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THE AGRICULTURIST

AND CANADIAN JOURNAL.

Devoted to Agriculture, Literature, Education, Useful Improvements, Science, and General News.

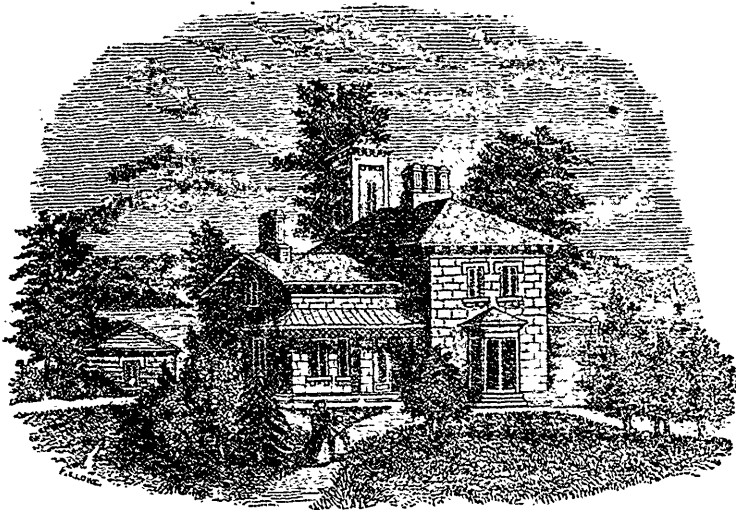
W. M. McDUGALL, PRINCIPAL EDITOR.
W. G. EDMUNDSON, PUBLISHER.

W. G. EDMUNDSON,
W. M. McDUGALL, } PROPRIETORS.

VOL. I.

TORONTO, MARCH 15, 1848.

NO. 5.



RURAL ARCHITECTURE.

We were so much pleased with the design of a cottage in the Italian style of architecture, which appeared in a late number of that excellent periodical, the *Albany Cultivator*, that we have incurred greater expense than the state of our funds would almost warrant, for the purpose of presenting our readers with the above exactly copied view of it. We have great fear that in working off our large edition, the impression will not be very good for a large portion of it, but we have given the printer plenty of time, and begged of him to spare no pains. The ground plan, and view of the arrangement of the bed-rooms, &c., will appear in our next. If there is one thing more than another in the matter of taste, or appearance, and we may say also of utility, in which we as a people are miserably deficient, it is in the style of our country architecture. Indeed, except in the neighborhood of our cities and towns we can hardly be said to have any style at all. A large barn-like building, with the front door in the middle of one of the sides, and the back door opposite. One or two big square rooms on each side of the hall, which runs directly through from the front to the back door, and contains the stairs by which you may go to bed or go into the cellar. A chimney with a tremendous fire-place, and a mantel so high that a six footer must stand on tip-toe to see the top of it, located in each end. The windows all arranged with mathematical regularity, each one having its fellow and its opposite. No enclosed yard, but cattle and hogs allowed to range round the house at pleasure. No trees, no any thing in the way of ornament, except a long pole mounted on a crooked stake, pointing up into the clouds at an angle of 45 degrees, with a block of wood at one end, and a small pole and bucket dangling from the other. These are the striking fea-

tures, of what may be called the prevailing style of Canada. We say nothing of log shanties and the ruder erections of the first settlers. They are necessarily incident to the "bush." But the species we have in our eye belongs to another genus. It comes afterwards, and is regarded as evidence of civilization, *progress*.

The time has come when we may progress a little further, when a better taste should be cultivated. We do not wish to see the flimsy gingerbread work, and fantastic, unmeaning decorations, lately so much in vogue among our American neighbors, gain favor in the eyes of our wealthy farmers and country gentlemen. It is said that a more thorough knowledge of correct principles in architecture is showing its results there. The plain, simple, chaste Gothic and Italian, are taking the place of the formal Grecian, and the wretched abortions in which all styles are confounded. Let us begin to improve here. We have the advantage of being able to avail ourselves of all that has been discovered up to the present moment. We may select the *best* as our models. Where its varied and picturesque outlines would harmonize with the surrounding scenery, the above is an admirable model for a person who has a small family, and wishes to build a cheap, neat, pleasant country residence.

"There is nothing," observes Downing, "that more powerfully affects the taste and habits of a family—especially the younger members of it—than the house in which it lives. An uncouth, squalid habitation, is little likely to awaken that attachment to home, that love of good order, and that sense of propriety and elegance in social deportment, which are so much developed, by that home where a certain proportion, a certain fitness, and a sense of beauty, are everywhere visible."

Agriculturist and Canadian Journal.

TORONTO, MARCH 15, 1848.

AGRICULTURAL COLLEGE, &c.

We are determined not to lose sight of this great desideratum—a suitable Institution for the Education of Farmer's Sons in their PROFESSION. There is nothing like doing things in the "nick of time." Our legislature is now assembled. One great Public Institution, the UNIVERSITY, is expected to be finally settled, and while the subject is under consideration, we shall not omit to put in our claim, nor, as the farmer's organ, fail to remind our Representatives, that as a class, the agriculturists of Canada demand some adequate provision for the establishment and support of an Educational Institution for their advancement. We think they have every right to claim a direct interest as a class, in the University revenue. The agriculturists of Canada, and agriculturists every where, are the "first class," in the noblest and best sense. The Merchants, Mechanics, Priests, Lawyers, Artists, Literati, &c., &c., are all non-producers—mere hangers-on, dependants of the husbandman. He can do without them, they cannot live without him. If you wish to see genuine virtue, true patriotism, unostentatious benevolence, sterling honesty and practical piety, go among the cultivators of the soil. Look not for these rarities in the crowded city; they will not vegetate in the tainted atmosphere that surrounds the haunts of busy, plotting rivalry, priestly intrigue, scheming political selfishness, legal trickery, and reckless commercial gambling. Even in a country so young as Canada, with a changing, heterogeneous population, the truth of this contrast becomes every day plainer to the view. The sturdy yeomen are the true conservatives of society. They are the substratum—the foundation of the social fabric—and if that be defective, the whole building will tumble in ruins. It has been so in all past time, in all other countries: it is so in ours. Why then should it be thought unnecessary to afford every facility for the acquisition of knowledge by farmers? Is the common school good enough for them? Is it because they are as a class, compared with others, virtuous, patriotic, benevolent, honest, &c., that they need not also be intelligent? Must we give 8 or 10,000 pounds a-year for the support of Professors, with their philosophic apparatus and appliances, and scholarships, and prizes, and low charges for tuition, in order that a few citizens may educate their sons for the learned professions, while not £1000 is given to support an Institution for teaching sound principles to those who are intended for a profession, not "learned," it may be, but vitally necessary; a profession, in the pursuit of which, the lights of modern science, the discoveries and improvements of modern times, are absolutely essential to complete and certain success? Must the "arts" be encouraged, while the "nursing mother of all the arts" is left to shift for herself?

But we leave this broad, general view for the present, and come to the *£. s. d.* aspect of the question. We said the farmers of Canada have a right to claim a direct interest in the University revenue. It may be answered, so they have, and will have the privilege of sending their sons to be educated within its walls, on the same terms as others. But they don't want the kind of learning to be obtained there. It is not suited to them, unless they wish to become Lawyers or Doctors—either of which will probably be the very worst use that farmers can put their sons to. No, the farmers of this country, as such, will be practically excluded from the benefits of the University, unless a portion of its funds be appropriated for the support of an Agricultural School. So far as we can learn,

the estate, *i. e.* the *lots of land*, and their proceeds, which the hard work of farmers, in clearing away the bush, and in making roads around these "reserves," has rendered valuable, and to the benefits of which they are therefore pre-eminently entitled, is quite sufficient to sustain a University properly conducted, suitable to the present wants of the country, and a School of Agriculture, on a respectable scale, besides. We admit, that in one view, it will be quite indifferent, as to the public source from which the appropriation come, provided it do come, and be sufficient in amount. But we know that the public funds are already mortgaged almost beyond redemption, and we are not going to expose ourselves to the objection that we show what is wanted, without showing that it can be granted. We won't take the answer—"we have no funds." We point to the available means, and we assert our right to participate. If other provision be made, we shall not complain, though as economists, and using our right as constituents to judge of the proper course to be pursued by our representatives in dealing with public property, we are of opinion, that the University funds are the legitimate means for such a purpose.

In our next number we shall develop a scheme, by which we think the process of establishing such an Institution may be begun at once.

RULES FOR FARMERS' CLUBS.

We promised in our last that we would give in this number a set of Rules for the guidance of these Associations, which we hope to see springing up in all parts of the country. The farmers must begin to study their own interests, not merely in the "Home" department, but without and beyond their "line fences." They must speak with a voice that will be heard in the halls of legislation. Merchants have their "Boards of Trade" to watch over their interests, ready to take the alarm at the first note of danger. If a Bill is brought in which contains even an obnoxious clause, they scan its provisions and weigh well the probable and possible contingencies that may arise in its application to their business, and if disadvantage is apprehended, the remonstrance is framed and despatched to head-quarters before the bill can become law. They even condescend to take the interest of the farmers under their powerful protection, and in their reports and proceedings evince the most ardent desire for the prosperity of agriculture! Well they may; for if the farmer is discouraged or unjustly taxed or impeded in his honest operations, they must suffer first. Insolvency, bankruptcy, composition with creditors, and "running away to the States," then become familiar occurrences in the cities and places where merchants and speculators "congregate." Mechanics, even, have their Institutes, lectures and trade combinations, but the farmer, as he follows his plough, may sing the old song—

"I care for nobody, no, not I,
For nobody cares for me."

And the whole class may add this corollary—

"Nobody cares for us, no, not they,
For—we dont care for ourselves."

Let them awake to the necessities of their position, and be indifferent no longer. We take the following Rules from an American publication—they may be modified to suit the circumstances:—

RULES.

1. That the officers of this Club shall consist of a Chairman, Secretary (who shall also act as Treasurer), and a Committee of five members, all of whom shall be elected annually. Five of the Committee, including the Secretary, to form a quorum.
2. That at each meeting the authority of the Chairman upon disputed matters shall be final.
3. That it shall be the duty of the Secretary to receive the

scriptions, to keep the accounts of the Society, and also of the books in circulation.

4. That it shall be the duty of the Committee, in the absence of the Chairman, to elect a Deputy Chairman, to take care that at each meeting a subject be proposed for discussion at the succeeding one, and to decide upon all matters connected with the business of the Club.

5. That any person wishing to become a member of this Club must be proposed by one member and seconded by another, when he may be elected by a show of hands.

6. That the annual subscription payable by each member shall be which shall be paid in advance.

7. That the Club shall meet on the _____ in each month.

8. That the Chairman shall take the chair at — o'clock, and any business of the Society shall be first transacted; after which he shall call upon the member introducing the subject for that evening, the discussion upon which shall be terminated by — o'clock at the latest; and all questions upon which it may be necessary to come to a division shall be decided by a majority of votes.

