walking through a part interesting, as it contained many slate quaries. Grassmere with its lake is situated, as it were, in a large basin, and is an exceedingly beautiful place. After taking my morning meal I visited the old church which possesses a fine old tower, beneath whose shadow lies the Poet Wordsworth. Leaving Grassmere I started for Keswick. This was another grand walk, perhaps more magnificent than the previous one. I passed by Mount Helvellyn, and had a glass of beer in the Swan Inn, the very Inn from whence Scott, Southey and Wordsworth, set forth on ponies for the ascent of Mount Helvellyn, which is on the borders of Westmoreland and Cumberland. On this walk I passed through the gap of Dunmail Raise, which is very romantic and pleasing; continuing on I reached the very picturesque scenery of Shirlmore. Beyond this lake, and previous to entering the lovely yet grand valley of St. John, I passed what is called "Castle Rock," the scene of Sir Walter Scott's charming romance of the Bridal Triermain, and though its magic halls has long since melted away, its massive walls and turrets still remain. After proceeding on my journey for a short time, the lofty summit of Skiddaw and Saddle-back were before me, and in time I arrived at the grandest and most central station of the Northern Lakes district, Keswick. Here, after securing a bed room at the "King's Arms," I visited Greta Hall, which was for upwards of 40 years the residence of the poet Southey. I then visited his grave and monument at the church of Crosthwaite. (There are a great many places whose names end in "waite;" and I learned from a mountain guide that all places whose names thus ended were subject to being flooded.) In the evening I walked to Ladore where I took tea, (the house you will see in the view) and then went back to Keswick by row boat on Derwentwater. According to my taste, this is the finest of the lakes; in it are three or four small islands, on one of which the hermit Herbert lived, and he was then visited once a year by his particular friend St. Cuthbert. While on this lake I had a fine view of Borrowdale; this really is *the scene* of the lake scenery, for no where did I see the grouping of mountain peaks more striking, and among them was the well known "Scawfell," the top of which is the highest land in England. After arriving at Keswick, I got into conversation with a very pleasant young man staying at the same place from Liverpool: he, like myself, was making an excursion alone. After having passed a comfortable night I got up fresh, and we made preparations to ascend Mount Skiddaw. At nine o'clock, a. m., we commenced the ascent from Keswick; the day was warm and remarkably clear, and after four hours of upward travel we reached the summit six miles from were we started from, and 3,022 feet above the sea, or about 2,900 feet above the lake at the base. The view from this elevated spot must be seen to be appreciated, for no description could make it understood. In one direction there was nothing but mountain tops, with the lakes Derwentwater and Bassenthwaite beneath us

turning partly round I could see the Isle of Man, and to the North the Solway Firth, and the hills of Scotland, as well as the southern counties of Scotland; but as I stated above no one can form an idea of this magnificent view without seeing it. We made the descent in about one hour and forty-five minutes. This was sufficient for one day's work; but when it is clear a person is well paid for the labor required in making the ascent. From Keswick I went on a coach to Penrith, and from thence by rail to Edinburgh.

The Highland's Society's Show was held in Bruntsfield Park, and I regret that owing to the wetness of the weather I was unable to inspect its various departments as I could have wished. The great public day was Thursday, (August 4th) when the admission was a shilling. Notwithstanding the rain, about 30,000 persons, it is said, visited the show this day—vast numbers being purely of the agricultural class from the country. Among the distinguished visitors was his Royal Highness the Prince of Wales, attended by Colonel Bruce, and a number of the leading members of the Scottish aristocracy. I attended the trial of implements on Wednesday, when the weather was more favorable, and a large number of people denoted by their presence the interest which they felt in the proceedings. In consequence of drought the ground was too dry and hard for thoroughly testing the ploughs, particularly the style of their work. Howard, of Bedford, took the lead with his celebrated wheel-plough, followed closely by its keen competitor the Scotch swing, which in the hands of a skilful holder is a most efficient implement. The English wheel ploughs are, however, easier managed by less expert ploughmen, performing equally good work, and therefore better come up to our modern requirements of improved machinery. Howards's and Seller's trench or deep furrow ploughs were subjected to a severe trial, and their merits seemed pretty nearly the same. Of drills, grubbers, threshers, &c., the number was considerable, and in general of excellent manufacture, but I observed nothing in this department which was not more fully represented at the recent show of the English Society at Warwick. No awards were made on the reaping machines till they could be actually tested in the harvest field.

In live stock the show was particularly good; the short horns were well represented and comprised some first rate specimens. I learn that this world-renowned breed is extending into the far north, and that some of the best herds in Britain are to be found in Aberdeenshire, and even the Orkney isles, where the Sweedish turnip and other root crops are extensively cultivated. To me, however, the chief attraction of the show was the native breeds, which I had never had an opportunity of seeing before, at least in such numbers and perfection. The West Highlander, Polled Argus, and the Galloway were well represented, many of them perfect beauties of their kind, and excellently adapted to their respective localities. I have seen some of the latter in Canada, to whose soil and climate these breeds, I should think, are well suited, particularly in the higher and more northern portions of the Province. The Ayrshires, in point of numbers, disappointed my expectation; the distance from their principal breeding locality was assigned as the cause. In Downs, specimens from the Duke of Richmond's Sussex flocks carried off the principal prizes. You have some good specimens of Clydesdales in Canada, but what I saw here were splendid beyond description. I cannot go into the particulars of the show, which no doubt you will see in the papers.

I regret that this, my first visit to Scotland, should have been so very brief and hurried, and hope ere long to have an opportunity of seeing the country and its people, by whom I was very favorably impressed. One cannot help feeling here that the industry of the people is guided by no ordinary amount of intelligence. Edinburgh is, I think, the finest city that I have yet seen; in the walks of literature and science it can boast of the greatest names in British history; and the wide diffusion of the blessings of education among the masses of the people, has been the means of raising the agriculture and industrial arts of Scotland to their present high position. I unfortunately missed seeing Professor George Wilson, who, however, kindly left me a note of introduction to Professor Balfour, who ranks amongst the most eminent of living botanists. I shall not soon forget the kindness of the Professor in showing me the Botanic Garden, and the principal curiosities connected therewith, all of which are worthy of the Scottish metropolis. The agriculture around Edinburgh is perhaps the most advanced of any portion of the British Islands, but the excessive drought was threatening the very existence of the turnip crop, which forms so distinctive a characteristic of Scottish husbandry. The soil of the Lothians is of the happiest description for general husbandry, to the advancement of which, industry, guided by intelligence, has already accomplished

so much. Of the Highlands proper I saw nothing. Still here and there the scenery reminded me of the characteristic imagery of the poet:

"Caledonia, stern and wild,
Meek nurse for a poetic child,
Land of brown heath and shaggy wood,
Land of the mountain and the flood."

In these times of deep and wide spread anxiety, when several of the nations of Europe seem trembling in the balance, go where you will in these free and happy Islands, which form the central heart of the great British Empire, you will find a united and determined spirit of resistance to any foreign aggression, and of devoted loyalty to the Queen. I read in an Edinburgh paper the following extract from a speech of Sheriff Gordon, when distributing the prizes awarded by the Edinburgh Highland Society, whose anniversary was held during the week of the Exhibition, the spirit of which will find a ready response in every true Briton's heart, whatever portion of the Empire he may inhabit:—"I think that I may look with some confidence around me; and although we do live in times of uncertain atmosphere, when the storm and the peril may burst upon us almost without warning, we have no reason to distrust the sufficiency of these living ramparts, which shall repel the rash invader, and shield our dear and sacred homes: and when I saw about me the uniforms of those riflemen, I called back the words of Sir Walter Scott, and said to myself:

"Still as of yore, Queen of the North.
Still can'st thou send thy children forth,
Ne'er readier at alarm bell's call,
Thy burghers rose to man thy wall,
Than now in danger shall be thine
Thy dauntless voluntary line,
For fosse or turret, proud to stand,
Their breasts the bulwarks of the land."

G. W. B.

Agricultural Intelligence.

