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THE CANADIAN FARMER AND MECHANIC.

TO PROMOTE THE COUNTRY'S WEALTH AND THE PEOPLE'S GOOD.

VOL. I.

KINGSTON, AUGUST 10, 1841.

NO. 1.

The Farmer & Mechanic.

TO OUR PATRONS.

That agricultural papers, judiciously conducted, are beneficial to any agricultural country, will not, it is presumed, be doubted. But should any doubt this, we would direct their attention for a moment to those countries where agriculture flourishes, and the farming interest is most extensive; and let it be asked, what are the means by which this high state of agriculture has been attained? Look to England, Scotland, Germany and Belgium. England within the last half century has doubled, and Scotland has tripled her annual amount of produce. Germany and Belgium from being the worst cultivated and poorest countries in the European catalogue, are now counted as the best agricultural sections of Europe—the cultivation of the soil most judiciously and scientifically conducted there. Three hundred years ago their fore-fathers raised only about one-fourth or one-sixth as much as is raised at present. How is this accounted for? The soil is the same, the climate the same, or nearly so, the same race of people cultivate the soil. Why then, this astonishing change? But one answer can be given—it is effected by the improved system of agriculture.

As population increased, a corresponding increase of the productions of the soil was required, and to effect this the best aids of those countries were called into requisition. Men of the best genius and most profound research sedulously applied themselves to the development of those great truths on which the science of agriculture is based. Experiments were made, theories were tried, and adopted or discarded as experience dictated. The light of science shone on the path-way of the practical operator, illuminating his mind and lightening his labors, giving him assurance of a more bountiful and pleasing result; and at length the agriculturalist awoke from the slumbers that had bound him, and throwing off the shroud of ignorance that for ages had enveloped the profession of agriculture, stood forth disenthralled and unencumbered, in the dignity of manhood, asserting the rights and claiming the honors due to his exalted and honest employment. Those honors were accorded, and agriculture in those countries ranks high in public estimation. As an evidence of this go to the "fairs" of England, Scotland and Ireland. There you will witness immense crowds of very respectable people exhibiting the choicest productions of the land, the best cattle and the finest horses; and mingled

see noble Lords, Dukes and Earls, striving with the gentry of the land to be foremost in the exhibition of the choicest stock, or vying with their rival neighbors in rewarding the labors of industry, and in bestowing prizes on the fortunate winner.

It is our privilege, and not only our privilege but duty, in some measure to redeem this country from its present degradation. This is easily done, and certainly will be done if the wealthy and honorable classes will, as it is their duty and interest to do, take a stand in favor of it. Indeed, we believe this will be done immediately. Honorable members of the Legislature are embracing the cause of agriculture; its claims are being examined, its importance acknowledged; the fostering care of government has taken it under its protection; agricultural societies have been and are being established; a general interest is being awakened on the subject; and nothing seems to be so much called for at present, to aid its progress, as a periodical devoted to and advocating the interests of agriculture.

But hitherto it has been thought impossible to sustain an agricultural paper in Canada. However, this we are not prepared to believe. To us it appears strange and unaccountable that in a country claiming a population of nearly a million of people, and five-sevenths of that population are directly or indirectly connected with agriculture, the people cannot support an agricultural paper at the insignificant sum of five shillings per year!

We believe the Agricultural Societies of this Province will liberally aid us, as government aids them, and we have the fullest assurance, as stated elsewhere, of the aid of the first men of the Province. The object of this paper is to advocate the interests of the great producing classes of this Province, and as the mechanics constitute the next largest class of practical operators, and as the interest of the mechanic and farmer are closely connected, and as their interests are unaided by any periodical published in this country, we have been induced to publish a paper under the title of the *Canadian Farmer and Mechanic*, devoted to the united interests of both.

Believing that the general weal of the country requires such a periodical, and that the interests of all classes will be subserved by it, we throw ourselves on the public for its support, craving their forbearance of its imperfections, earnestly but respectfully soliciting their approbation and patronage to facilitate its speedy and extensive circulation.

OUR PAPER.