9. That there shall be no forfeits for non attendance.

10. That the first meeting of the Club shall be held at, _____.

11. That the annual meeting for choosing the officers, and auditing the accounts, shall be held in January.

12. That all party politics and questions shall be totally excluded from the discussions of this Society.

13. That the books purchased by this Society shall be confined to agricultural and horticultural works, the price of which shall not exceed the existing funds of the Club.

14. That it shall be competent for any member to propose the purchase of a work which, if seconded, shall be ordered or refused by a show of hands.

15. That all arrangements regarding the books shall be decided by the Committee.

16. That any member may introduce a friend; but no person residing within ten miles of the place of meeting shall be introduced more than once as a non-subscriber. Such visitor shall be at liberty to take a part in the debate, but not to vote on the subject.

17. That any member wishing to effect an alteration in the above rules shall give notice in writing to the Secretary of his intention at one meeting, who shall propose it at the next, when it shall be determined upon by vote.

SPRING TREATMENT OF WHEAT.

It seems to be the opinion of every farmer with whom we have conversed, that the fall wheat will be seriously damaged by the effects of the present winter. Still, we must not give up in despair, but resort to all those means which the practice of our own and other countries has shown to be the best adapted to counteract such evils. If the Hessian Fly should be found generally to prevail, we know of no remedial measures, and we believe there are none that can be applied to the present crop. We take the following extract from that standard work published by the Society for the diffusion of useful knowledge, entitled "British Husbandry," and written by the eminent author, Youatt. From this it appears that the practice of harrowing is general in Poland, a country which produces as good wheat as any in the world:—

"Although wheat generally supports the rigours of the winter, yet the uncertainty of the temperature in our northern climate is such as sometimes to expose it to hazard. On the return of spring it is, therefore, occasionally found in such a state as to afford no prospect of a crop: this particularly occurs on poor soils, lying in a low situation, which have not been sufficiently drained; and it has thus become necessary to break up the land, in order to re-sow it with Lent corn. This, however, should not be hastily done; for after a few days of warm weather, the plants are frequently seen to shoot forth, and tiller with great luxuriance. Spring wheat has also been dibbled among the crops, and both species have ripened at nearly the same time, with such little difference in the quality, as to render the plan advisable.

"Strong adhesive clays also frequently become hide-bound after a wet winter; in which case many farmers resort to the practice of harrowing the ground in spring, in order to loosen the surface, and others invariably resort to it when the crops are thin, with a view to encourage them to shoot out and fill up the vacancies: it has, however, been objected to by some intelligent men, as occasioning mildew, and others would dread the destruction of their crops by the tearing up the roots of the plants. The practice is therefore by no means general in this country, and evidently can only be carried into execution with propriety on land which has been sown broad-cast; but, throughout many parts of Germany and Poland—with which countries the writer of this is intimately acquainted, and in which he had during three

years the occasional management, though only as an amateur, of a fine arable farm consisting of 900 acres—it is universal. There, on the first return of fine weather, the harrows are immediately passed freely over the wheat; so freely, indeed, that the whole field wears the appearance of having been newly sown, for the plants appear buried under the soil thus freshly stirred, and an ample top-dressing is thereby given to the crop. The crust formed upon the surface of the soil is thus broken, and the ground is rendered more pervious to the coronal root of the plants, which in a week or ten days spread and tiller with strength. The operation is performed upon every kind of soil, of course with harrows of a weight proportionate to the tenacity of the land, and not heavy enough to tear up many of the roots, though, if a large quantity be destroyed, it is considered immaterial; and any farmer who omits harrowing is thought unpardonably negligent. It should be executed when the crop begins to re-vegetate; which necessarily depends on the climate and the state of the season: here it usually occurs, in good soils, some time in February, and in those of a poorer kind, rather later. Attention is requisite to this; for if the work be done while the plants are in an inactive state, they may be rotted, and if when they are too forward, their growth would be choked. It must also be observed, that it should never be resorted to when the crop is root-fallen; for in that case, the roller, and not the harrow, should be passed over the soil."

CORRESPONDENCE.

Subscriptions to Agricultural Societies—Necessity of Changes in the Present Act—Agricultural Papers—Resolution of the Maiden Society.

Messrs. EDITORS,—I have only recently seen the first number of your paper, owing to my subscription being still in the hands of the Treasurer of our Agricultural Society, who has been waiting to get a sufficient number of subscribers to take advantage of your offer to Societies; you will, however, no doubt, very shortly receive an order and the money for fifty or more copies of your paper from him.

Owing to the first of September being the time when the returns for the Government grant have to be sent in, our Society allows its members till August to pay their subscriptions, it is therefore difficult to get many to pay up in time, to enable the Treasurer to send for your paper at the commencement of the year, though we have a rule that each member has to subscribe for some agricultural paper, towards which he receives a certain amount out of his subscription to the Society.

There are many cogent reasons why agricultural papers, and in fact all papers should commence with the new year, it being a period which no one would be apt to forget or overlook, which is generally the case when the subscription commences at other times, the same reasons make it the best time for taking subscriptions for Agricultural and other Societies, and for holding their annual meetings, &c. It is also a time from which people are apt to start with intentions of greater usefulness in future, and it is therefore the proper period for all societies or papers which have the public good in view, to recommence from, with a determination to exceed their former efforts in behalf of the objects for which they have been established.

Farmers are also apt to have the most spare time, and the most spare money in their pockets at that season of the year, as they have not had time to spend the proceeds of their crop, which is too often the case when they procrastinate paying their subscriptions till near September, which too many are apt to do.

Under view of these and other reasons, I think it would be well to endeavour to get the Act of Parliament altered, as regards the time at which District Societies have to make their returns, so as to participate in the Government grant; the whole matter will probably be taken up at the ensuing session, on the application of the Provincial Society for a grant or participation in the present one, and it might be well in framing a new bill to make it as nearly perfect as possible, and avoid the blunders in the last one, which are as confused as it could be possible to make them, one clause making it necessary for Township Societies to pay their subscriptions to the District Treasurer on or before the first July, and another clause making it payable on or before the first September, both having equal force, besides other equally great blunders.

It appears to me that the best time for the District Societies to render their accounts to Government, would be on the first of February, instead of the first September as at present, this would allow all the societies to bring up their accounts to the close of the year, it would also give the greater part of January for collecting the subscriptions for the new year, a list of which would have to be transmitted along with the application for the grant—a good time for collecting the subscriptions would be at the annual meeting for electing Office-bearers, which should be early in January. As it is at present, many of the societies do not receive the share of the Government grant till after their fall show or fair, they are therefore not able to apply it in paying the premiums awarded, besides they have not probably time after knowing what their share will be, to decide on purchasing stock at any of the great Exhibitions, which are the best places for procuring it—the money therefore lies idle for another year in the hands of their Treasurer.

If subscriptions and Government grant were receivable in January and February, the societies would know during winter what would be the amount they would have at their disposal for the current year, and would be able to apportion it (at a time when the members could best meet together to talk these matters over,) either for giving premiums, purchase of stock, or other matters connected with the Society.

The subscriptions being payable in January, would enable societies to send the money for their agricultural papers at once, and would help you in several ways, one of which would be saving you from the risk of printing a great number of extra files, without being certain of there being required by subscribers during the year.

But I have digressed greatly from the subject of your paper with which I commenced. I am much pleased with your prospectus—you must take care, however, to keep the subject of Agriculture and its handmaid Horticulture most prominently in the foreground, being by far the most important object for which your paper is established. At the rate you propose furnishing it to Societies, taking into consideration that it is to be published twice a month, it will be a very cheap paper, and well worthy the support of every person, whether an agriculturist or not, and if a proper spirit and knowledge of their own interests were shown by the inhabitants of the province, its circulation might be easily trebled. There are no doubt 30,000 families in Western Canada who are directly or indirectly depending on Agriculture for their support, every one of which should have a copy of your paper on their table.

But it is not pecuniary support alone that will cause your efforts to succeed, you must be supported by original communications from practical men; the principal source of interest in all agricultural papers being the original articles they contain, this is what causes the English and some of the American Agricultural papers to be so interesting, and however good the selected articles may be, they are never read with the same interest as original ones; besides, whoever writes now and then for a paper will naturally take an interest in it, and wish it as great a circulation as possible, that others may benefit by his lucubrations.

Now, to the shame, be it spoken, of our farmers and others, well able to send you communications of great interest, you are starved, if I may use the expression, for the want of them, and are forced to depend too much on selections from other papers and your own editorial efforts, which I will acknowledge have been great; you have also done your best to urge farmers and other practical men to communicate with you, but hitherto, except in a few instances, without effect. It might be well for you once more to urge them to write; and as they are apt to be diffident, fearing they cannot do it well enough, explain to them that you will polish up, or reduce any redundances in composition for them, as what you want is plain short articles upon one particular subject; not learned essays, or long theoretical disquisitions, which one half of your readers have neither time to read nor education sufficient to understand.

There is not an intelligent farmer in the country, (and there are thousands of this class,) who could not communicate something from his experience, to the general stock, that would be both useful and new; or if he felt diffident at instructing others, he might ask for information on subjects with which he was unacquainted, through your paper, which would elicit answers from others.

I trust a new era will now dawn upon Canada, and that, commensurate with your efforts, you will be supported, both with pen and purse, by the intelligent yeomanry of this fertile Province; and as a beginning, I have to inform you, that at the last meeting of the Malden and Anderdon Agricultural Society, they passed a unanimous resolution that each of the Office-bearers, in turn, should send an article to your paper. You will therefore have to consider this as the first of the series, so that you need not thank me for it, it being written on compulsion. I, however, hope to be able, now and again, to send you an article of my own free will and accord, on my favourite subject—*Horticulture*.

If the different Societies in the Province would adopt a similar rule, you would soon have more communications than you could dispose of.

Wishing you every success in your renewed efforts,

I remain, yours sincerely,

Rosebank, near Amherstburgh, } JAMES DOUGALL.
Feb. 20, 1848.

The suggestions of Mr. Dougall, with reference to the amendments so much needed in the present law for the encouragement of Agriculture, come to us just when they are wanted. Mr. D. will see by our last number that we have taken up the subject, and solicited an expression of opinion from intelligent farmers like himself. We are much pleased to find ourselves anticipated, and to receive our first help from one so extensively engaged in agriculture, and so well able from experience, to give sound advice. We may remark that our opinion as to the particulars mentioned coincides with that of our correspondent. The views and opinions of other experienced and influential men will, we hope, be elicited as soon

as possible, in order to have the outlines of a new law drawn up, and forwarded to Montreal for the information of our Legislators.

Mr. Dougall's remarks in commendation of our humble efforts are, we confess, agreeable to our feelings, and stimulate us to further exertions. The Resolution of the Malden Society is an excellent one, and we hope the office-bearers will carry it out, and that other Societies will "go and do likewise."

To the Editors of the *Agriculturist*.

GENTLEMEN,—

In the last number of your excellent journal I find a communication from Mr. Buckland, stating his expectations and intentions in coming to Canada, and sketching the plan of an Institution, which every intelligent farmer must acknowledge would be highly advantageous in promoting the advancement of agriculture in this colony. A Model Farm is undoubtedly much wanted, where experiments could be made with a sufficient degree of exactness, and conclusions arrived at with a sufficient degree of certainty, to obtain the confidence of the public; where the best system, or systems of rotation, and the best description of farm management might be practiced, and to which the farming community could look for instruction and example.