EXHIBITION OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The Annual Show of this venerable Society—the parent of all other agricultural societies in the British Empire, took place in Edinburgh the first week in August.—Notwithstanding the unfavorable weather for two or three days, and some internal difficulties recently experienced by the society, we are happy to find that the exhibition was a success, and that everything went off in the happiest manner. The following account, abridged from an elaborate report in the *Mark Lane Express*, will be interesting to many of our readers:—

"There is no denying that this Edinburgh Meeting was regarded as something of a crisis in the career of the Society. Had anything gone wrong, had anything ungracious or offensive occurred, there is still an undercurrent of opposition quite ready to make the most of such arguments. But we must repeat that everybody was on his best behaviour, and that the business of the week so far as we could watch it, was not marred by a single mischance or dispute. A certain desire, moreover, to march with the spirit of the times is now clearly observable. For the first time the public had two days allowed them to inspect the stock, and for the first time, too, were the cattle covered in. It is very fortunate that they were, as the weather was by no means settled, and some heavy rain fell on the Wednesday afternoon. But the Society has to go a step further in this direction, and give the implements the same protection. We were loth at first to offer any very strong opinion as to the arrangement of this department of the meeting, but the experience of year by year only the more confirms our English notions as to its few advantages and many drawbacks. The rain itself was, perhaps, the most severe commentary on such a system. Only picture prize ma-

chines of all descriptions scattered over some acres of ground, without an atom of covering either for the exhibitor or his wares, and a heavy storm coming on! Let the several entries of each section be placed side by side, if you please, for the inspection of the judges, but then allow the makers subsequently to collect them in their own stands. The present plan positively spoils trade, and, as we said last year, "it would be quite as much for the good of Scotland to buy as for England to sell." Many of the manufacturers would gladly pay for the accommodation, which it must be borne in mind the Highland Society now alone refuses them. The English firms, more especially, are gladly culminating in their expression of dissatisfaction on this point, and the Scotch farmers are at length beginning to thoroughly appreciate English machinery. Never previously was the admission so openly made, as never before, perhaps, was the superiority so thoroughly demonstrated. About the most striking example of this was the trials of the ploughs on the Tuesday, in the presence of such a crowd of landlords and tenants as one rarely or ever sees so early in the proceedings. There were a great number of pair-horse ploughs put to work, chiefly of course of the Scotch swing make, but fortunately with one or two of our wheel-ploughs by way of comparison. Better still, these went bodily into competition. The Messrs. Howard, of Bedford, who last year at Aberdeen held off so determinedly, now entered openly for the premium, and won it as fairly. The most clannish of Scotchmen confessed there was no work like it. The noble President of the Society was delighted, and local men hung round the performance to gather hints and wrinkles for their own advancement. Mr. Sellars was, to the credit of the country, a good second, and Page of Bedford, although we believe not mentioned by the judges, as honest a third. Still the interest centred on the other English plough, and the only complaint was that the Hornsbys, who were present, had not also gone to trial. It was clearly against them, in the estimation of the public, that they did not. But the non-prize system is susceptible of endless ramifications and interpretations, and in endeavoring to observe them only too religiously, the Grantham house placed itself in a somewhat false position. It is curious to see how they came to do so. There is, then, in London, an institution of the proceedings, of which, although little heard, yet that still exercises considerable influence in its way. It is, we think, termed the Society of Agricultural Engineers, having for one of its chief objects the abolition of the prize system. In the prosecution of such a laudable endeavour, when it was found a few months since that the Highland Society would not give way, but still continued to offer premiums for implements, a majority of the agricultural engineers came to this resolve—They would not exhibit at all at Edinburgh, and we are assured a paper to this effect was signed by Clayton and Shuttleworth, the Howards, the Garretts, the Ransomes, and others. The Hornsbys alone, however, would not promise thus much, and so the proposal fell in, and those who chose were at liberty to enter for the Scotch meeting. Clayton and Shuttleworth and the Hornsbys appear to have done so, under the idea that as at Aberdeen they were bound not to compete. Mr. Howard, on the other hand, sees the absurdity of attempting to persevere in so impractical a course, and so far as he is concerned the non-prize plan is at an end. But his opponent and fellow-engineers maintain that they have not been fairly dealt with, and that had they known he was going to compete they should have arranged to do so, too. As it was, the Hornsbys did put a plough to work early on Wednesday morning, for which they were severely reprimanded. But we scarcely see the force of this. Were not ploughs permitted to go to work at Aberdeen, "not for competition," but to show their character in comparison with the prize-takers? And the Hornsbys did no more. However, this dispute is a very suggestive one, and lays bare the secret and purpose of the whole agitation—when once you get to the top of the tree be content to stop there. People said Hornsby was afraid to endanger his Warwick triumph at Edinburgh. And others asked if Howard had been first in England whether he would have competed in Scotland? In speaking of this year's experiment of no prizes in Ireland, as tried the other day at Dundalk, *The Irish Farmer's Gazette* says, "The absence of trials or competition for prizes has in some degree lessened the interest taken in these shows, and will no doubt act injuriously on the funds of the Society, and, if we mistake not, *also on the exhibiters.*" It certainly so acted at Edinburgh. Mr. Howard, who did compete, was in general favour; and Mr. Hornsby, who did not, in almost as much disgrace. The Society of Agricultural Engineers are singing terribly out of tune with each other; and we should really counsel them, as the parish-clerk did his choir under similar circumstances, to "*drap* it." We must be understood as by no means divulging any private or confidential intelligence. All we have recorded

was the common talk of "the trade;" while even telegrams were running up and down during the Tuesday, as to what the Society of Agricultural Engineers should or should not do.

We have considered it only a duty to make some special reference to this matter, obviously important as it is to the managers of our agricultural associations, as well as to the whole body of our implement-makers. The one great deduction is inevitable. As Lord Brougham said the other day, "Man's lot is to compete with his fellows;" and the more openly he does so, the better. We counsel our different societies, ere they commit themselves to the non-prize system. We put it to the great body of manufacturers whether they should follow "the Society," the very generals of which cannot agree with each other? There is a fine opening now just dawning for the introduction of good implements into Scotland; but we fearlessly assert that this can never be made the most of, without the incentive of public competition. Let us remember how the people crowded round these trials, and how ready they were to conviction thus put honestly before them. And let us compare with this the listless way in which they looked at entries that carefully avoided such a test. When the agricultural engineers signed their "round robin" not to exhibit at Edinburgh, because premiums were offered, they were doing both themselves and the agriculturists of Scotland as much harm as it is possible to conceive. As a correspondent devotes a paper specially to the implement section of the show, we may now turn to some of its equally attractive features.

A Scotch show of stock is essentially national, and the Edinburg meeting perhaps of all others was peculiarliarly distinguished in this wise. It was in the native breeds that its great strength was to be found. It was the Highland and Ayrshire cattle, the Cheviot and blackfaced sheep, and the Clydesdale horses that showed to the greatest advantage. We use the term advisedly. No other kinds were anything like so much at home here. The very Shorthorns, now at home almost everywhere, certainly suffered as a class against the rough-coated but blooming-looking mountaineers. The Leicesters and Southdowns had rarely the healthy vigorous appearance of the long bang-tailed Cheviots, or the resolute curly-horned denizen of "the hill." In a word, there is no other quarter of the kingdom in which climate has so much to do with it; and although they may be improved, it is rarely that the original breeds can be displaced. In the lowlands, and where the country will pay for high farming, some change may be observable; but elsewhere, almost every district adheres to its own sorts as faithfully as to the pedigree of its clan or the pattern of its plaid. Even the most advanced of agriculturists have discarded the fine Leicesters we saw them buying at Berwick a few years since, and have gone right back to their own sorts. And a Scotch Leicester is rather a different animal from our English one, as Mr. Wiley gave us the opportunity of remarking at this very meeting. Amongst the horses, here so comparatively close to the banks of the Clyde, there was no such chance of comparison. Saving only a good-looking thorough-bred horse, or a curiously small Shetland pony, there was scarcely anything to interfere with the long line of Clydesdale colts and fillies. Still, like the horned sheep or the Highland cattle, the Clyde horse is clearly susceptible to improvement, or, in other words, to the influence of these meetings. A Clydesdale prize mare is now a very different animal from that the members of the Highland Society hung up in their Museum Hall in 1840, with her long legs, weak thighs, hollow back, and light middle-piece. Either the painter or his patrons must have been put to it for a subject in those days.

The great show of horses, however, was not on the show ground; or, at least, it was not here that the stranger gathered his impressions of the real use and value of the Clydesdales. They may be pampered up for mere exhibition, and are certainly as a rule made very fat. But at Myreside Farm, where the implements were on trial, there were some fifty sets of working pairs, ready to take out the ploughs, harrows, grubbers, and mowers. These, as usual, were borrowed for the day from the neighboring tenantry; and never were such a lot of plough-horses got together. It was, in fact, the Clyde horse shown to the greatest advantage—in excellent condition, very uniform in character, generally of great size and power, they fairly for a time monopolised the whole interest of the scene. People could scarcely be got to look at the work, but were going about trying to pick out the best couples—by no means an easy matter.—It was not, indeed, until the ploughs started, and horses and implements were nearly all matched, that the visitor remembered what he had specially come to see. There was not only the make, shape, and action of the Clydesdale as a cart-horse that com-

manded so much admiration, but equally so the manner in which they were kept.—They were as fresh and as lively as kittens, although still we are assured, only in common working order. But the Scotch farmers evidently pride themselves on this point, and a ploughman and his pair will cost on an average quite a hundred a year. Some were consequently anxious enough to have another look at the steam plough, but strange to say there was not one in the entry. For some altogether inexplicable cause the Society declined this year to give any prize for such an invention. The Messrs. Howard, however, offered to send a set of Smith's apparatus providing a field could be found to work it in. But even this could not be promised, and so the meeting was minus what should have been one of its chief features.