We shall send several hundred copies of this paper to persons who are not subscribers, and we wish those who receive it, if they do not like to take it, will try to procure a subscriber for it in their stead. By taking a little trouble we are sure many hundred subscribers may be added to our list. But those who do not wish to take it, and will not procure a subscriber for it, we wish would return their paper to the office, at Kingston. If due diligence is used, few returns need be made.

This paper contains more reading matter in each number than any paper in the Province of Canada, and illustrated as many of the subjects will be by good engravings, will be not only the best, but the most useful and by far the cheapest published in this country. Here the farmer and the mechanic will have the market price corrected monthly; the former will know for what he can sell, the latter for what he can buy any article in the market. A summary of the news of the month, domestic and foreign, will be given. Notices of the progress of improvement in arts and agriculture will be faithfully furnished, forming just such a paper as the country has long required, and all this for as trifling a price as can be asked. It strikes us that a farmer cannot be found in Canada whose conscience would not upbraid him to ask for such a paper, containing so much useful information, at a less price than five shillings per year.

But it must be remembered that the expense of publishing is great, and requires cash down. Therefore, we must insist on immediate payment being made. Were we to credit, the sum is so trifling, that, scattered over a large country, the expense of collecting would be ruinous. We make this statement that our friends and the public may see the propriety of the request.

APOLOGY.—DELAY.

On issuing our proposals in May last, it was our intention to publish in June following, but being a busy season of the year and the farmers much engaged at home, the returns of subscriptions had been but partial, up to the time we had proposed to publish. Besides, when we came to make inquiry, it was found that no office in town was sufficiently extensive to publish their own and our paper. The consequence was, they had to order a new stock of type and materials for printing this work. At length, the work is before the public, they will judge of its merits, and approve or condemn accordingly.

To the Editor of the Farmer & Mechanic.

It was with much pleasure that I received your proposals for publishing an Agricultural paper in the province of Canada, as I believe there is not a paper devoted to that department in British North America. It has been to me matter of surprise that among all the papers published in our country not one was found devoted to the great interests of Agriculture, especially when it is so well known that the farmers constitute by far the largest portion of the community.

By some it has been thought that a paper solely devoted to agriculture and to the farming interests could not be supported in Canada. The reason assigned for this is, that the farmers are not a reading people. Is this true? Is it a fact that the people in Canada, on whom all others here depend for a subsistence—on whom devolves the principal burden of the country's improvement as well as the councils of the state, are an ignorant and non-reading people? It is no such thing. So far as my knowledge extends, there is not a class of men in Canada who read as much as the farmer, who at the same time labor as much. The commercial classes do perhaps take as many or more papers, but their principal object is, to know the rate of prices and the condition of stocks in market; not altogether for the purpose of reading to improve the mind.

Perhaps one principal reason why the farmer does not take more papers is, because there has not been one published, that has come to his knowledge, treating on those subjects about which he was immediately concerned or interested. Of late, however, being convinced of the importance of agricultural papers to the country, and determined at all events to have them, we have sent to the United States for several devoted to the business of agriculture, some hundreds of copies of which are now circulating among us; the benefit derived from which can scarcely be told. I would not be without one for ten times its cost. The hints which have been offered—the trials which have been made—the experiments which have been tried and published, together with all the theoretical and practical knowledge which are the results of much observation and long experience—when brought together, form the farmer's casket, and a treasury of available knowledge worth more annually to every industrious farmer than ten times its cost.

I much rejoice to learn that we are to be favored with a native production on agriculture: it is what we have long wanted, and I have anxiously looked for. Brother farmers, it is our duty now to arouse from the stupor and lethargy which has so long held us inactive, and make one united effort to extend the circulation of the "Canadian Farmer" as far as possible, and put the paper on a permanent footing. This is our part of the work: it is not only our duty but our interest.

This is avowedly an experiment, a laudable and praiseworthy experiment; and should it fail of success, there is no reason to hope that a second attempt will soon be made, and hundreds of pounds will be carried out of the country to obtain that which, by a little exertion, might be had at home. Who will make the first attempt? J. C. McDONALD.

Wood creek, July 3d, 1841.

PROPER TIME OF CUTTING WHEAT.