The Representatives in Parliament of an agricultural population will surely remember their speeches and pledges at the hustings, and not refuse to liberally endow an Institution, which cannot fail to be productive of the greatest good to Canada, and which is certainly as worthy the consideration of our Legislators, as any of the numerous subjects which occupy their attention,—the production of the agriculturist being the main-spring that keeps all the machinery of business in operation, the speed of which is regulated by the produce of the farm. And, notwithstanding the apathy and want of public spirit so manifest in the bulk of Canadian farmers, I cannot but think, that such an Institution would be duly appreciated and extensively supported were it once established.

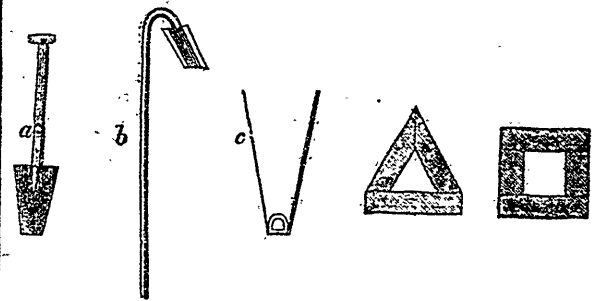
Whether it would be desirable to connect the enterprise with any Collegiate Institution now existing, or to establish an Agricultural School in connection with the Farm to be endowed, and governed separate from every other seminary of learning, I will leave for those better acquainted with public affairs than myself to determine; my object is simply to express my opinion of the very great advantages which the scheme contemplated by Mr. Buckland, is calculated to confer on the class to which I belong, and also to induce others abler and more influential than myself, to come forward and use their pens and their influence in advocating so good and patriotic a cause—to elevate our standing as a profession—to raise us from that state of half civilization in which many of us remain—to improve the mind as well as the soil—to purify and refine the feelings and the taste, these are the high objects which every patriotic and philanthropic agriculturist should constantly keep in view, and to promote which his most strenuous exertions should be used. I hope Mr. Buckland will not hastily make up his mind to leave us, for although the great mass of Canadian farmers are not alive to their own interests, there are some enthusiastic spirits amongst us who, I trust, will ere long, give such an impetus to the agriculture of this province, as will leave us (in the knowledge and practice of our noble profession,) inferior to none of the nations of the earth.

M. S.

Chinguacousy, Feb. 24th, 1848.

UNDER DRAINING.

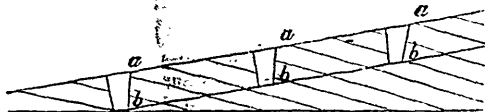
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[Professor Norton here introduces drawings of the various tools used in draining. We omit the common spade, pick, and two or three scoop shovels; the narrow pointed spade, *a*, and the flat scoop with turned up edge, *b*, are all we have thought worth representing by a cut. The latter is used for cleaning out the bottom; *c*, is an end view of the *drain*, with the *tile* at the bottom. The other cuts repre-

sent two modes of constructing drains with wood, recommended by a writer in the *Edinburgh Quarterly Journal of Agriculture*. We have inserted these here, as being cheaper and probably better adapted to this wooden country.]

The old theory as to the location of drains was, that they should run *across* the slopes, so as to cut off the springs and catch the descending water. This method is now, however, entirely abandoned in all the best districts of England and Scotland; the drains are run *straight down* the slope, exactly parallel to each other, and without reference to wet or dry spots, excepting sometimes a short branch to a strong spring. The layers of earth in the subsoil generally lie in such a direction that the water flows from them at a more uniform depth, into the straight than into the cross drains. The accompanying cut shows how the layers run into the cross drains at unequal depths. A drain straight down would cut them all to the same level. In those directed straight down the slope, the current is also greater, and usually suffices to wash away any small obstructions; should they become quite stopped, however, the great pressure will cause them to burst out, and show where the mischief really is. In cross drains the descent is slight, and they may remain choked for a long time before the cause of evil is discovered.



Where the declivity is very gentle, the drains made of small stones do not work well; it is in such cases necessary to employ tiles. Mr. Smith says, "that with careful management a drain will act efficiently when the fall is only four inches per mile." At the foot of each declivity, or half way down, if it is a long one, a main drain made of tiles, or built of stone with a smooth floor, should run across to carry away the water from the small drains; these should not be of a great length without thus discharging, as the friction against the sides of so small a tube, unless the descent is considerable, seriously retards the flow of water. Such main drains should be sunk three or four inches below the small ones. Tiles of a large size are made expressly for them.

Having thus explained the structure, and the theoretical advantages of the drain, it is necessary to say something more definite as to its practical benefits. The farmer who cultivates his land for a subsistence, must always fall back on this enquiry—will this improvement repay me? Profit must be a test of success with him. The verdict of this class in England, Ireland, and Scotland, is most decided. During the last year of my stay in those countries, I visited districts where the utmost efforts of the tile works could not supply the demand. The farms are almost all in the hands of tenants, but the landlords generally bear a part of the expense of draining,—in some cases they furnish the tiles, if the tenant will do the cutting and filling of the trenches; in others they allow a certain per centage of the amount expended. The landlord feels that the permanent improvement of his land by this simple process is so great, that he is willing frequently to bear much more than half of the charges. In Scotland, where long leases are prevalent, tenants do not hesitate to drain entirely at their own expense, especially towards the commencement of a lease. Many of them state that the increased produce repays the whole cost of the improvement, in from two to three years. Five or six years was the longest period that I heard stated, and that only in particular cases. The actual outlay in the operation, of course varies greatly on different soils, and with the distance of the drains from each other, but it may be stated generally at from £3 to £3 per acre, or from \$10 to \$40. This gives little information as to the probable cost in this country, as our rates of labor and modes of working are entirely diverse from theirs. The extent to which some large tenants and proprietors have carried their operations, is far beyond anything that single farmers here can do.

In 1846, I visited the farm of Mr. Dudgeon of Spylaw, at Kilsno, near the English border. The surface soil was stiff, and the subsoil almost impervious to water. He had then drained about 900 acres, and the length of drains was nearly 300 miles. His landlord defrayed about half of the expense. He had a tile work which turned out from 4 to 5,000,000 tiles in a year, but not sufficient to supply his wants. He was then in the beginning of a new nineteen year lease; and was draining as fast as possible, in order to reap the utmost advantage. The drains immediately raised the value of his land from a rent of \$2.50 per acre, to one of \$6.50. Owing to their ameliorating and drying influence, he had good crops of turneps on stiff clays, where it had never before been thought possible to grow them. The system of draining across the slopes had been tried on this farm, but abandoned as ineffectual in comparison with Smith's of Deanston's method. He was even going over those fields anew; at the time of my visit workmen were cutting straight down one of the slopes, across the old drains. Mr. Le Roy, a proprietor in the same neighborhood, had put in about 250 miles of drains on his own estate, thereby increasing the rent of many of his farms from \$5 to \$14 per acre. These were men of large property, but instances of equal or even greater success

on a small scale, are frequent in many districts. In travelling over an unusually large portion of Great Britain, and hearing the experience of a very great number of practical men, I never met one who was disappointed in the result of efficient, thorough draining.

The manner of carrying out improvements, and the extent to which they are at once adopted, must necessarily be very different in this country and England. Our farmers are mostly proprietors of moderate means, each managing his own land. We have no tenants who are willing to pay eight or ten thousand dollars of annual rent, when that sum would purchase a superb estate in the west. Our farmers being on so much smaller a scale, the improvement must be more gradually perfected. They may, however, and in this instance ought to be, of a similar character. The remedy for wet cold land is the same here as there, and there are few of our farmers who could not in the course of each year, find time to accomplish something; even without increasing, to any material extent, their usual force. Half an acre or an acre of drains might rarely be put in annually on almost any farm, and I have little doubt that he who commenced by one acre a year, would not long be contented without doing more. It is of much importance, that what is done be done well. The desire to go over a large surface, should not induce the improver to go over it in an imperfect manner. I have known instances where the drains were put in at double the proper distance, with the intention of finishing from the profit of the first operation. The sequel of such unwise economy is almost always the same. None of the ground is thoroughly drained; the land is still in a state unfit for the most advantageous cultivation; the profit that ought to be derived from draining, is only in a comparatively small degree realised, and the money invested is returning but a poor interest on the outlay. The prospect of a little saving, ought not to be an inducement to neglect the best mode of construction. Due care in the laying and filling, make a difference of many years in the time of duration. In the covering of stone drains particularly, no pains should be spared.

European Agricultural News.

PLEURO-PNEUMONIA—It appears that this virulent disease among cattle is still very prevalent in many parts of the united kingdom, and in many cases is extremely fatal. In Germany and adjacent countries it continues to produce sad havoc, and it is from these countries it is supposed the disease was first introduced into England.

At a recent meeting of the Highland Society of Scotland, Professor Dick observed, that the disease was spreading in East Lothian as well as in Aberdeenshire, and throughout the North. He considered its origin and propagation to be atmospherical, and attributable to influences to which man and the lower animals were equally exposed. In illustration of which the Professor referred to the existing epidemic in the form of influenza, which was so prevalent in many parts of the kingdom among human beings. The pleuro-pneumonia consisted of active inflammation in the lungs, and in the pleura which covers them and lines the chest. It was attended with great danger, particularly when the pleura was chiefly affected, and such cases generally were fatal, unless the proper remedy was quickly applied. Man and all domestic animals were liable to the disease, although they may not be equally affected at the same time. It was of the utmost importance to watch the first symptoms of disease, and promptly apply remedial measures. Attention to the warmth and shelter of animals, and proper feeding and ventilation was highly necessary. The Professor recommended bleeding at the commencement of the disease, and to administer afterwards laxative medicines—say 1 lb. epsom salts, nitrate, tartrate of antimony, in large and repeated doses. No remedy was known that could be depended on in an advanced stage of the complaint.

TUSSA GRASS—It appears that this species of grass recently imported from the Falkland Islands into Britain, is likely to prove advantageous. Several trials have been made, particularly in Scotland, and as far north as the Orkney and Shetland Islands, apparently with encouraging success. The grass appears to be hardy and easily propagated, both by seed and separating its roots;—the latter attain to an immense size, from one to two and three feet in circumference, with beautiful pendent leaves from two to five and six feet in length. Cattle and sheep are particularly fond of it, and it keeps green and nutritious all the winter. It seems to prefer a peaty soil, or at least one that is rich in decayed vegetable matter. May it not be worth a trial in Canada? If it succeeds, the large amount of provender it yields would be of immense advantage to cattle during our long winters. Professor Johnson has, it appears, analyzed several specimens grown in Scotland, and he pronounces it very nutritive, abounding in protein, or muscle forming compounds, as much so in a dry state, as wheat or oats.

TO DESTROY THE TURNIP BEETLE.—Finely pulverised lime sifted over the tops of the young turnip plants, has been found a certain remedy against the depredations of the turnip beetle. A number of farmers have tried this remedy on a large scale, and speak in the highest terms of its utility in driving away the turnip beetle, or "fly" as it is generally called.