The Clyde horses in the catalogue quite maintained the reputation of those we had seen the day previous. It was pronounced to be one of the best entries of them ever seen; but was certainly not for stallions equal to the Glasgow show of two years since. The first prize aged stallion, a grey horse, was the subject of a deal of discussion, and it is rather difficult to understand how he came to be ranked so highly. Standing by his side, he is by no means a true-made animal to begin with, being but indifferent before, and with little of the acknowledged character of the Clyde about him. He loses this yet more when had out; for he is a wretched heavy, slovenly goer. Still it was said that he gets capital stock; but this must be a curious point to judge a horse in the show by, where men are assumed to know nothing of an animal but what they see before them. The second prize, a bay horse, queerly marked with the *black* leg right over the hock and up to the stifle, was generally, and as we think justly, preferred. He is smarter to look on, more compactly built, and altogether a better horse out. But the strength of this section was found in the mares with foals, and mares in foal. We never recollect such a succession of good animals, and generally so much alike as to answer at once for the care with which the breed is now preserved. As a rule the Clydesdales show far better at five or six years old than they do as young stock, and some of the yearlings on the Links looked very mean and poor when put in comparison with their elder brethren. It is, indeed, difficult to imagine that they could ever develop into the fine horses they do; but it appears they are kept very indifferently until a year or eighteen months old, and gradually "put on." The entry included many well-known prize animals at Aberdeen, Perth, and elsewhere; but the catalogue was lamentably incomplete in this respect, and did not give the name or pedigree of a single horse. It may be much improved by being modelled henceforth after our English one, not merely as regards the horses, but also in the entries of other kind of stock. For instance, we cannot possibly understand why the pedigrees and names of the shorthorns should not be given with the number of the animal, instead of being all huddled together right at the end of the book, where not one man in a thousand ever sees them or reads them.

Notwithstanding that this addenda advised us of some very high-bred animals, the show of Shorthorns was not a great one. In truth, had it not been for Mr. Douglas' entries, the cow and heifer classes would have been wofully weak. But the master of Althelstaneford came very welcomely to the rescue, and with more determined success than has yet attended him this summer. The beautiful Venus, the renowned Ringlet, the Lady, and her attendant companion the Maid of Athelstane, were our fellow-voyagers from Belfast to Glasgow; and we found them all in high health and honour again, adding by their own innate attractions to the picturesque show ground at Edinburgh. It will be seen that Mr. Douglas took the first and third premiums for cows, and the first and second for two-year-old heifers. The latter—the Lady and the Maid of Athelstane—have, like the Queen of Trumps and Venus last year, their two parties; and while the Maid was preferred at Dundalk, the Lady had the lead in Scotland. They are a most admirable pair, and it is difficult to separate them; but although the Maid may have a little the best of it for quality, the Lady has by far the finer head and forequarter; and, for choice, we lean to the second reading. The cow Volga, that separated Mr. Douglas' two, also beat Rose of Sharon last week in Ireland; and has so been first at the Irish, second at the Scotch, and third at the English meeting. She was bred by Mr. Stewart, of Southwick; and is not only very useful looking, but very well bred, going back to the famous Cherry tribes. Mr. Stewart, however, could not get her to breed, and she was sold as a butcher's beast. But she has since been frequently exhibited, as well as objected to as not being a breeding animal; although now at eight years, she has a calf by her side. The first prize yearling heifer from the Messrs. Turnbull's herd, is very sweet and neat looking, and the Duke of Montrose's second

and third are both well bred and well made. But "the field" behind those placed was terribly scattered. The bulls were generally better, and the first prize one, bred by Mr. Bolden, goes back to the Duchesses; although, like many of the Bates breed of bulls, he is nothing so very extraordinary to look at. He was the first prize two-year-old at Aberdeen, and Mr. Gulland's was there third in the same class, so that they still keep their relative positions, but there is now very little to choose between them. The third was the third aged bull at Aberdeen, and the first at Dundalk last week, and perhaps for appearance, size, and symmetry he was here, too, the first of his order. It must have been "the quality" that beat him. The two-year-olds were a good but small class, and the yearlings not of such equal excellence. In this lot Lord Kinnaird had the best for shape and symmetry, and Mr. Smith for touch and pedigree. The latter, indeed, is very highly connected, being by a son of Booth's Crown Prince, and bred by his Royal Highness the Prince Consort. His quality is certainly very fine, but he is "just" a ragged animal to look on.

We have already spoken of the remarkable excellence of the native breeds, and we may dwell more especially on the Highlanders and Ayrshires. In our many visits to the north we have never seen such a show of the former. Indeed we began to think they were growing out of date of late, but they quite recovered themselves at this meeting. There was more size, as usual rare constitutions, good forms, and that hardy picturesque appearance that would, above all things, go to qualify them for those regions from which they take their title. The bulls were very grand, the cows more useful; but if we were to select a class, it would be the three-year-old heifers. If we were to go yet further, and name three animals as perfect specimens of their kind, they would be Mr. Douglas' shorthorn heifer Venus de Medicis, Mr. Drew's Milking Ayrshire cow, and Mr. Campbell's three-year-old Highland heifer. The last named of these is certainly the finest-looking Highlander we ever encountered. There never was such a head, so grand, of such wild beauty, with the wide-spreading horns, and singularly expressive eye. If Rosa Bonheur wants a fitting model for her easel, she must go to Jura. But Mr. Campbell's heifer does not "go on her head" merely. She is famously fleshed, has a capital coat, and is not only handsome, but useful. She was well supported throughout; and although we cannot see that this should be just the district for them, the Highlanders have never mustered before in such force.

Almost as much might be said for the Ayrshires, which were more particularly distinguished by the presence of two animals—the first prize bull and the first prize cow—a long way the best of a very good entry. The cow is the sweetest-looking, cleanest, prettiest marked milker that even the lads and lasses of Ayr ever had amongst them. In a little higher condition, and with her backbone not quiet so prominent, she would have been a perfect picture. There were others far better covered, but none had her fine appearance or graceful beauty. Her owner Mr. Drew, had a coarser cow, also the first of her class, which has occasionally had the preference of the favorite here; but for her especial purpose—the dairy—there was nothing to compare with the milking cow. The black polled cattle were not very numerous, but there were some well-known animals amongst them. The Angus cows were especially good; Mr. Collie's first having been second at the great show at Aberdeen last year. The cross-breeds were chiefly noticeable for the presence of Shorthorn blood in them. Almost all of them had some of it, while in some it was so strong that they might have been pardonably taken for pure bred beasts. In fact they frequently were, and many a visitor, without going to the trouble of consulting his catalogue, put them down as "just another lot of Shorthorns."

In the sheep as with the cattle the Scotch kinds were very superior. In truth, neither the Leicesters nor the Southdowns showed to much advantage. The former had no uniformity of character, and English and Scotch judges would have differed materially in settling the awards. The Scotch Leicester is, indeed, of quite another sort of sheep, and occasionally, we should say, anything but a pure one. The Southdowns were completely overridden by the presence of the prize sheep from Warwick. The Society was particularly anxious that the Duke of Richmond should make some entries and his Grace was kind enough to do so. He sent not only some from his flock at Gordon Castle, but others from Goodwood. Those from Sussex included the famous first prize shearling ewes, and the comparison was almost too cruel. Even the Duke's own Scotch sheep suffered materially, and nothing of course had a chance with the grand, handsome animals that made so great a sensation at Warwick. It is remarkable that the Sussex shearling ram is a twin, and although both were reared, the brother

has never yet been exhibited, but has been kept at home less for ornament than use. These sheep, it appears, do not go back to the Babraham cross, but, as the shepherd phrases it, "are bred all away from Mr. Webb." The other long-wools, that is to say Cotswolds, are in the hands of the Duchess of Gordon, Lord Kinnaird, and Mr. Skirving; but Mr. Handy helped them out with a few sheep sent direct from their native hills.

The small show of pigs was also greatly "assisted" by exhibitors from over the Border. Mr. Harrison sent his prize Warwick boar, and the prize again here. Mr. Mangles entered a couple of his white sows, that have each in turn been winners at the Yorkshire meetings, and that with a boar, and a pen of three young pigs, were all more or less successful now. Then Mr. Robinson had an extraordinary sow, that for size and breeding was quite the marvel of the meeting. She is within a month of pigging, and in her present high condition would threaten to have a hard time of it. But she was not the only sow exhibited in this state—that is as really breeding. Mr. Skinner, of Aberdeen, showed a pen of three sows, declared to be but seven months and a half old, one of which is now very near pigging. This is early maturity with a vengeance, and her owner was repeatedly complimented upon so extraordinary an achievement. The general company appeared to take great interest in this section, and Mr. Mangles' Bendigo breed were in considerable request, all he had for sale being readily disposed of at long prices. But they are really a very pretty useful pig. There was also a Butter Show, as well as one of Poultry, but the entries for either were not large."

Rust in Wheat.—The London *Prototype* publishes the following somewhat curious statement. So far as our experience goes it tends to an opposite conclusion to that of the writer; for we have found that wheat imported from the British Isles was late in maturing and peculiarly liable to rust for the first year or two. "A fact has come to our knowledge, fully authenticated, which bears directly upon the subject of rust. A merchant of standing in this city forwarded to his brother, a farmer in East Lothian, Scotland, four bushels of Canadian wheat, to experiment upon as seed grain. The wheat was sown in a field along side of the native Scotch wheat; and the harvest has exhibited the astounding result that there is not a single kernel of the wheat sown from the Canadian seed, that is not utterly destroyed by rust, while the wheat growing in juxtaposition with it, subjected to the same climatic influences, and planted upon the same soil, will yield fifty bushels to the acre. The continuation for some time of a humid atmostphere, accompanied with heat at a peculiar crisis in the growth of the wheat plant, is regarded as the cause of rust. In the British Isles the climate is peculiarly moist and sultry, and during the summer months the weather is frequently such as would produce a universal blight of wheat in Canada by rust. From the experiment to which we have referred, it would appear that the same results which we would experience in Canada from the climatic influences to which the wheat is exposed in Scotland, has happened to the wheat grown from Canadian seed, while the crop produced from seed of native growth has been able to resist them, and escape the rust. The practical inference to be deduced is this—that our farmers should make the experiment of importing for seed purposes samples of wheat grown in different parts of Scotland and England. In this way we might be able to avoid one of the enemies to which this valuable crop is exposed."

Wheat Growing in Central New York.—We are glad to learn that the farmers of Central New York have cause to be encouraged relative to wheat culture, and to know that some of the best of them concur in the views we have expressed as to what is requisite to success. In a recent letter the Hon. George Geddes, of Fairmount, Onondaga County, writes us as follows:—"I have read the slips enclosed in your letter, [including article entitled 'Wheat Culture—Evading the Midge,'] and find our views alike in regard to raising wheat. Last year we raised on ten acres of land (having over a dozen large apple trees and two other large shade trees on it,) 410 bushels of Mediterranean wheat,—which variety has become equal in quality to the old red chaff bald, but has less grains in a head. If Mediterranean wheat is sown on rich, dry land by Sept. 10th, in an ordinary season, we may expect 25 bushels to the acre.—*Rural New Yorker.*

VALUE OF RYE AS A GREEN CROP—IMPORTANCE OF CULTIVATING IT EXTENSIVELY. The real value of rye, either as a white or green crop, is far better understood than it was a few years ago. Its remunerative properties as a grain crop, are not inferior to its usefulness as a green one, but it is to the latter that we would direct the farmer's attention at present. Rye is much better suited to swamp land than wheat, and a portion of peat ashes has been found an excellent manure for it. Every farmer should cultivate rye, as it is a more certain crop than wheat, and with the exception of the latter is of all other cereals the best adapted for supplying the "staff of life." When cultivated as a green crop, it has many excellent properties to recommend it to the farmer's favor. It comes in early, when grass is scarce. It will grow in almost any kind of soil, and it is so hardy that it is able to stand the winters of this climate. It also yields a very large amount of forage, and there is one quality which it possesses, which renders it more desirable than any other forage, especially to those who have milch cows; that is, it causes animals fed on it to give a greater quantity of milk than any other sort of food. We lately advised farmers to introduce vetches as a forage crop, and we have no doubt but they will succeed well in this state. European farmers generally sow rye in August and September, when they have cut away the vetches; they do not sow the entire crop at the same time, but prefer allowing a fortnight or more to intervene between the sowings, and by this means they have a succession, the earliest sown part being the soonest fit for use in the spring. Breeders of sheep have found a field of rye extremely valuable for recruiting the strength of their flock after a severe winter, and whether the crop is used as a pasture for sheep, or cut green as soiling for horses and cattle, it is a valuable addition to the forage and should be cultivated by every farmer.

These remarks are intended not to discourage the farmer from raising rye as a grain crop, but merely to show its utility for the feeding of stock. The white rye which we have noticed in another column, is said to produce flour very little inferior to wheat. We advise farmers to procure seed of this new and improved variety, as it produces well and ripens early. There is nothing of more importance than the selection of the best seed of every kind, and we are glad to see an increased anxiety on the part of farmers to sow none but the most approved varieties of grain.—*Detroit Tribune.*

WINTER BARLEY.—The Haldimand *Tribune* publishes the following letter in reference to this grain:—

To DUNCAN MCFARLAND,
PORT ROBINSON.

NIAGARA, August 5, 1859.

SIR,—In reply to your friend's enquiries respecting Winter Barley:—In the first place, let him be particular in obtainining the real Winter Barley. Some of my neighbours have been imposed upon by persons selling them Spring for Winter Barley, saying, "it is all the same—here is Spring and Winter Barley, the same as Spring and Winter Wheat." As for soil, my opinion, formed on what experience I have had for two years, is, that any soil that will produce good wheat will answer. The principal art is in good cultivation. Sow as early in September as possible, that it may obtain a strong root. Summer fallow is preferable, or on dry mellow land. As to the quantity of seed, farmers differ; from one and a half to three bushels per acre.—My yield has been on fallow, sixty, and on corn land forty bushels per acre. The corn land was equally as good as the fallow. What made the difference in the yield, in my opinion is, that the latter was sown on the 1st, and the former on the 20th of September. I believe, under any circumstances, it will yield double the quantity of Spring Barley. It is ripe the 1st of July before the midge strikes it. We sell it here for one dollar per bushel; but if there would be one hundred bushels wanted at your place, or at an equal distance, I will deliver it at the same price, in time for sowing, and warrant it the real Winter Barley.

Yours, respectfully,

JOHN MCCARTHY.

PROLIFIC YIELD.—We are informed that two bushels of the Kentucky (blue stem) wheat, sown on the farm of Mr. John Wallace, produced no less a quantity than forty-five bushels. The two bushels were sown and kept entirely separate from other wheat in order that its producing qualities might be properly tested,—certainly it has stood the test well.—*Ayr Observer.*

GUELPH AUGUST CATTLE FAIR.—The Monthly Fair for the sale of cattle took place on Wednesday last; on which occasion there was a large quantity of excellent stock on the market grounds, and a fair proportion of buyers. The best of the stock was picked out and purchased rapidly during the forenoon, and all that was left unsold was quite unfit for the butcher. The fat stock brought from $4 to $5 per cwt., live weight—being an advance over the prices for similar stock at the fair in July. We heard of one person who bought a large quantity of cattle at the July Fair, and re-sold the whole of it on Wednesday last, obtaining a clear gain of 25 per cent. Good milch cows also sold readily, at fair prices; indeed all the stock left on the ground at the close of the fair was scarcely worth purchase at any price.—*Wellington Mercury, Aug.* 6.

"WEEDS IN THE CORN."—A western cotemporary speaks of a cornfield seeming to have been left by the owner to take care of itself. "The weeds have invaded the field, and the only good they are possibly doing, is that they act as a mulch to plant, which would otherwise suffer from the dry weather." Rather questionable "good," the mulch of living weeds. We find the soil far drier in the cornfield, where covered with weeds, than where cleanly cultivated, and believe such is always the case.

SURPRISING YIELD OF WHEAT IN REACH.—On Tuesday last we were informed that a farmer in Reach had a field of about 15 acres of wheat, which did not, whilst standing, appear to be unusually heavy; but after thrashing, he was surprised and delighted to find it yield 57 bushels to the acre! Neither is this a solitary instance; for we understand the average yield of fall wheat in this township will be from 30 to 50 bushels to the acre.—*Ontario Observer.*

PRAIRIE FARMING IN AMERICA, WITH NOTES ON CANADA AND THE UNITED STATES—by James Caird, M. P., Author of English Agriculture, &c.—We took up this work, expecting, from the reputation of the author, to find a capital work on American Agriculture—but were very much disappointed. New-York and Canada were very summarily disposed of. The notable crops in New York were the *corn fields* on the railroad between Albany and Troy. When the Prairies were reached, and the Illinois Central Railroad, we found a full and excellent description of the prairie region, with full details for the English emigrant—and we surmised that Mr. C. was writing a work, as one of his predecessors had done, for money. A late Mark Lane Express, June 13th, contains an advertisement, "PRAIRIE LANDS IN AMERICA FOR SALE: 1,300,000 acres lying along 700 miles of railway, and, apply to *James Caird*, Esq., M. P. (who has the *sole agency* in the United Kingdom for the sale of these lands), at 6 Sergeant's-inn, Fleet street, London." We think the English farmers emigrating to this country would consult their interests by reading some other work besides this before they settle down to farming.—*Journal New York State Agricultural Society.*

Horticultural.

SUPERPHOSPHATE OF LIME FOR TREES.—Phosphoric acid has a mysterious influence on the development of roots, causing plants to throw them out vigorously. The most convenient way of employing this substance is in the form of superphosphate of lime—that is, a mixture of oil of vitrol and burnt bones. This compound, rich in the acid in a soluble state, mixed with a little dry mold, will be found a fertiliser of great use in transplanting trees. But it must be used in moderation, for plants, like animals, may be injured as much by overfeeding as by starvation.