CIVIL AND SOCIAL.

CURRENCY AND BANKING.

Violent actions on the currency and ruinous commercial revulsions, are the inevitable effects of an ill-managed system of banking, where the power of issuing paper promises has scarcely any other check than the caprice or interest, real or supposed, of bankers. It is a principle, the truth of which is confirmed by long experience, that any sudden expansion of the currency has the apparent effect of raising the value of lands, houses, and every other description of property. But this enhanced value is only apparent, not real: it is the large quantity of money, or the representative, or paper counterfeit of money, which, by being suddenly thrown into the market, causes a glut, and brings down the price of real money—exactly in the same way that an unusually abundant harvest brings down the price of grain. There is, however, this difference between the two cases, that the evil in the first arises from the unchecked cupidity of speculators, and is not beyond the reach of human or legislative controul; but the blessings accruing from the second, arise from the free gift of a beneficent Providence, and are not dependent solely upon the will or exertions of man. An inflated paper currency is purely artificial, and can be produced by a small amount of human labour. The rag-man, the paper-maker, and the printer, perform all the labour necessary to produce imposing looking paper promises, such as are issued by all bankers. A score of men employed in these various occupations for six months, would be able to produce a quantity of paper money sufficient to bring about a general commercial revulsion in the most prosperous country in the world. A whole country could be flooded with the produce of the labour of these twenty men; excessive and unhealthy speculation would follow, prices would rise, and nearly all the gold and silver previously in circulation, would be driven out of the country. Two causes would combine to produce this latter result: all the channels of domestic circulation being crowded with paper money, speculators would be compelled to send the specie abroad, to carry on a foreign trade; and as the value of all money would have sunk in the country thus flooded with paper promises, there would be a strong temptation to export the gold and silver to countries which would offer a better market for it; the currency there not having suffered degradation by extensive issues of paper or counterfeit money. The imports would, for some time, exceed the wants and means of the country; a pressure upon the banks would compel them to contract their issues; and then the revulsion would come, and almost universal bankruptcy follow. All this took place in the United States a few years ago. If such are the power and influence of paper money; if such, and so disastrous are the effects of undue issues of it; it is clear that the power and privilege of manufacturing it—of controuling so powerful an engine as the national currency—ought to be regulated by the greatest wisdom and the most scrupulous care. Governments do not delegate to individuals the right to coin real money: to make silver dollars or shillings, or gold sovereigns or doubloons; though little mischief could arise from allowing them to do so, provided care was taken that nothing but pure metal should be used. The concession of this privilege to individuals, could never produce any sudden, unnatural, or dangerous inflation of the currency, for this reason—that full value would have to be given for every ounce of gold and silver, before it was wrought into coin; whereas paper money can be produced *ad infinitum* at the most trifling cost of labour. It is true that the value of money, from the sudden augmentation of the stock of gold and silver in a country, has sometimes been considerably lowered, as in the case of the discovery and working of new and fruitful mines. Of this fact, the discovery of the mines of South America is an instance. But in no case can a given quantity of gold or silver be obtained from the mine with much less labour than would be sufficient to produce the quantity of wheat that it will purchase. Equal quantities of labour, requiring about the same amount of intelligence to enable a person to perform them, are the only correct measure of the respective products of two kinds of labour. The actual values of gold and silver and of wheat, are thus measured by the quantities that each will exchange for. If a man employs his capital in purchasing agricultural labour, he may

manufacture the wheat which is the product of that labour into any form he chooses, or that it is capable of; but if he expend his capital in mining labour, he is not at liberty to mould into the shape of current coin the gold and silver which are the product of that labour! This restriction does not appear in the light of injustice, nor do we think it is unjust, because the capitalist who employs his capital in the purchase of mining labour, is at liberty to sell the product of that labour and capital at its market value. We only introduce the fact of this restriction upon the manufacture of real money, to make more palpable the inconsistency of denying to private individuals this right, and giving them, by *special charter*, the right to make paper or counterfeit money, which can be produced almost without cost, and which affects the value of all the labour and property in a country. Two serious evils connected with the concession of this privilege to individuals, or rather to companies, are, that the business is not open to every body, but can only be carried on by virtue of a legislative charter, granted, perchance, as a piece of special favouritism, to certain individuals; and the want of proper controul by the Legislature over the amount of issues by these banking companies. If any ten men in the community have a right to issue paper money, any other ten men have precisely the same right, if they are willing to comply with the general regulations on which such companies are established. If there are no general regulations, but if each company obtains the most favourable charter it can from a particular ministry or legislature, as we believe is the case in Canada, the whole system is bad,—unjust to all but the favoured few, and liable to lead to corruption and abuses of the worst possible description. The evils of the want of a proper check upon the undue issues of paper money cannot be estimated. The effect is to confer on individuals the power to inflate and contract the national currency at pleasure; to encourage reckless speculation; thereby producing the most ruinous commercial revulsions, and to give a set of polished swindlers a most dangerous power over the property and industry of a whole country.

In our next we shall consider the question of providing some adequate check to the disposition of bankers to make excessive and fraudulent issues of notes.

SENDING MONEY THROUGH THE POST-OFFICE.—As the subject of the Post Office is mentioned in His Excellency's Speech at the opening of the present Parliament, and will no doubt engage the attention of the Legislature, we beg to make one suggestion which we have not observed in the papers when discussing the subject. It would be a great public convenience as well as a source of revenue to the department, if our Government would adopt the English and French system of receiving and transmitting small sums through the Post-Office, deposited by individuals for their friends in other places. It is very probable that the same system will be adopted generally in the United States. The following are the remarks of an American writer:—

“England has recently adopted the system which has been in use in France, by which any sum, from a shilling to fifty pounds, can be sent through the mail, by depositing with the postmaster the sum required to be transmitted, and taking a certificate of the deposit, which is redeemable at the Post-office of the town or city to which it is forwarded.

“The convenience and importance of this system to the public is best shown by the increase of clerical aid it has required; and its value to the Post-office department is evidenced by the proportionate increase of the revenue of the Post-office for 1845 over all preceding years, and which shows an increase in 1845 of £84,000 over the same number of months in 1844. The time to which the accounts have been made up is not stated, but it is probably the first quarter of 1845. The net revenue of last year was £719,957. If this system was introduced into this country, similar results would doubtless follow, even if it should be confined to the capitals of states and to the cities. I hope some one well versed in this subject will make the public familiar with its details, and that that which has worked so well abroad may be adopted by our government.”

HOME DISTRICT AGRICULTURAL SOCIETY.—It appears from the report of the President of this Society, that at the commencement of the last year there was £16 16s. 10d. in the treasury, which, together with the entrance fees and subscriptions to the fair held in May, premiums were awarded to the amount of £62 15s. and £50 was given towards the funds of the Provincial Association. Of the Parliamentary grant, amounting to £250, £91 6s. was paid to the several Township Societies, and at the last October Fair, premiums to the amount of £74 5s. were awarded.

LITERATURE.

The following lines are respectfully inscribed to Mr. James Armstrong, Chief Engineer, and to the various Companies of the Fire Department of Toronto; who have so often distinguished themselves in time of need.

By their humble servant,
W. A. STEPHENS.

THE FIRE!

[FOR THE AGRICULTURIST.]

Hark! hark! what sound!—the fire-bell rings—
And from his bed each Fireman springs.
All louder, louder is its peal!
Now for their clothes the Firemen feel,
And quick their fire-caps don—
Hurra! hurra! a sound is higher
Heard than it—'tis fire! fire!
A crowd is rushing on.

Ah look! high up the lurid light,
Far flashes through the dark midnight—
Hurra! hurra! the engines drive,
And all with straining sinews strive,
To urge the wheels along—
They come, they come, what sight is gladder,
Dashing on—the Hook and Ladder,
Join the rushing throng!

Point up the hose, point up the hose—
All fiercely now the torrent flows—
Hurra! hurra! the firemen dash
Among the flames—down with a crash!
They pull the burning wall!
Quick! clear the way, the carmen dashing,
With their water pincheons splashing,
Best "Hydrants" after all.

Hurra! hurra! each muscle strain—
Upon the sinking fire, they gain,
Still pull away, pour in the tide,
Upon the blacken'd ruin wide.
The danger now is past—
Brave and noble firemen never
Shrink from duty—true forever,
They are to the last.

THE MOON—ITS INFLUENCES.

[FOR THE AGRICULTURIST.]

It is not my intention in this article to couch my lance and run a tilt against your correspondent in support of the various superstitions he has enumerated respecting the moon, but my surprise is really excited at these being so prevalent not only among the different grades of society, but nations also,—and from their universality and antiquity I am inclined to believe that those ideas so frivolous and fantastical are degenerated from facts that have had their origin in something substantial, though I must confess, at present inaccessible to my researches. I therefore regret my inability either to explain or explode those notions. I beg to mention a few circumstances, and will then proceed to the main object of my communication.

Tacitus, a Roman historian, in his "Manners and Customs of the ancient Germans," observes that they hold their meetings on certain days, either at the new or full moon, for they consider these the most favourable times for entering on any business. I think we may assert this practice to be derived from the Jews. The illiterate Irish at this day continue the custom of adoration to the new moon, crossing themselves, and saying, "may thou leave us as safe as thou hast found us," and Park observed a similar practice in the interior of Africa, among the Mandingoes. But as the investigation of the nature and extent of these practices may prove unprofitable, I will waive the subject and briefly state a few facts solely referable to lunar influence.

The sun's rays are known to consist of three distinct species, viz: rays of heat, rays of light, and deoxidizing rays, the latter being so named, from their influence in separating oxygen from its combinations. The sun's heating rays are not reflected back to the earth by the moon, while on the contrary, the deoxidizing rays seem evidently to be so, in at least an equal degree with the rays of light, and to this I attribute the greater proportion of the hitherto inexplicable phenomena produced by the moon on the surface of our globe. To the influence of the sun's deoxidizing rays is wholly or mainly referable the extrication of oxygen from living vegetables, the ripening of fruits and grain, the tarnishing of colours, the decomposition of animal and vegetable matter, and the extinguishing of combustion.

The fact of the deoxidizing rays of the sun counteracting combus-

tion is well known by those engaged in "clearing" both in this country and in Australia, as they invariably prefer the night time for burning the brush heaps and logs, finding that combustion proceeds then with infinitely greater rapidity and intensity than during the day. Now most, if not all the effects are produced in nearly as great, and often in a greater degree by the moon's rays, showing, that the sun's deoxidizing rays are reflected back to the earth by the moon equally with the rays of light. The finer colors of silk are tarnished by the moon's rays the same as by the sun's,—fires are extinguished by the former the same as by the latter—the bleaching of linen proceeds even more rapidly in moon than in sun light, and the ripening of fruits and grain almost equally so, while meat and fish become more quickly putrescent in the moon's rays than in the sun's—a fact well known to all ships' stewards.