CHERRIES.—Cherries were first planted in Britain 100 years before Christ; and afterwards brought from Flanders, and planted in Kent with such success that an orchard of thirty-two acres produced, in the year 1540, 1,000lb! Cherries were cried about the streets of London, and sold, tied upon sticks, as at the present day, two centuries and a half since:—

"Cherry-ripe, ripe, ripe, I cry,
Full and fair ones; come and buy."—*Herrick.*

Peacham, author of the "Complete Gentleman," published in the reign of James I., who was reduced to poverty in his old age, and chiefly subsisted by writing little penny books for children, says—"July 1 would have drawn in a jacket of light-yellow, eating

cherries, with his face and bosom sunburnt." The famous cherry orchard just mentioned was planted at Teynham, near Feversham; from which orchard much of Kent was afterwards supplied. "No English fruit is dearer than cherries at first, cheaper at last, pleasanter at all times; nor is it less wholesome than delicious. And it is much that, of so many feeding so freely on them, so few are found to surfeit." According to Busino, Venetian ambassador in the reign of James I., it was a favorite amusement in the Kentish gardens to try who could eat most cherries. In this way, one young woman managed to eat 20 lb of cherries, beating her opponent by 2½ lb—a severe illness was the result. Busino finds fault with the English cherries, which are, however, praised by Fynes Morrison. Kent still maintains its superiority in the number and flavor of its cherries; the chief orchards are in the parishes on the borders of the Thames, the Darent, and the Medway; and delightful is the scene in early spring when—

Sweet is the air with the budding haws; and the valley stretching for miles below,
Is white with blooming cherry trees, as if just covered with lightest snow.

—"*Things not generally known.*" By JOHN TIMBS.

Miscellaneous.

CURRANT WINE.

People think that they must have a "little wine for their stomach's sake." Good wine—wine that is wine, and not a compound of new rum, logwood and sugar of lead, is often useful as a gentle stimulant, but not absolutely necessary in all cases. As it is almost an impossibility to get pure wine, we recommend to those who have the means to manufacture currant wine, and let it be pure currant wine, using nothing but pure currants, pure water and pure sugar. Keep out your raw alcohol and your poisoned brandy.

We have heretofore given directions for making this article. We now publish the following which we borrow from the *Massachusetts Ploughman*:—

There is no great difficulty in making good currant wine. White sugar or brown sugar may be used. The better the quality of the sugar the better the wine will be. The idea that any sort of sugar will do for wine is pretty much exploded.

It is now also said that white currants make a much nicer wine than the red currants. Will some producer try the white currants and report progress:—

CURRANT WINE.—This article as usually manufactured, is rather a cordial than a wine, and is entirely inferior to the common wine; but when properly made, it will be a very superior, healthful beverage, particularly for summer drink, when fully diluted with water.

We have experimented carefully on the making of currant wine, and the following will be found to give a result which we have found no difficulty in selling in large quantities at $1 per gallon.

Before pressing the juice from the currants pass them between a pair of rollers to crush them, after which they may be placed in a strong bag, and they will part with the juice readily by light pressure, such as a common screw, heavy weights, &c. To each quart of juce add three pounds of double refined loaf sugar—single refined sugar is not sufficiently pure—then add as much water as will make one gallon. Or in other words, suppose the cask intended to be used to be 30 gallons. In this put 30 quarts of currant juce, 90 lbs of double refined sugar, and fill the cask to the bung with water; roll it over until the sugar is all dissolved. This will be told by its ceasing to settle in the barrel. Next day roll it again, and place it in a cellar where the temperature will be sure to be even. Leave the bung loose for the free admission of air. In the course of one or two or three days, fermentation will commence. By placing the ear to the bunghole a slight noise will be heard such as may be observed when carbonic acid is escaping from champaign or soda water. Fermentation will continue for a few weeks, converting the sugar into alcohol. As soon as this ceases drive the bung in tightly, and leave the cask for six months, at the end of which time the wine may be drawn off perfectly clear, without any excess of sweetness.

FRUIT WINES.

Wine may be made from the currant, rhubarb, strawberry, blackberry, raspberry and gooseberry, of excellent quality. Inferior but quite palatable wines may be made from parsnip and many other roots. While we admit that the true wine must be made from the grape, still, for the want of a more appropriate name for beverages made from fruits other than the grape, we call them wines.

The great mistake in these manufactures is in the use of sugar of an inferior quality; double refined is not sufficiently pure to manufacture either of these wines of the best quality; treble refined sugar should be used—that of inferior kind contains gum, and after the fermentation this gum becomes fetid, and its disagreeable odor has to be overcome at the expense of the odor of the fruit, and, therefore, it should never be used. Brown sugar, no matter of how good a quality, will not make wine, for when fermented that portion which is like molasses in flavor, if separated from the sugar, as in the process of refining, becomes a rank rum, and not sufficiently delicate as the preserving alcohol, of the result. When grapes are fermented, the sugar or saccharine matter is not converted into rum, but into an undistilled brandy of an unobjectionable flavor.

In making fruit wines, alcohol should never be added; a sufficient quantity will be produced by the fermentation to preserve the product, and any further addition injures the quality and arrests the fermentation. When alcohol is added, fruit wines do not improve at all by age.

The common practice of racking cider, has caused many to rack fruit wines; this is wrong. When the proper amount of the juice of a fruit, and treble refined sugar in solution, is placed in a barrel with the bung loose, in a cellar of even temperature, fermentation will readily commence, and will proceed until the sugar or a portion of it is converted into alcohol, when it will cease. The buffy coat which rises to the surface will then settle and attach itself to the cask; the bung should then be driven in, and in six months the wine may be drawn off and bottled. No alcohol will be necessary to keep it.—*Working Farmer.*

To Make Butter in Five Minutes without a Churn.—A correspondent highly recommends the following recipe:—After straining the milk, set it away, for about 12 hours, for the cream to "rise." (Milk-dishes ought to have good strong handles to lift them by.) After standing as above, set the milk, without disturbing it, on the stove; let it remain there until you observe the coating of cream on the surface assume a wrinkled appearance, but be careful it does not boil, as should this be the case the cream will mix with the milk and cannot again be collected. Now set it away till quite cool and then skim off the cream, mixed with as little milk as possible. When sufficient cream is collected proceed to make it into butter as follows:—Take a wooden bowl, or any suitable vessel, and having first scalded and then rinsed it with cold spring water, place the cream in it. Now let the operator hold his hand in water as hot as can be borne for a few seconds, then plunge it in cold water for about a minute, and at once commence to agitate the cream by a gentle circular motion. In five minutes or less, the butter will have come, when, of course, it must be washed and salted according to taste; and our correspondent guarantees that no better can be made by the best churn ever invented. To those who keep only one cow, this method of making butter will be found really valuable; while quite as large a quantity of butter is obtained as by the common mode, the skim-milk is much sweeter and palatable. In the summer season it will usually be found necessary to bring the cream out of the cellar (say a quarter of an hour before churning) to take the excessive chill off; in winter place the vessel containing the cream over another containing water to warm it; then continue to agitate the cream until the chill has departed. Before washing the butter, separate all the milk you possibly can, as the latter will be found excellent tea-cakes. Butter made in this manner will be much firmer, and less oily in hot weather than when made in the ordinary way.—*Scientific American.*

Timber from the County of Perth for England.—For some months past the agents of a Company in Quebec, have been constantly purchasing all the heaviest timber in this neighbourhood and sending it down to the St. Lawrence by the Grand Trunk Railway, after which it is constructed into rafts and floated down to Quebec, where it is culled and disposed of for the English market.—*Stratford Beacon.*

COTTON MANUFACTURE IN CANADA.—Few of our readers, perhaps, are aware that a beginning has been made in the manufacture of cotton goods in Canada; that there is a Cotton mill, in fact, in full operation within three hours ride of Toronto, producing a certain description of goods at lower rates than similar kinds can be offered at by American manufacturers. The Thorold mill is the one we refer to. It is situated on the Welland Canal, about four miles from St. Catherines; and we yesterday had an opportunity of inspecting a piece of unbleached cotton—good, serviceable "factory"—which the enterprising manufacturers, Messrs Nutty & Woodward, are putting into the market. The staple comes to Thorold in bales, as put up on the plantations of the south, and undergoes all the requisite processes on Nutty & Co.'s premises. They have some eighteen looms at work, turning out about 600 yards per day; and they state that the facilities for the manufacture afforded by the water privileges of the Welland, enable them to undersell foreign producers. The Thorold article, we think, can be sold at nine cents per yard; being one cent lower than the lowest American. Since 1857, large quantities of batting have been manufactured by the firm; the piece of factory we saw yesterday being a part of the first production of that class of goods. At present the firm buy their cotton at New York. Enlarged monetary facilities would enable them to purchase at Memphis, the best American market, whence the commodity could be brought via Cincinnati at a cost which would give the Canadian owner of water power a decided advantage over foreign manufactures. The enterprise reflects great credit upon Messrs. Nutty and Woodward, who have succeeded in showing that Upper Canada already possesses facilities for the cultivation of an important manufacturing interest.—*Globe.*

CAUSES OF INDIGESTION.—It is certain that if the food be not well masticated and saturated with saliva, we must have the powerful gastric juice of a dog or a lion, to compensate this deficiency; otherwise a larger proportion of the unchanged food will be transmitted to the intestines than they can well manage, or will lie like a load oppressing the stomach. The starch will descend in lumps, and although much of it will be dissolved by intestinal digestion, some will pass away undigested. If the secretion of gastric juice be languid, or if that fluid be not sufficiently acid, chymification will be laborious and painful. If the bile rise in the stomach, digestion will cease; if the secretion of bile be too scanty, the food will lie like a burden, and produce diarrhœa or sicknesss; and so on to the end of the chapter. Let there be only a little less acid, or a little more alkali, each of which depends on complex conditions, and digestion, what to the young and healthy is as easy as it is delightful, becomes the source of misery. Ill-selected food is one source of these evils; want of fresh air and exercise another. The action of the liver is particularly affected by exercise; and all who suffer from billiousness should pay their fees to the livery stable and waterman, horse exercise and rowing being incomparably the best of prescriptions. A walking excursion, especially in mountain districts, and with resolute avoidance of walking too much, will be of great service to the dyspeptic. It is important to bear in mind, moreover, that although sedentary habits are very injurious to the digestion, they are less so than bad ventilation; those who sit long, and sit in bad air, are sure to suffer.—*Lewes' Physiology of Common Life.*

VELOCITY OF LIGHT.—The velocity with which light travels is so inconceivable that we require to make it intelligible by some illustrations. It moves from the sun to the earth in seven and a half minutes; whereas, a cannon-ball fired from the earth would require 17 years to reach the sun. Light moves through a space equal to the circumference of the earth, or about 25,000 miles, in about the 8th part of a second. The swiftest bird would require 3 weeks to perform this journey. Light would demonstrably require five years to move from the nearest fixed star to the earth and probably many thousand years from the most remote star seen by the telescope. Hence, if a remote visible star had been created at the time of the creation of man, it may not yet have become visible to our system.—*Encyclopædia Britanica.*

SOUNDING SHELLS.—There are few persons who cannot remember the childish wonder with which they were filled, when a sea-shell was first placed to the ear; and the still greater wonder they experienced when told that the strange resonance which they heard was the roar of the sea; this being the common explanation given to children. There are, doubtless, many adults persons who do not know the phenomena of the sounding shell. It is caused by its hollow form and polished surface; these enable it to receive and return the beatings of all the sounds which tremble in the air that surrounds it.

FEEDING HORSES.

In the remarks on the feeding of horses which we last made, we estimated the cost of the best kind of food per week for hacks at 10s; harness horses from 11s to 12s; and for hunters 13s 6d each, exclusive of litter. We propose now to show the saving which may be effected in the management of the two first kinds; for no one will dream of adopting in the last any change which is founded upon £ s. d. only, the object being with hunters and racehorses to get them into the highest possible condition, without any considerations of economy, excepting as to the best mode of obtaining the hay and corn upon which they are fed.

On referring to the extract from the report of M. Renault we find that each horse of the London General Omnibus Company, fed on the new plan, consumed daily of bruised oats 16 lbs., or 9s 7½d per week; hay 7½ lbs., or 2s per week; straw 2½ lbs., which, with the labor of bruising oats and chaff-cutting, would come to about 1s—altogether 12s. 7½d. Now, contrasting this with the other plan adopted by the company, we find the quantity of unbruised oats consumed daily to be 19 lbs., costing weekly 11s 8d, which added to 3s 6d, the cost of the hay, comes to 14s 2d, or about 1s 6d per week more than the cost of the bruised oats and cut provender, which kept an equal number of horses in as good condition. These quantities are, however, much greater than the usual allowance in private stables, which may be stated as follows, taking the scale which we gave last week as the point of comparison. Thus, supposing hacks to require 11½ lbs. of unbruised oats and 12 lbs. af hay daily, they will do nearly equally well on the following rations, viz.: bruised oats 10 lbs. per day, or per week 1⅓ bushel, costing 6s 1½d; hay 7 lbs., straw, 2½ lbs., with cutting and bruising per week, 3s—altogether 9s 1½d, effecting a weekly saving of 10½d. There is an outlay of from £8 to £10 required for the bruising and chaff-cutting machines, the interest on which will with repairs, amount to about 3d per week; but as in the above estimate the cutting and bruising have been calculated at about that sum, and as in private stables no additional labour is required, the one may fairly be set against the other, and the saving may be said to be something under a shilling per week. In well-managed stables it is customary to cut the chaff once or twice a week, for if larger quantities are done at a time they become musty, and are not relished by the horses. The oats should be bruised daily, or every other day, and should not be mixed with the chaff until they are just about to be consumed.

Such is the ordinary plan pursued in stables conducted on economical principles in this country; but of late years a still cheaper food has been tried and found to answer well. This consists in the substitution of Indian corn and beans for oats; and the mixture of these two appears to agree remarkably well with the horse. In America Indian corn is very generally given without beans, but we doubt whether it would suit the animal in this climate. We have never known it tried alone; but the experiment with it mixed with beans has come within our observation, and, as far as a continuance for six months may be considered a sufficient test, it has been fully successful. The horses fed on it were worked quite up to the average in private stables, and their condition was excellent, showing the blooming coats and hard muscle, slightly inclining to fat, which is what is desired, in the hack and carriage horse. It was found that 7 lbs. of crushed Indian corn and 1 lb. of split beans were quite sufficient, and produced as good an effect as 10 lbs. of crushed oats; and as the price of all three of these varieties is as nearly as may be 1d per pound, the saving effected is 2d per day, or about 1s 2d per week. A closer calculation may be made which would give the price to a fraction, but for ordinary purposes the above will, we think, be found most convenient.—Whenever Indian corn is adopted for horses, bran mashes must be given twice a week, at a cost of about 2d, so that the actual weekly outlay for the food of horses on this plan may be set down at about 8s 1½d. We do not ourselves vouch for the correctness of the facts relating to the use of Indian meal, but we believe that the experiments have been carefully conducted, and we are quite sure they have been related in good faith. The subject is, at all events, worthy of a further trial, and we shall be happy to record any experiments made by our readers with this kind of grain, which is now so largely imported into England. We believe it is too hard to be readily split in the oat-bruising and bean-splitting machine as usually sold, but it can always be purchased in the state known as "hominy," which is that in which it was employed in the instances to which we have alluded.—*Field.*

A QUEER ENTERPRISE.—We have been informed that some Americans have lately engaged in a rather questionable enterprise, that of carrying away the leached ashes from the potash and soap factories in this city, to Oswego, professedly to be used as *manure*. Query—May not these ashes come back to Canada in the shape of water lime or plaster? Parties who deal in those articles had better keep a sharp look-out when they purchase. Perhaps our insinuation is undeserved, and our cousins really intend to apply the ashes to their over-rich lands, as their effect on the soil is the means of adding to its fertility, except under a peculiar condition. Now, it strikes us they might find abundance of waste ashes in the towns and villages in Oswego county, procurable at much less cost than taking them from Canada; but that is their business, and doubtless they understand what they are about, and "calculate" what their enterprise will pay. How comes it, farmers of Kingston and Pittsburg, you have not found out the value of ashes as a manure, and allow strangers to take advantage of you in the manner stated? It is evident you are "behind the intelligence of the age," and need a little more agricultural teaching to teach you the many resources you possess for improving and increasing the productive qualities of your lands. Depend upon it our Yankee neighbors who come here for leached ashes have patronized the *Genesee Farmer* and the *Albany Cultivator;* and the best advice we can give you is to lose no time in subscribing to the *Canadian Agriculturist*, published at Toronto, or the *Farmer's Journal*, published at Montreal.—*Kingston News.*

SUMMER SOURS.—Physiogical research has fully established the fact that acids promote the separation of the bile from the blood, which is then passed from the system, thus preventing fevers, the prevailing diseases of summer. All fevers are "bilious," that is, the bile is in the blood. Whatever is antagonistic to fever is "cooling." It is a common saying that fruits are "cooling," and also berries of every description; it is because the acidity which they contain aids in separating the bile from the blood, that is, aids in purifying the blood. Hence the great yearning for greens and lettuce, and salads in the early spring, these being eaten with vinegar; hence also the taste for something sour, for lemonades, on an attack of fever. But this being the case, it is easy to see, that we nullify the good effects of fruits and berries in proportion as we eat them with sugar, or even sweet milk, or cream. If we eat them in their natural state, fresh, ripe, perfect, it is almost impossible to eat too many, to eat enough to hurt us, especially if we eat them alone, not taking any liquid with them whatever. Hence also is buttermilk or even common sour milk promotive of health in summer time. Sweet milk tends to biliousness in sedentary people, sour milk is antagonistic. The Greeks and Turks are passionately fond of sour milk. The shepherds use rennet, and the milk-dealers alum to make it sour the sooner. Buttermilk acts like watermelons on the system.—*Hall's Journal of Health.*

THE TOMATO.—Dr. Bennett ascribes to the Tomato the following important medical properties:—1st. That the Tomato is one of the most powerful aperients of the liver and other organs; where calomel is indicated, it is probably one of the most effective and the least harmful remedial agents known to the professions. 2nd. That a chemical extract will be obtained from it, that will supercede the use of calomel in the cure of disease. 3rd. That he has successfully treated diarrhœa with this article alone. 4th. That when used as an article of diet it is almost sovereign for dyspepsia and indigestion. 5th. That it should be constantly used for daily food; either cooked, raw or in the form of catsup, it is the most healthy article now in use.—*Maine Farmer.*

TOBACCO FOR BOYS.—A strong writer administers a wholesome dose to the boy chewers and smokers, assuring them that tobacco has spoiled and utterly ruined thousands of boys, inducing a dangerous precocity, developing the passions, softening and weakening the bones, and greatly injuring the spinal marrow, the brain, and the whole nervous fluid. A boy who early and frequently smokes, or in any way uses large quantities of tobacco, never is known to make a man of much energy of character, and generally lacks physical and muscular as well as mental energy. We would particularly warn boys who want to be anybody in the world, to shun tobacco as a most baneful poison.—*Exchange.*

POTATO PUDDING.—Boil one quart of potatoes soft, peel and mash them, and rub them through a sieve; half a pound of fresh butter melted, as much sugar, beat them well together, beat six eggs, stir in one glass of brandy, half a pound of currants.—Boil half an hour, or bake in a crust.