The latter circumstance is accounted for by our knowledge, that oxygen is a constituent of almost all animal and vegetable bodies; therefore, whatever tends to separate this, must either materially alter or destroy their substances. On new-killed meat being exposed to the sun's rays, its exterior is dried and hardened by the sun's heating rays, and a sort of crust is thus formed around, guarding it from the decomposing influence of the deoxidizing rays, like the tin cases enveloping preserved meats; the preservative effects of the pyrolineous and other acids being due to the hardened exterior crusts produced. The moon's rays, however, being destitute of heat, no such protecting crust can be formed—the meat and fish exposed to them remaining in a moist state, and therefore more readily acted upon—moisture being almost essential to animal and vegetable decomposition. The moist state of linen during the night than the day, accounts in some measure also for bleaching being more rapid by moon than by sun-light; and it is a curious fact connected with this, that linens bleach quicker when spread upon the green grassy sward, than when spread upon stones or hung upon rails.

This is doubtless owing to the grass, like other vegetables, absorbing oxygen when screened from the influence of the deoxidizing rays, and thereby assisting bleaching, by absorbing the colouring matter of the linen as fast as it is extricated by the moon's rays. Many metallic oxides and vegetable dyes, which, like living vegetables, have their oxygen separated from them by exposure to these rays, reabsorb the oxygen again when no longer exposed; hence the pleasing surprise often experienced on examining our once-faded and shabby clothes, after being deposited for weeks in the wardrobe, on finding them look again almost as good as new, in consequence of the colouring matter of the dye re-absorbing in the dark the oxygen previously extricated by the sun's rays, on the presence of which oxygen in the colouring matter, its hue entirely depended. By our knowledge of the sun's deoxidizing rays being reflected back to our earth by the moon, we can readily explain the observations of the ancient physicians, of intermittents and other diseases, produced by vegetable putrefaction, being most prevalent during full moon, in consequence of the sun's direct deoxidizing rays, and those indirectly reflected by the moon, exerting a simultaneous influence, and as is evident, a double power upon vegetable matter, and thus producing a more speedy decomposition.—Probably also the paroxysms of lunacy during full moon, may be ascribed to the above greater vegetable decomposition at that period,—lunatics being people of strong nervous susceptibility, consequently strongly influenced by atmospheric changes. F. F. P.

THE ORATOR AND THE NEWSPAPER.

Compare the orator, one of the noblest vehicles for the diffusion of thought, with the newspaper, and we may gain a faint glimpse of the ubiquitous power of the latter. The Orator speaks but to a few hundreds, the newspaper addresses millions. The words of the Orator may die on the air, the language of the Newspaper is stamped on tablets imperishable as marble. The arguments of the Orator may follow each other so rapidly that a majority of the audience may struggle in a net of ratiocination, the reasoning of the newspaper may be scanned at leisure without a fear of perplexity. The passion of the Orator inflames an assembly, the feeling of a newspaper electrifies a continent. The Orator is for an edifice, the Newspaper for the world; the one shines for an hour; the other glows for all-time. The Orator may be compared to lightning, which flashes over a valley for a moment, but it leaves it again in darkness; the Newspaper is a sun blazing steadily over the whole earth, and fixed on the basis of its own eternity. Printing has been happily defined "the Art which preserves all Arts." Printing makes the Orator himself more than an Orator. It catches up his dying words, and breathes into them, the breath of life. It is the speaking gallery through which the Orator thunders in the ear of ages. He leans from over the cradle of rising generations. Nor does the art confine itself to the patronage of him alone. The evanescent though gorgeous visions of the Poets are preserved, "— that softer falls

Than petals from blown roses on the grass,
Or night dews on still waters between walls
Of shadowy granite in a gleaming pass;
Music that gentles on the spirit lies
Than, tired eyeballs upon tired eyes;
Music that brings sweet sleep down from the blissful skies!"

AGRICULTURAL INSTITUTIONS.

NO. I.

Public attention in Canada having of late been repeatedly directed to the important claims of the agriculture of this Province, and the desirableness of a suitable education for the sons of farmers, some account of the efforts which have been made in Europe for promoting these valuable objects, may at this time be of general interest to the readers of the *Agriculturist*.

I shall commence my sketch with a description of an Agricultural Institution that has been in successful operation for many years in France; a country whose agriculture receives a large share of attention and patronage of the government, and an enlightened, patriotic public opinion regards it as the only true foundation of national prosperity and independence. I am indebted for the larger portion of my materials to Dr. Daubeny, the Professor of Rural Economy in the University of Oxford, from whose valuable lectures in that ancient seat of learning, much may be gleaned that is of great practical worth to agriculturists in every part of the world.

The agricultural establishment of *Grignon* is in the immediate vicinity of Paris, and consequently possesses, from its situation, many advantages. It was founded in 1829, for the express purpose of affording young persons destined for agricultural pursuits a complete and systematic knowledge, both theoretically and practically, of the important arts of husbandry. The farm consists of the domain attached to the old royal palace of Grignon, amounting to near twelve hundred English acres, possessing a great variety of soils, and comprehends a suitable proportion of arable, pasture, wood, and marsh land.

The institution appears to have commenced in the following manner. Government presented to a private company the use of the estate, for a mere nominal charge, on consideration of purposes of national utility aimed at by the projectors. The subscribers raised the capital for stocking and bringing into operation the farm and institution; and upon shewing that they increased the value of the property 5000 francs a-year, for the first ten years, they were to have the estate without any other payment whatever.

The two principal objects in consideration of which the above terms were granted, consisted, in the first place, to set a practical example to the public of a better and more profitable system of farming; and likewise, to carry out a suitable, general education, of a much higher order than elsewhere existed, for the agricultural youth of the country. It would appear from the earlier history of the institution, that these objects were found in practice somewhat to interfere with each other's efficiency. The director of the establishment found, that in order to set the most economical example of the best system of practical husbandry, and to bring the largest profits to the shareholders, he was induced to pursue a course which did not fully realise the expectations of the public in regard to one great object of the institution—a comprehensive and scientific education to the pupils. In 1839 the actual increase in the value of the property amounted to 145,852 francs, being more, by 95,855 than was stipulated for by government, besides paying the shareholders 4 per cent. per annum from the commencement. It thus appears, that the enterprise had proved successful, as far as a better system of farming was concerned; but the educational department, from want of funds, was not of that high character which an intelligent public required.

In these circumstances government made an offer to the company of pecuniary aid; but considerable difficulty was felt as to the manner in which such assistance could be most beneficially accepted. An occasional or annual grant was deemed inexpedient, so far at least as an example farm was concerned. It was at length determined that the government should be at the expense of paying the Professors, an arrangement which enabled the institution to obtain a sufficient number of teachers of a much higher grade; and likewise to lower the terms of admission to £48 sterling a-year for first class pupils, and £36 for the second class. The farm still continued to be conducted upon the best system of an improving and profitable husbandry, such as *experience only*, when aided by *science*, can suggest and practically carry out. Thus a superior system of farming was demonstrated to be both practicable and profitable; an example which has had a most beneficial influence upon the agriculture of France generally; besides annually sending forth young men into active life, thoroughly trained and instructed by teachers of unquestionable ability.

It should be remembered, that in this institution agriculture is taught *practically*, as well as theoretically,—for without the former, the latter, however learnedly discoursed upon, would be of little worth. The following are the subjects embraced in the routine of study at Grignon; the lecturers taking great care that their discourses are clear and simple, and adapted to the peculiar wants of agricultural youth:—

1. The rational principles of husbandry, and on the conduct of a farm.
2. The principles of rural economy, applied to the employment of the capital and stock of the farm.

3. The most approved methods of keeping farming accounts.
4. The construction of farm buildings, roads, and implements used in husbandry.
5. Vegetable physiology and botany.
6. Horticulture.
7. The art of foresting.
8. The general principles of the veterinary art.
9. The laws relating to property.
10. Geometry applied to the measurement and surveying of land.
11. Geometrical drawing of farming implements.
12. Physics, as applied to agriculture.
13. Chemistry, as applied to the analysis of soils, manures, &c.
14. Certain general notions of mineralogy and geology.
15. Domestic medicine applied to the uses of husbandmen.

The practical part of the education, on the other hand, is conducted on the following system. The pupils are intrusted in succession with all the different services of the farm. Some, for instance, under the Professor of the veterinary art, perform the operations required by the casualties which are continually occurring in a numerous stock of cattle. Two young men are appointed as general inspectors, under the orders of the Superintendent. Four are charged with the management of the oxen; two with that of the horses; two with the pigs; two with the sheep; two with the poultry; four with the silk-worms;—the duty of these respectively being, to note the accidents or cases of disease that occur amongst the stock committed to their care; to see that they are properly fed, and to mark any variations in their condition which may have been occasioned by diet, &c.

Two pupils also are attached to the service of the garden; two to the woods and plantations; two to the inspection of the repairs taking place on the premises; two to the fabrication of starch, cheese, and other things made on the farm; two to the pharmaceutical department; two to the book-keeping and accounts.

In these cases it is usual to appoint a pupil of two years' standing, in conjunction with one newly entered; and at the end of each week all are expected to make a report, in the presence of their comrades, of whatever had been done in the course of it in the department to which they are severally attached. At the same time, the Professor who presides over the practical part of their education, takes occasion to comment upon the proceedings, and to impart such information as flows naturally from the facts brought before him. He moreover takes the pupils to the spots where the various operations of the field are proceeding, in order to point out the fittest manner of executing them. It is his duty also to deliver a series of lectures on these different processes, at periods corresponding to those at which they are in actual progress. Nor is this the only kind of practical instruction here imparted; for each Professor, in his respective department, is expected to give his course, as much as possible, a practical turn;—the Professor of botany, for example, by means of herborizations; the Professor of chemistry, by geological excursions; the Professor of mathematics, by executing, on the plan he had pointed out, the survey and measurement of certain portions of land.

After being for two years thus trained in the theory as well as the practice of rural economy, the pupils are expected to undergo an examination from the Professors collectively; and, if this be satisfactorily gone through, are then presented with a diploma, certifying to their capacity for fulfilling the functions of what may be styled an "Agricultural Engineer."

It does not appear from the reports which I have had an opportunity of consulting, that the Institution of Grignon has made so great a number of experiments in practical agriculture, as the large staff of Professors, and their high agricultural repute, might naturally lead one to expect. Yet it must be acknowledged that many most valuable practical results have been worked out in this institution; and that it has conferred many and great advantages on the country which had the intelligence and public spirit to originate and support it. The following passage from one of the reports of the Principal, Mr. Bella, deserves the consideration of those who would connect the agricultural interest of Canada with its collegiate institutions.

"Instruction in husbandry may truly be said not to partake of the nature of those branches of education which admit of being pursued in the interior of large cities. It is at once so vast and so complicated, and it stands so much in need of an union of *practice with theory*, that the Chairs created in towns, though they may elevate the character and spread a taste for agriculture, cannot in themselves form expert husbandmen."

G. BUCKLAND.

"Extracting corns," as the crow said to the farmer.

"You look like death on a pale horse," said a gentleman to a toper, who was pale and emaciated. "I don't know anything about that," said the toper, "but I am death on pale brandy."

A writer of the last century quaintly observed that, when the canons of the princes began war, the canons of the church were destroyed. "It was," says he, "first mitre that Governed the world, and then nitre—first Saint P  ter, and then saltpetre."