Cultivation of Willows.—We cut the following paragraph from the Boston *Commercial Advertiser*. There is scarcely any crop which could be made so profitable in Canada, upon land suitable for it, as the willow for the basket maker, and that it will succeed admirably may be seen by a visit to the grounds of Mr. Geo. Leslie, Toronto Nursery Gardens, who has had a bed of it under cultivation for some years:

"The willow used in making willow ware in this country, was formerly imported almost entirely. At present a large quantity, estimated by some at one-half the quantity consumed, is grown in the United States, and chiefly, as we understand, in Pennsylvania, Ohio and Kentucky. A manufacturer of willow ware in Ripon, Wisconsin, grows the Welsh willow on four acres of land, near that place, and this is perhaps the only place in the United States where it is cultivated. The present is the second year that he has cut his willow, and from his four acres he obtained six tons, four of which he sold in St. Louis at $100 a ton. The importation last year of willow, unmanufactured, was valued at $35,141, of which $21,192 was from France, and $11,708 from Belgium. The manufactures of willow imported the same year were valued at $112,725, of which $68,902 was from Bremen, $34,126 from France, $6,280 from Hamburg, and $2,029 from England. Most of both these imports are received at New York. The imports of the previous year were larger, viz: $175,484 of manufactures of willow, and $41,773 unmanufactured; and were, respectively, in about the same proportion from the several countries as in the last year."

The Natives of Africa and the Apes.—The natives of Africa have an idea that the Gorillas, and other large apes, are really men; but that they pretend to be stupid and dumb, in order to escape impressment as slaves. Work, indeed, seems to be the *summum malum* in the African mind, and a true African never works if he can help it. As to the necessary household labours, and the task of agriculture, he will not raise a finger, but makes his wives work, he having previously purchased them for that purpose. In truth, in a land where the artificial wants are so few—unless the corruptions of pseudo-civilisation have made their entrance—and where unassisted nature is so bountiful, there is small need of work. The daily life of a "black fellow" has been very graphically described in a few words. He gets a large melon; cuts it in two and scoops out the inside; one half he puts on his head, he sits on the other half, and eats the middle.—*Routledge's Illustrated Natural History, by the Rev. J. G. Wood.*

Curious Electrical Phenomena.—From the watering-place we first proceeded to a desolate plateau, covered with grey bushes and scanty grass, where we saw large herds of antelopes. In a few hours we reached a level tract, upon the bare clay soil of which grew here and there, an *Opuntia arborescens.* In the distance rose the Limpia Mountains, to which our road lay. At their foot we observed some columns of smoke—Indian signals, as we ascertained some days later. During the journey the sky was overcast with dark clouds, which, with a sultry air, seemed to indicate the approach of a thunderstorm. Some large drops of rain fell; a violent gale filled the air with such clouds of dust that we were almost stifled, and our caravan was quite darkened. Later, when night came on, our clothes and the harness emitted electric sparks when stirred: every lash of the whip on the animals' backs was a small streak of fire. I have often witnessed similar electrical phenomena in the interior of North America, and have before spoken of them, but have never seen them exhibited in so striking a manner as on this day (Feb. 24) on the plain of the eastern foot of the Limpia Mountains: sparks from my fingers were at times quite perceptible when I touched any part of my clothes. I may here observe that, coinciding with these electrical phenomena, I repeatedly felt a sudden rheumatic affection, which all at once paralysed, temporarily, my left leg, and gave me a violent headache. The former attack, happily, never lasted above one or two hours.—*Seven Years' Travel in Central America, &c., by Julius Froebel.*

Science of Milking Cows.—It is a matter of great importance that the milk should all be drawn from the cow's udder. Careful experiments made in England show, according to a report recently published, that "the quantity of cream obtained from the last drawn cup from most cows, exceeds that of the first in a proportion of twelve to one." Thus a person who carelessly leaves but a teacup full of milk undrawn, loses in reality about as much cream as would be afforded by four or six pints at the beginning; and loses, too, that part of the cream which gives the richness and high flavor to the butter.

GEOLOGY AS A BRANCH OF GENERAL EDUCATION.—Nor is it alone the miner, engineer, builder, farmer, landscape gardener, and painter that can turn to profitable account the deductions of geology. The capitalist who speculates in land, the emigrant, the traveller and voyager, the statistician and statesman may all derive assistance from the same source, and bring a knowledge of its facts to bear on the progress of their nations. So also the holiday tourist, the military officer stationed in distant countries, and others in similar situations, if possessed of the requisite knowledge, may do good service, not only to the cause of science, but to the furtherance of our industrial prosperity. Indeed we do not affirm too much when we assert that had one tithe of those who, during the last fifty years, have travelled or settled in America, Australia, New Zealand, India, and other countries, been possessed even of a smattering of geology, these countries, as to their substantial wealth and social progress, would have been in a very different position at the present day. Their gold fields and coal fields, their mines of iron, copper, and other metals, take rank among the most important discoveries of the present age; and as the spirit of civilization is now evolved and directed, no progress can be made without those mechanical appliances to which the possession of coal and iron is indispensable, no facility of commercial intercourse without a sufficiency of gold, which has hitherto formed the most available medium of interchange. The assistance which geology has also conferred, and the new light its deductions have thrown on the other branches of natural science, are not among the least of its claims to general attention. The comparatively recent science of physical geography, in all that relates to the surface configuration of the globe—its climate and temperature, the distribution of plants and animals, and even touching the development of man himself as influenced by geographical position—can only lay claim to the character of a science when treated in connection with the fundamental doctrines of geology. So also in a great degree of botany and zoology; the reconstructing, as it were, of so many extinct genera and species has given a new significance to the science of life; and henceforth no view of the vegetable or animal kingdom can lay claim to a truly scientific character that does not embody the discoveries of the palæontologist. In fact, so inseparably woven into one great system of life are fossil forms with those now existing that we cannot treat of the one without considering the other; and can never hope to arrive at a knowledge of creative law by any method which, however minute as regards the one, is not equally careful as concerns the other. Combining, therefore, its theoretical interest with its high practical value—the complexity and nicety of its problems, as an intellectual exercise, with the substantial wealth of its discoveries—the new light it throws on the duration of our planet and the wonderful variety of its past life, with the certainty it confers on our industrial researches and operations—geology becomes one of the most important of modern sciences, deserving the study of every cultivated mind, and the encouragement of every enlightened government.—*Advanced Text-Book of Geology*, by D. PAGE, F.G.S.

ARTESIAN WELLS.—The artesian well at Charleston, S. C., is tubed to the depth of 1320 feet and supplies 100,000 gallons every 24 hours. Its temperature when it reaches the surface is about 83 degrees of Fahrenheit, its taste slightly alkaline, and it is thought to have medicinal qualities. Glass deposited in it for a few hours receives an irridescent coating similar to that of the artesian well of Grenelle, near Paris. A trough near the well, on one of the great thoroughfares of city, is supplied with this water for the use of horses, which manifest a singular avidity for it, many of them refusing to drink at their stables in the morning in the expectation of receiving their supply at the trough on their way to their stands.

MECHANICAL HORSE-TAMER.—With a philosophical indifference to the lofty teachings in horse taming as practised by Professor Rarey (with whose feats the whole world resounded in 1858), J. G. Bunting, of London, has taken out a patent for what he calls a "Mechanical Horse-tamer." It consists of a post driven into the ground and having at its upper end a stout pin, to which are secured two horizontal poles. Upon the outer end of these are attached axle-arms to carry heavy cart wheels and they are arranged to form a sort of cradle in which the horse to be tamed is fastened by suitable straps. He is unable to plunge by the weight of the wheels, or to lie down on account of the under straps, and he is prevented from running backwards by a prop which is fixed to the hind pole. In this contrivance the unruly animal is coerced into obedience; but as to the extent of his training or how long it takes to *break him in*, we are not informed.

WHY DO WE OIL OUR BOOTS, SHOES AND HARNESS?

The hides of animals, if dried without any previous preparation, soon become hard and stiff, and of a consistence very much like glue. If used in this condition they crack and break where bent, and their use is attended by much inconvenience. If wet they become soft but heavy, and if not dried undergo a slow putrefaction. To prevent this putrefaction, and at the same time to make them soft and pliable, they are immersed in a liquid containing tanic acid. This compound fills up partially the pores, rendering it less permeable by water, and less destructible from exposure to the atmosphese. To make it still more soft, pliable and impervious, a quantity of oil (more or less according to the use for which it is destined) is incorporated into its body. This, with the previous removal of the hair, and other manipulations of the currier, complete the manufacture.