EDITOR'S TABLE.

TO CORRESPONDENTS.

F. St. A., Sparta. Our General Agent for the London District is Mr. N. M. Harris, therefore we cannot authorise you to canvass for subscribers, unless you put yourself in communication with him. Those who have heretofore acted as our local agents may continue to do so, but we are not at liberty to appoint travelling agents in those Districts already given out, until we find our interests neglected by the present agents. We beg further to remark, that our terms are in advance, from all but regularly appointed travelling agents.

J. W. R., Adelaide. Tares or Vetches are rather scarce, and sell for 7s. 6d. per bushel. Flax-seed 5s., and not very plentiful either.

Mr. Barnard Friel, agent for his Father, when he writes us again, will be kind enough to pay his postage. It is a small matter for him, but a pretty heavy item for us. The proper name was sent by our agent in his first letter from the District, therefore no blame can be attached to us. We can't understand how a man can say—"I subscribed," and "I paid my subscription," &c., when he did nothing of the kind. We are ready and willing to do all in our power to prevent and to correct mistakes, but dislike very much to be put to expense and trouble without cause.

J. S., Guelph. Mr. H. G. H. and J. G., are not on our books as subscribers for this year. They took the *Canada Farmer* for '47. The other names were on the proper list, except J. G.'s, whose P. O. was sent us as Eramosa.

Y. W., Napanee. Your queries respecting the wire-worm will be attended to as soon as we can find time to look into the matter thoroughly.

P. R., Cobourg. As we have not the honor of your acquaintance,—as we can't see why a "paper published in Canada" should not be prepaid as well as English or any other papers,—and as we have laid down rules for our guidance, which we cannot depart from, without injury to ourselves and injustice to those who have complied with them, we must decline your offer. For aught we know, your influence might be of service to us, and you might do as you say; but a man who expects the proprietors of a paper like ours, with a circulation at present of 5000, and we hope by the end of the year, of 10,000, to break through their rules and calculations, just to meet the private determination of one person, for the sake of his single subscription, does not, to say the least of it, display much public spirit or much common sense.

Subscriber.—We decline to insert your communication for two reasons. First, it is anonymous. We do not object to a writer's name being withheld from the public, when the subject does not require it to be given, but we must know it. This is, or should be a *sine qua non*, with all publishers. Secondly, your strictures are not confined to fair discussion. You have not argued the merits of the question, but indulged in a vein of rather uncharitable hyper-criticism. Where you should have reasoned, you have dogmatized. We must protect our correspondents against abusive reply, though we are not bound to defend their arguments. We have shown your remarks to F. F. P., who may reap some profit from them. Should you choose to take up the question in a different style, and bring forward your reasons, if not as "thick as blackberries," we shall willingly find room for you.

COMPLAINTS OF SUBSCRIBERS.—It is not to be wondered at, that in mailing 5 or 6000 papers to all parts of the Province, there should now and then be an omission, misdirection, or miscarriage. But we have lately had so many complaints, and in cases in which it is impossible the blunders could have occurred in our office, that we must in our turn also complain. We have received much kindness and attention from Post-masters, and feel therefore very unwilling to blame them without strong proof of neglect. But when a name is on the proper list—when the whole number of papers for one P. O. are counted each time of mailing, to see that they correspond with the number on the list, when the whole are done up in one package, which is not opened till it reaches the place for distribution, and when a subscriber at that place states that he has repeatedly asked, but that "no paper has ever come for him," we can't understand it. A name might have been missed once, but that it should have been passed over five times in succession, is next to impossible.

One case has reached us in which we have proof. A friend happened to be at a house in Whitechurch, when a pound of tea came home wrapped up in a copy of the *Agriculturist*. The name was on the corner, and on turning to our list we found he was a paid subscriber! It is not likely he had "refused" his paper. If such carelessness as this be indulged in, we do not wonder that we have to pay so much postage for letters of complaint. On calculation we find that our paper will bring to the post-office revenue about £400 this year. It is not fair therefore, that the servants of the department should throw obstacles in our way.

AGENTS FOR THE AGRICULTURIST.—In the following Districts we have no travelling agents, viz: Huron, Niagara, Midland, Newcastle, Bathurst, Colborne, Johnstown, and Ottawa. We should like to employ an active person in each of these Districts, who will undertake to canvass it thoroughly. We allow a very liberal per centage, and require the agent to become responsible for the names sent. We should therefore require references and security to satisfy us. Some of our agents are doing remarkably well on the terms we allow. Persons willing to become local or township agents in any of these Districts, will be allowed one-third, by sending the cash with the names.

Letters from persons offering to become general agents, must be post-paid, and if satisfactory references are given, we will state terms, conditions, &c., and authorize them to proceed at once.

PROFESSOR HURLBURT'S ACADEMY.

We enjoyed the pleasure on Friday last of a brief visit to this Institution, for the education of young ladies, recently established in our city by the Rev. J. Hurlburt, A. M., for a long time Principal of Upper Canada Academy, Cobourg. Mrs. Hurlburt was also at the head of the Ladies' department during the latter part of the existence of that Institution. We hail with high gratification, the establishment of so excellent a school in our neighborhood, as that under the superintendance of Mr. Hurlburt. A well conducted academy with a sufficient number of teachers to ensure by a division of labour, proper attention to all the branches necessary in the education of young ladies, was much needed in Toronto. The appropriate and thorough education of those destined to become the mothers of the next generation, and not the mere gilded butterflies that buzz and flutter in the saloons of fashion—the object of whose schooling is not merely to fit them to sing, and dance, and yawn out a worthless existence, is a matter of the first importance to this country, and to every country. The education of females has always been too much neglected. Strange, that she whose plastic hand moulds our infant thoughts, whose teachings are never forgotten, whose life, conduct, character, are ever before us—in our dreams—in our mid-day meditations; whose image follows us like a spectre through every lane of life; whose influence can no more be escaped from than the omnipresence of the Deity, though we take the "wings of the morning and dwell in the uttermost parts of the earth," strange we say, that she should be regarded and treated with indifference as to education—as though her mind needed no culture!

If required to choose between the two, with reference to the effect upon the moral and intellectual character of the next generation, which the exclusive education (in schools and seminaries) of one of the sexes would produce, we should say without a moment's hesitation, let us have EDUCATED MOTHERS. Men, in their daily communication with the busy world, will become educated. Some of the greatest men of their day—the most useful to the world, have been self-taught. But woman, whose field of observation is limited by the domestic circle, whose appropriate sphere is "home," has little opportunity for mental culture, and if instruction be withheld from her during her school-going days, she will remain ignorant for life, and bring up and send into the world ignorant children. Fathers and Mothers of Canada, do not neglect the education of your daughters!

We were much pleased with the ready manner in which two or three classes went through their exercises during the half hour we were privileged to be present. One young lady shewed a most creditable proficiency in a branch of study not often pursued in schools, but of essential use in the after-walks of life; "Watts on the Mind." If she remember but a few of the important principles she seemed perfectly to have mastered, she will be in possession of a small capital that will yield her a steady and profitable income while she lives.

The "Adelaide Academy" is situated in a very pleasant part of the city. The Buildings are commodious and will accommodate a large number of pupils. Between 30 and 40 are in attendance at present, and we hope to hear of a large increase for the summer session.

The success of a similar Institution at Hamilton, under the able superintendance of Professor Van Nonnan, (whose advertisement appears in our present number) and the fair prospects of this one in our own vicinity, are gratifying indications of an awakening interest in the subject of female education.

THE LADIES.

THE BRIDAL DAY.

FROM THE DRAWING-ROOM SCRAP-BOOK.

Go forth, young bride, the future lies before thee,
Hidden in clouds are all the coming hours;
None, none can tell what lot is brooding o'er thee,—
How much thy path contains of thorns and flowers.
Thy childhood's home, where thou wert late reposing,
In happy slumbers, innocent and free,
This night, excludes thee, when its doors are closing,
Only a visitor, henceforth, to be.

Art thou beloved: and dost thou love him truly,
By whom—with whom—thy lot of life is cast?
Or hast thou rashly, weakly, unduly,
In wrath, or scorn or grief, thus sealed the past?

If stung by memories thou must dissemble,
Of one who left thee, fickle and unkind,
Thy pride thus seeks to wound the inconstant, tremble—
Back to thy heart that shaft its way shall find.

Woe for the bitter day, too late repenting
The irrevocable step—the broken rest—
When thou shalt lean thy wearied head, lamenting,
On the lost refuge of thy mother's breast.

There, in the recklessness of early sorrow,
Holding no hope of brighter days to come;
Yearning to die before the darkened morrow,
And be calm buried near thy childhood's home.

Shalt thou, in this strange world of serpent slander,
Escaping all its venom and deep shame,
In tranquil paths obscurely happy wander,
Where none shalt point thee out, for praise or blame?

Or shalt thou dwell in mingled smiles and frowning,
Half envied, half enshrined, by Fashion's slaves?
Then, shipwrecked, sink, like one who suffers drowning,
After vain struggles with opposing waves.

Who shall decide? Thy bridal day, oh! make it
A day of sacrament and fervent prayer;
Though every circumstance conspire to take it
Out of the common prophecy of care.

Let not vain merriment and giddy laughter
Be the last sound in thy departing ear;
For God alone can tell what cometh after—
What store of sorrow, or what cause for fear,
Go forth, young bride!

ON PACKING AND STORING ARTICLES.

Fold a gentleman's coat, thus:—Lay it on a table or bed, the inside downward, and unroll the collar. Double each sleeve once, making the crease at the elbow, and laying them so as to make the fewest wrinkles, and parallel with the skirts. Turn the fronts over the back and sleeves, and then turn up the skirts, making all as smooth as possible.

Fold a shirt, thus:—One that has a bosom-piece inserted, lay on a bed, bosom downward. Fold each sleeve twice, and lay it parallel with the sides of the shirt. Turn the two sides, with the sleeves, over the middle part, and then turn up the bottom, with two folds. This makes the collar and bosom lie, unpressed, on the outside.

Fold a frock thus.—Lay its front downward, so as to make the first creases in folding come in the side breadths. To do this, find the middle of the side breadths by first putting the middle of the front and back breadths together. Next, fold over the side creases so as just to meet the slit behind. Then fold the skirt again, so as to make the backs lie together within and the fronts without. Then arrange the waist and sleeves, and fold the skirt around them.

In packing trunks, for travelling, put all heavy articles at the bottom, covered with paper, which should not be printed, as the ink rubs off. Put coats and pantalons into linen cases, made for the purpose, and furnished with strings. Fill all the crevices with small articles; as, if a trunk is not full, nor tightly packed, its contents will be shaken about, and get injured. A thin box, the exact size of the trunk, with a lid, and covered with brown linen, is a great convenience, to set inside, on top of the trunk, to contain light articles which would be injured by tight packing. Have straps, with buckles, fastened to the inside, near the bottom, long enough to come up and buckle over this box. By this means, when a trunk is not quite full, this box can be strapped over so tight, as to keep the articles from rubbing. Under-clothing packs closer, by being rolled tightly, instead of being folded.

Bonnet-boxes, made of light wood, with a lock and key, and better than the paper handboxes so annoying to travellers. Carpet bags are very useful, to carry the articles to be used on a journey. The best ones have sides inserted, iron rims, and a lock and key. A large silk

travelling-bag, with a double linen lining, in which are stitched receptacles for toothbrush, combs, and other small articles, is a very convenient article for use when travelling.

A bonnet-cover, made of some thin material, like a large hood with a cape, is useful to draw over the bonnet and neck, to keep off dust, sun, and sparks of a steam engine. Green veils are very apt to stain bonnets, when damp.

In packing household furniture, for moving, have each box numbered, and then have a book, in which, as each box is packed, note down the number of the box, and the order in which its contents are packed, as this will save much labor and perplexity when unpacking. In packing china and glass, wrap each article, separately, in paper, and put soft hay or straw at bottom and all around each. Put the heaviest articles at the bottom; and on the top of the box, write, "This side up."—*Miss Beecher's Domestic Economy.*

RECIPES.

A cheap Seed Cake.—Mix a quarter of a peck of flour with half a pound of sugar, a quarter of an ounce of allspice, and a little ginger; melt three quarters of a pound of butter with half a pint of milk; when just warm, put to it a quarter of a pint of yeast, and work up to a good dough. Let it stand before the fire a few minutes before it goes to the oven; add seeds or currants; bake an hour and a half.

Another.—Mix a pound and a half of flour, and a pound of common lump-sugar, eight eggs beaten separately, an ounce of seeds, two spoonfuls of yeast, and the same of milk and water. Milk alone causes cake and bread soon to dry.

Sred-Cake without Butter.—E. R.—Dry and warm thirteen ounces of flour, and a pound of loaf-sugar pounded finely, four spoonfuls of warm water, four of brandy, one of orange-flower water, and two ounces of caraway-seed. Mix all together, then beat up twelve eggs with half the whites, add them to the cake; beat the whole well, and bake it two hours.

A Plain Cake.—E. R.—Four pounds of flour, two pounds of currants, and half a pound of butter, with cloves, caraway, and coriander seeds to the taste, together with lemon-peel grated. Wet it with milk and half a pint of yeast.

Common Bread-Cake.—Take the quantity of a quarter-loaf from the dough, when making white bread, and knead well into it two ounces of butter, two of Lisbon sugar, and eight of currants. Warm the butter in a teacupful of good milk. By the addition of an ounce of butter and sugar, or an egg or two, you may make the cake the better. A teacupful of raw cream improves it much. It is best to bake it in a pan, rather than as a loaf, the outside being less hard.

Sponge-Cake. E. R.—Eight eggs, half the whites, three-quarters of a pound of lump-sugar, half a pound of flour, quarter of a pint of water, the peel of a lemon; mix as follows:—Over night pare a good-sized lemon thin, and put the peel into the water, when about to make the cake, put the sugar into a saucepan, pour the water and lemon-peel to it, and let it stand by the fire to get hot. Break the eggs in a deep earthen vessel that has been quite hot; whisk the eggs for a few minutes with a whisk that has been well soaked in water; make the sugar and water boil up, and pour it boiling hot over the eggs; continue to whisk them briskly for about a quarter of an hour, or till they become quite thick and white, which is a proof of their lightness. Have the flour well dried, and quite warm from the fire, just stir it lightly in, put the cake into tins lined with white paper, and send them immediately to the baker in a moderately hot oven.—*Mrs. Rundell's Cookery.*

LOVE AND DEBT.—There is very little difference between the man in love and the man in debt. Both the debtor and the lover commence operations by promissory notes; the former giving bills to his creditor, and the latter sending *billets doux* to his fair one. The lover, by promising to cherish, is honoured with the place in the lady's good books; and the debtor, by promising to pay, winneth admission into the creditor's ledger. Love keeps its captive awake all night; so doth debt. Love is uncalculating, and debt holdeth on reckoning. The man who oweth money is in need of brass, and so is the swain who poppeth the question.

GIVING WARNINGS.—A gentleman, unfortunately linked for life to one who made him feel the weight of his chains, was one day told by the maid that she was going to give her mistress warning, as she kept scolding her from morning till night—"Ah, happy girl!" said the master, "I wish I could give her warning too!"

"My dear," said a husband to his affectionate better half, after a matrimonial squabble, "you will never be permitted to go to heaven."

"Why not?" "Because you will be wanted as a torment down below?"

"I am afraid I shall come to want," said an old lady to a young gentleman "I have come to want already," was the reply. "I want your daughter." The old lady opened her eyes.

A friend of ours refuses to accede to his wife's wishes to have her portrait painted for fear the artist should make it a "speaking likeness."—*Liverpool paper.*

NEWEST AMERICAN.—The last case of modesty is that of a lady who discarded her lover, a sea-captain, because, in speaking of one of his voyages, he said he hugged the shore.

SCIENCE AND MECHANICS.

FILE CUTTING MACHINE.

This article in common is perfectly familiar to all our readers, but we doubt whether the *modus operandi* of its manufacture, is known to more than a few. The notice of a newly invented machine for this purpose, is given by the editor of the Boston Courier, who observes: "The mode of cutting a file, is generally by mallet, or hammer and chisel—a movement of the hands similar to that of the sculptor or rough carver, and the operation leaves a sort of rough edge to the ridges, which are in this manner turned up. Several machines have been invented for the purpose of cutting ridges in pieces of steel, but they have generally failed in accomplishing the desired object,—that of giving to the ridges the rough edge, or tooth, which is made by hand power or the use of the chisel. They have cut or pressed regular teeth, in any desired fashion—cross ways, straight lines, round curves, &c.; but the teeth have been invariably smooth, and the files, when manufactured, have been of no more use than the worn out files of the English manufacture.

"But we have seen a new invention, which will, we think, accomplish the desired object, and make files with all the necessary qualifications. It is a machine now in operation, or soon to be in operation, at the Ballard Vale machine shop, by which files can be cut, and when cut, possess all the roughness of the English article. The piece of steel to be cut is placed on a socket, and then carried gradually under a sort of hammer chisel, which moves with a motion similar to that of the toggle joint reversed, and which not only cuts the ridges or teeth, but at the same time turns up the edges so as to make them rough. The apparatus is very simple, and shows that Yankee ingenuity can overcome all obstacles.

"As we have said before, other machines have been invented for the same purpose, but they have all failed in giving the rough edge to the teeth of the file, which this one cannot fail to give. The machine at Ballard Vale is very regular in its movement, and there is little or no doubt that it will accomplish all that the company expect. If it should, it will accomplish the very desirable object of making our country, and perhaps the whole mechanical world, independent of a comparatively small set of worthless and desperate men, who are now the only file cutters, and its successful operation will make a very material reduction in the price of an article of almost indispensable use in almost every mechanic's shop in the world.

"The machine, which we have seen in operation at this establishment, is not by any means perfect, but it accomplishes one object that has never been accomplished by machinery before, either in this country or in any other—it gives the rough edges to the teeth. Practice has proved that it can do this, and experience has shown that all other machines to make files can only cut the grooves and leave the teeth smooth.

"It is a little singular that nearly all file cutters should be Englishmen. We learn that three-quarters, probably, of all the files made in the world, are made in Sheffield. A few are cut in Germany, but the German files are not worth as much as the English, partly in consequence of the inferior quality of German steel for the stock, but mostly in consequence of the workmanship.

"The French are entirely dependent upon England for their files, as the Americans would be, but for the machine which we have attempted to describe. We understand that this branch of business will now be extensively engaged in by the Ballard Vale Company, as soon as certain experienced mechanics whom they have already engaged, shall arrive from England to superintend the works. We understand that this machine has been examined by the inventors of other machines intended to accomplish the same ends, and pronounced more capable than theirs of producing the desired result."

In regard to the above invention we would simply remark that we hope it may succeed, but before putting implicit faith in its utility, would prefer to see it more fully tested. The writer is somewhat in error in supposing this to be the only machine that has accomplished the desired object of giving the "rough edge to the teeth." This has been accomplished in two instances at least in this country, and in one case by Mr. James Slina, who, about twelve years since, constructed a machine for file cutting, that worked to perfection as far as the mechanical operation was concerned, but the great difficulty arose from the difficulty of keeping the cutting chisels sharp a sufficient length of time for any purpose, as the time required for their removal from the machine for sharpening, and their re-adjustment, more than counterbalanced the advantage of the invention. Mr. S. is an enterprising and intelligent mechanic, and has been constantly engaged in the file cutting business for about twenty-five years, and thinks that many unforeseen difficulties must yet be overcome before this invention can be called perfect. His skill and experience entitle his opinion to much weight on the subject.—N. Y. Farmer.

PINS.—A dozen years since, all the pins used in this country were imported. Now, none are imported, except a few German pins for the supply of the German population of Pennsylvania. The invention, by Mr. Samuel Slocum, now of Providence, of a pin-making machine far

superior to any of them in use in England, led to the establishment of a pin-manufactory at Poughkeepsie, by Messrs. Slocum, Jilson & Co., which soon distanced foreign competition. Of all the Pin Companies which have been established or attempted in the United States, only three are known to exist at present, viz: The American Pin Company (which has works both at Poughkeepsie and at Waterbury, Conn.); the Howe Company, at Derby, Conn.; and Messrs. Pelton, Fairchild & Co., of Poughkeepsie. The quantity of pins turned out by these establishments, especially the two first, is enormous. The statistics of one of them, we have ascertained, are about as follows.—Per week 70 cases, averaging 180 packs each, each pack containing 12 papers, and each paper 280 pins; making an aggregate of 39,984,000 pins per week, or 2,079,168,000 per annum. If the products of the other two establishments, and the small amount imported, are together equal to the above, we should have a grand total of 4,158,336,000 pins for consumption in the United States, equal to 200, on an average, for every man, woman and child in the country. A pretty liberal allowance, we are thinking. The number of pin-making machines employed by said Company is about 30, and of work people about 50.

The wire which is to be wrought into pins, runs from a reel like yarn, into one end of the machine, and comes out at the other, not wire, but pins, cut, pointed and headed, in the most perfect manner, at the rate of 150 a minute. This is about the usual speed, but the machinery is capable of being so adjusted as to produce 300 a minute. Being now of a yellowish color, they are thrown, by the bushel, into kettles containing a certain liquid, by which they are whitened, and prepared for sticking; i. e. for being stuck into papers in rows, as they are bought at the stores. This process of sticking is also performed by a machine invented by Mr. Slocum. The narrow paper in which the pins are stuck, is wound from a reel, of any imaginable length, and then cut off at uniform intervals. One sticking-machine will stick as many pins as three pin-machines can make; and three of the former can be attended by one girl. A part of the pins of the American Pin Company are made of American copper, obtained on the borders of Lake Superior.—*Jour. of Com.*

ASPHALTE FELT ROOFING.—Thomas J. Croggin has a patent from the English Government for Asphalt Felt. He describes it as principally made of hair, completely saturated with asphalt, without pitch, tar, or rosin, and consequently more durable, a good non-conductor of heat, entirely impervious to rain, frost or snow, and superior to all other descriptions of roofing on account of its lightness, elasticity, economy and durability, because it may be laid on by unpracticed persons. Its price, 1 penny the superficial foot, or 9 pence the square yard,—and it may be manufactured of any required length, thirty-two inches wide.—N. Y. Farmer.