If now kept dry, it retains its suppleness for a length of time, but evidently the oxygen of the atmosphere, that great destroyer of all organized matter, changes the oil to a gummy or waxy substance, and the leather loses its flexibility and strength. If, on the contrary, it is exposed to wet and the alkalies unite with the oil in the leather, and form soap, a substance of no use to the leather, and soon removed therefrom by its lack of adhesion.

Understanding this, the hint is at once taken, the necessity at once seen, of frequently supplying this loss of oil, if we would preserve the leather. The leather used as harness for teams and that worn upon the feet, is also subject to the action of the alkaline salts exuding from the skin in prespiration, uniting again with the oil, destroying its softening quality. Thus we see that a harness, having been long worn, becomes stiff if put in warm soft water. The pressure of the water determines to the surface a light colored saponaceous and gummy substance, the result of the combination of the oil with the sweat, which it is necessary to cleanse off to make room for, and render the leather permeable to a new application of oil.

There has been much discussion in a neighboring paper about the manner of oiling harness, one party contending for, and the other against the use of boiling water in cleansing. I shall not side with either, thinking the question is better settled by experiment than dispute. Water somewhat heated seems to be very necessary, but I think that somewhere between blood heat and the boiling point, say 125 to 160 deg. is sufficiently hot, and not injurious. We have probably all learned that our boots and shoes are more likely to be injured by the heat of the stove when wet, than when dry; but this by no means proves that immersion in boiling water is injurious, still it offers a hint for experiment.

AGRICOLA.

SLEEP OF PLANTS.—Plants sleep as well as animals; the attitude that some of these assume on the approach of night is extremely interesting to those who delight to study the beautiful phenomena of vegetable life. Some plants exhibit signs of sleep more marked than others. The leaves of clover, lucerne, and other plants close as the sun approaches the horizon; and in the honey locust this characteristic is particularly striking and beautiful. The delicately formed leaves close in pairs at nightfall, and remain so until the rising of the sun in the morning, when they gradually expand to their fullest extent. It is in common garden chickweed (*stellaria mèdica*) that the most perfect exemplification of the conjugal love and parental care of plants is observed. At the approach of night the leaves of this delicate plant, which are in pairs, begin to close towards each other, and when the sleeping attitude is completed these folded leaves embrace in their upper surfaces the rudiments of the young shoots; and the uppermost pair (but one) at the end of the stalk are furnished with longer leaved stalks than the others, so that they can close upon the terminating pair and protect the end of the shoot.

BOX MEASURES FOR FARMERS AND PLANTERS.—A box 24 by 16 inches square and 29 inches deep, will contain a barrel—5 bushels, or 10,376 cubic inches. A box 24 by 16 inches square and 14½ inches deep, will contain half a barrel—2½ bushels, or 5,188 cubic inches. A box, 16 by 16½ inches square and 8 inches deep, will contain also a bushel, or 2,158⅓ cubic inches; each inch in depth holding one gallon. A box 12 by 11½ inches square and 8 inches deep, will contain half a bushel, or 1,075½ inches; each inch in depth holding half a gallon. A box, 8 by 8½ inches square and 8 inches deep, will contain half a peck, or 198⅓ cubic inches, the gallon dry measure. A box 4 by 4 inches square and 4½ deep, will contain one quart, or 62½ cubic inches.—*Perth Courier.*

LAKE SUPERIOR IRON MOUNTAINS.—Recently a party took the Iron Mountain Railroad at Marquette, and ran up to the wonderful piles of mineral known as the Iron Mountains. The Jackson is fourteen miles inland, the Cleveland sixteen, and the Lake Superior eighteen. The editor of *The Lake Superior Journal* records some interesting facts about them: "Quite a new feature has been discovered in the formation of those mountains within a year or two. Previously they were supposed to be solid masses of iron throughout, whereas, in fact, the metal is found to run in veins, the principal one in each being not far from from a hundred feet in width. This detracts nothing from their value. If we suppose these veins to be only a mile in length each, and that there were only a single vein in each mountain, it would make them just as valuable as though they were solid iron, for enough is enough. The depth of these veins will probably never be measured. No metalic vein that we ever read or heard of, has been traced to its terminus in the bowels of the earth. It will be a long, long time before they will be leveled with the surface, and when they are reduced below it, in the revolution of time the business of quarying can be carried to nearly the same advantage as at present. In the first place, there will be no rock to be removed to get at the ore, and then it is a conceded point, and the deeper they go the better the ore. At the Jackson Mountain the sound of the drill hammer made sad discord with the air. Fifty or sixty men were busily engaged in drilling, blasting and removing the ore to the cars. They are making a formidable charge upon the mountain, carrying its outposts, and fast making their way to the citadel of its strength. The Cleveland Mountain presents a bold front. The rock has been mined away so as to leave a perpendicular wall some forty or fifty feet high, as we should judge. In the centre they have reached the large vein, and when the remaining rock has been cloven off plump to the vein, hundreds of tons may be thrown down at a blast. The Lake Superior mountain is run right into by the railroad at its termination point. Operations upon this mountain have been but a few months commenced, but they make a grand show for the time. The cut into the mountain for the railroad track verges so nearly to a parallel with the course of the principal vein, that it will be very easy to trundle the ore from the latter down to it, and empty the wheelbarrows right into the cars, which will certainly be a great advantage in loading. Thus, at all these mountains the way is fast preparing for greatly extending operations, and other seasons will doubtless witness greater changes than have ever yet been wrought upon them.

TRAPPING A TIGER.—A still more ingenious mode of tiger-killing is that which is employed by the natives of Oude. They gather a number of the broad leaves of the prauss tree, which much resembles the sycamore, and having well besmeared them with a kind of birdlime, they strew them in the animal's way, taking care to lay them with the prepared side uppermost. Let a tiger but put his paw on one of these innocent-looking leaves, and his fate is settled. Finding the leaf stick to his paw, he shakes it, in order to rid himself of the nuisance, and finding that plan unsuccessful he endeavours to attain his object by rubbing it against his face, thereby smearing the ropy birdlime over his nose and eyes, and gluing the eye-lids together. By this time he has probably trodden upon several more of the treacherous leaves, and is bewildered with the novel inconvenience; then he rolls on the ground, and rubs his head and face on the earth in his efforts to get free. By so doing, he only adds fresh birdlime to his head, body, and limbs, agglutinates his sleek fur together in unsightly tufts, and finishes by hoodwinking himself so thoroughly with leaves and birdlime, that he lies floundering on the ground, tearing up the earth with his claws, uttering howls of rage and dismay, and exhausted by the impotent struggles in which he has been so long engaged. These cries are a signal to the authors of his misery, who run to the spot, armed with guns, bows, and spears, and find no difficulty in despatching their blind and wearied foe.—*Routledge's Natural History.*

BOTANY AND MEDICINE.—Of all the natural history sciences botany is the most advanced and most pursued. From an early period in man's history the attention of the observing had been directed towards the vegetable kingdom, partly from the facilities for the study of plants assembled as they are in their various kinds abundantly around us—and partly on account of their virtues real or imaginary. In the olden time the herborist and the physician were one: in nations as yet unemerged from their infant or barbarous state they are one still. The objects of the study were at first purely utilitarian. Fanciful resemblances to the forms or symptoms of disease furnish the principles of botanical arrangement. But continued enquiry, even when conducted under false

principles, led at length from empiricism to science, and the herborist ripened into the botanist. A new light broke upon him. Plants were no longer to be regarded as mere depositories of decoctions and elixirs, but were to be examined for their own sakes.—The wonders of their structure were exposed; the variety of their forms compared and classified. Their lives were written. The vital processes continually going on within their bodies were explored; their affinities with each other and with the animal kingdom investigated; and their history became a store, from whence could be drawn at pleasure numberless admirable examples of perfection of design in creation, and of the benevolence and omniscience of the Creator.—*Professor Edward Forbes.*

Preserving Eggs.—The following recipe is from a recent work on "Game Fowls," by Cooper & Vernon, of Media, Pa.:—"Dissolve some gum shellac in a sufficient quantity of alcohol to make a thin varnish, give each egg a coat, and after they have become thoroughly dry pack them in bran or saw-dust, with their points downwards in such a manner that they cannot shift about. After you have kept them as long as you desire, wash the varnish carefully off, and they will be in the same state as they were before packing, ready either for eating or hatching." The author of this work states that he has been engaged for thirty years in raising the best of game fowls, and he frequently imported eggs from Europe which he directed to be packed according to this recipe, and from such eggs he has raised chickens. This is certainly a very simple mode of preserving eggs and very superior to the common method of laying them down in milk of lime.

Editorial Notice, &c.

The remaining portion of the reports of Agricultural Societies, together with the proceedings of the Board of Agriculture, and the Provincial Association, will appear in the Transactions that will accompany our next number.