CHLOROFORM.—The application of chloroform was successfully employed on a patient in the infirmary at Newcastle, by Sir John Fife, who performed the operation of lithotomy on a youth named Frederick Potts, and so perfect was the patient's unconsciousness of this formidable operation, that he would not believe it done till the stone extracted from his bladder was placed in his hand. A young woman was put under the influence of chloroform by Dr. Glover, and suffered, while in the state, the excision of a tumour weighing upwards of three pounds. She felt no pain, and was not aware that an operation had been performed upon her till assured that it was over.

BAD PRACTICES.—The Practical Educator, Dr. Cornell's monthly, says that external applications of heated vinegar to remove pain are always dangerous. Writing with blue ink, and putting the pen in the mouth occasionally is also dangerous.—Blue ink contains Prussic acid in solution, and a drop of this acid applied to the tongue of a cat will kill her. If many men had not been tougher than cats, (whether they have as many lives or not,) they would have been killed with sucking blue ink from their pens.

STARCHING LINEN.—In starching linen, the effect will be the same, whether the starch be hot or cold, providing the irons used be properly heated. It is sufficient to mix the starch with a little water, to dip the linen in it, clapping it with the hands, and then apply the hot iron while the linen is still moist. By this means, the grains of starch will burst from the action of the heat of the iron, its membranes will expand as they combine with a portion of the water that is present, its soluble matter will be partly dissolved in the rest of the water, and the linen will be starched and dried by one process.—*Amer. Agri.*

ORIGIN OF INFLUENZA.—Attempts have been made to date the existence of influenza at a very remote period. Dr. Most has extracted from the writings of Hippocrates an account of a disease which he regarded as influenza, but which differed from it in several important particulars. Some Epidemic catarrhs which prevailed in the fourteenth and fifteenth centuries are recorded; but these can scarcely be regarded as influenza, of the existence of which we have no credible accounts previous to the year 1510. Such is the opinion of Dr. Schweich; and the instances brought forward by Dr. Gludge of the earlier existence of this epidemic are not satisfactory. Since the sixteenth century it has frequently occurred, and the extent of country over which it has passed, as well as the large number of individuals whom it has affected, has afforded ample opportunity for local descriptions of the disease, of which medical authors have considerably availed themselves.

THE TORONTO MARKETS.

Since our last issue, wheat has advanced in price about fourpence per bushel, which must be mainly attributed to the competition brought about by a few American buyers. Flour of the best quality, in large lots for exportation, will barely bring 20s. per barrel, and the average in the farmer's waggons may be rated at 18s. 9d. A few Montreal houses have their agents here, but the prices offered by them do not meet the views of holders. Peas have advanced slightly in price, and the best qualities will readily bring 2s. 6d. per bushel. Timothy Seed is sought for, and since our last, has advanced 7½d. per bushel.

Provincial Parliament.

On Tuesday, the 29th Feb., His Excellency opened Parliament with a very brief Speech. Our space is so limited that we cannot insert it. The principal points were, an expression of satisfaction at what he saw during his tour of the Province; an expectation that measures he had taken would result in establishing the Post Office on an improved footing; a statement that a good and practical line of Railway had been discovered between Quebec and Halifax; that his attention had been given to the subject of Emigration, and that Her Majesty's Government had considered it, and recommended new provisions in the Imperial Passengers' Act. His Excellency suggests that Parliament pass some regulations to prevent emigration of diseased and helpless persons. He recommends a general law on the subject of Railways. The University, Assessment in Upper Canada, and the system of Judicature in both sections of the Province, are mentioned as likely to engage the attention of Parliament. Three or four election cases have been decided. Mr. Hincks has been declared the member for Oxford, and Mr. Carrol, whom the Returning Officer had returned, voted an intruder. Malcom Cameron has taken his seat for Kent, and Mr. DeWitt for Beauharnois. The Returning Officers have been cited to appear at the Bar of the House, to answer for their conduct. Mr. Sherwood gave notice that he would introduce a Bill to repeal the Usury Laws.

A Bill has been brought in by the Attorney General, (East.) and passed, to impose a capitation tax of 10s. on all emigrants coming to the Province by the St. Lawrence: an additional 2s. 6d. on each passenger for every three days the ship shall be detained in quarantine—the whole additional sum thus payable, not to exceed £1; and to prevent the arrival of emigrants late in the season, the above duty will be doubled on all who shall come between the 10th Sept. and 1st Oct., and trebled on those arriving after the said 1st Oct. To prevent masters of ships from taking passengers after they had cleared and been examined by the proper Officer at the port of departure, they shall pay a sum of £2 for each person so taken on board. For every child not belonging to any family, lunatic, idiotic, deaf and dumb, blind or infirm person, every person over the age of 60, or widow with a child, or children, a woman with child or children without her husband, who shall, in the opinion of the Medical Superintendent, be likely to become a charge upon the province, the master shall give a bond, with two sureties in the sum of £20, that such person shall not become a burden or cause expense to the province, for one year. He may avoid giving the bond by paying £1 for every such person.

The amendment to the reply to the Address, which contained an expression of "want of confidence" in the Ministry, was carried by a majority of 34. On Saturday, 4th inst., the Ministry resigned. On the 7th Messrs. Baldwin and Lafontaine were sent for by His Excellency to form an administration.

FORMATION OF THE NEW CABINET.

FRIDAY EVENING, 9 o'clock.—We have just received, by a private Telegraph despatch, information of the satisfactory arrangement of the Administration. We have now the pleasure of laying before our readers the first announcement in Upper Canada of a complete list of the new Ministry:—

President of the Council.....	Hon. J. Leslie.
Provincial Secretary.....	Hon. R. B. Sullivan.
Attorney General, West.....	Hon. R. Baldwin.
Attorney General, East.....	Hon. L. H. Lafontaine.
Solicitor General, East.....	Hon. T. C. Aylwin.
Solicitor General, West.....	Hon. W. H. Blake.
Commissioner of Crown Lands.....	Hon. J. H. Price.
Receiver General.....	Hon. L. M. Viger.
Inspector General.....	Hon. F. Hincks.
Joint Commissioners of Public } Works, }	Hon. Dr. Tache.
Speaker of Executive Council.....	Hon. M. Cameron.
	Hon. R. E. Caron.

We are also informed that Parliament will rise in about a fortnight from this time.—Globe.

We regret to learn, that Mr. Russell, whose accident by the drifting of Upper Canada Stage we noticed some time ago, has been compelled to submit to the amputation of both hands. The two operations were performed simultaneously a little above each wrist, Dr. Nelson operating on one limb, and Dr. Campbell on the other. The case afforded an instance of the efficacy of chloroform. About a tea-spoonful was inhaled from a pocket-handkerchief, and the patient fell immediately into a state of insensibility. This continued about four minutes, and then consciousness, but not sensibility to pain, returned. The operations occupied about seven minutes, and at the close of the seventh, some slight pain was felt. We are glad to learn, that Mr. Russell is likely to recover, and that his legs and feet will be, in all probability, saved.—Gazette.

ARRIVAL OF THE BRITANNIA.

NEW YORK, half past 3, p m.—The steamship *Britannia* arrived at Boston at nine o'clock this morning. She sailed from Liverpool on the 12th.

The Archbishop of Canterbury is dead.

The British Parliament re-assembled, and the first debate arose upon a motion for a Select Committee to inquire into the condition of the West India Colonies.

Jewish Disabilities' Bill, by enabling them to sit in Parliament, read a second time.

Lord Palmerston has given notice to Austria, that any farther armed intervention in Papal affairs will be considered a declaration of war by Great Britain.

The refusal of the American Postmaster General to accept the terms offered by Great Britain, for a better system of international postage, has caused the utmost disappointment. A proposal reciprocally made by the latter country was universally regarded as liberal.

The inquiry into the state's national defence was ended in a determination to double her Artillery force, and embodying 15,000 militia. The country at large is opposed to the measure.

The Overland Mail brings intelligence more satisfactory. In India no additional failure.

Partial indications of improvement in trade in England where manifested. Toward the close of the last month this view has been remarkably confirmed. Trade has taken an earnest step towards the recovery of its long-lost stability, and re-establishment of ease and confidence.

The money market continues to improve. Messrs. Evans, Sons & Co., of this town, connected largely with the Iron Trade, have suspended payment. With this exception, no failures of importance have occurred in Great Britain. Liabilities are estimated at £200,000.

English funds quite quiet. On the 16th March it is expected that the duties will be about 6s. per quarter on wheat, and 3s. 7½d. per barrel on flour.

The inhabitants of the *Sicilies* triumphed over the King, and a Constitution has been agreed to founding a liberal representation.

France is more tranquil, but angry discussions continue in the Chamber of Deputies. King's health better.

Affairs in Ireland bad. Starving in several parts.

LIVERPOOL MARKETS, Feb. 12.—Best W. stern Canal Flour 27s. and 27s. 6d.; Richmond and Alexandria 27s. and 27s. 6d.; Philadelphia and Baltimore 26s. 6d.; New Orleans and Ohio 26s. and 26s. 6d.; Canadian 27s. and 27s. 6d.; United States and Canadian Sour 22s. and 23s. 6d.

Indian Corn 28s. and 32s. 6d. per quarter.

Indian Meal 12s. 6d. and 13s. per barrel.

Wheat, United States and Canadian white and mixed, 7s. 6d. and 8s. 6d. for 70 lbs., red 6s. 6d.

The decline in Breadstuffs has been gradual. Supplies good.

Cotton has improved in demand ¼ per lb. Larger business and gradually mending.

BEEF.—Prime Mess for tierce is 87s. and 90s.; ordinary, 67s. and 77s.; Old, 68s and 82s.

HOME MARKETS.

The following table gives the highest average prices at each of the three places:—

	Toronto, Mar. 14.	Hamilton Mar. 14.	Montreal Mar. 13.
Flour, per barrel	£1 0 0	£0 18 0	£1 2 6
Wheat, per bushel ...	0 4 1	0 3 9	0 5 0
Barley, per 48 lbs. ...	0 2 6	0 2 4	0 4 6
Rye, per 56 lbs.	0 3 0	0 3 0	0 3 9
Oats, per 34 lbs.	0 1 5	0 1 3	0 2 0
Peas, per 60 lbs.	0 2 6	0 2 0	0 4 6
Oatmeal, per barrel ...	0 17 6	0 18 0	1 10 0
Potatoes, per bushel...	0 3 6	0 3 9	0 3 0
Hay, per ton	2 5 0	1 15 0	2 10 0
Beef, per 100 lbs.....	1 0 0	0 17 0	2 0 0
Pork, per 100 lbs.....	0 18 9	0 17 6	1 10 0
Lard, per lb.....	0 0 4	0 0 5	0 0 7
Butter (fresh) per lb. .	0 0 10	0 0 8	0 1 0