The period of maturity most proper in every respect for the cutting of wheat has long been a subject of discussion. So long as wheat was thrashed by hand, it was found necessary to let it ripen fully, or the loss in thrashing would exceed the gain from any other source; but since machines have been generally introduced, this difficulty has passed away, and the question placed on other grounds. It is now, how does early cutting affect the weight and quantity of grain and the quality of flour, as compared with that harvested at a later period? Many experiments have been made to test and settle this matter, but the best and most satisfactory we have seen, are those detailed in the last No. of the Q.

J. of Agriculture, made by Mr. HANNAM, of Yorkshire, an intelligent and able farmer. Mr. Hannam selected for his experiment a field of the old square headed red wheat, and on the 4th of August, 1840, cut a sheaf. Both straw and ears were green and full of sap. The grain was perfectly formed, but the chaff adhered firmly to it, and it was so soft and full of milk, that the slightest pressure reduced the whole to a pulp. The sheaf stood in the field a fortnight, when it was housed, and the same day, August 18th, another cut. In this the wheat was not ripe, but what is called "raw." The straw for a foot from the ground was yellow, and above that, though to appearance green, still was turning yellow. The grain, though still soft and mashed easily, was not near so full of fluid or milk as before. At the end of a fortnight this sheaf was housed, and September 1, or the same day, another was cut. This last sheaf was ripe, the straw uniformly yellow, but not so ripe as to have the heads break, or grain fall out, and at the end of a fortnight this was also housed. Each sheaf was carefully preserved, and finally thrashed and the chaff separated, by itself. The gross weight was ascertained by an accurate balance, as was that of a fixed measure, and an equal number of the grains. The result was as follows, the experiment of weighing being several times repeated to prevent error:

Time of cutting.	Gross produce.	Equal measure.	Equal No. of grains.
Aug. 4th, (very green),	576	568	19 1/2
Aug. 18th, (raw),	736	580	23 1/2
Sept. 1, (ripe),	650	570	22 1/2

100 straws of an equal length were then selected from each of the bundles, and weighed as follows:

Green,	550
Raw,	475
Ripe,	450

To ascertain the actual value of each quality, samples of each were exhibited to an extensive wheat grower, and then put into the hands of a factor and miller, to know what they would give. The opinion of the grower and the miller was as below.

	Value per quarter by the wheat grower.	Value per quarter by the miller.
Green,	61s.	61s.
Raw,	64s.	63s.
Ripe,	62s.	62s.

It appears from these experiments that the "raw" wheat had the advantage over the "ripe" in every respect—

1st, weight of gross produce,	13 1-5 per cent.
2d, do. equal measure,	2 1-2 " "
3d, do. equal number of grains,	2 1-5 " "
4th, in quality and value,	3 1/2 " "
5th, in weight of straw,	5 " "

The "ripe" had the advantage over the "green" in every respect but that of the straw, in which the green had an advantage of 22 per cent.

Green,	£11 11 10
Raw,	13 7 3
Ripe,	12 17 3

Our readers will judge of these experiments for themselves; we must add, there are considerations of great weight in favor of cutting wheat before it is "dead ripe." These are, more time for securing the crop; less waste in harvesting from the shelling of the grain; and a better quality of the straw, a thing of no small consequence where it is as extensively used for feeding stock, as in our wheat growing districts. It is also the opinion of millers, we believe universally, that early cut grain makes far better flour than that which becomes fully ripe before cutting. It is probable the same facts would hold good of barley, rye, oats, &c., and it would seem desirable that farmers should ascertain these points, as small profits, or small losses, in the aggregate, are the things that make, or ruin, the cultivator of the soil.

There is a great waste by many in harvesting grain from using bad implements, not paying attention to putting it up properly in the field when cut, and performing all parts of the work in a slovenly and unfarmerlike manner. There is a deal of wheat and other grain, put into the barn or stack after rains, or before the straw or green matters the sheaves may contain are cured, in such a state that the central parts of the sheaf heat, mold, and become nearly rotten. The result is bad wheat, musty and poor flour, all which might be avoided by care in the several processes through which the crop passes.

ON GRAFTING.

WAX FOR GRAFTING.

Prepare your wax by melting seven parts of rosin, two of beeswax, and one of tallow together. Pour this when melted into cold water, say a pound at a time, and having rubbed your hand thoroughly with lard, press and work the wax in your hands till it is pliable, and the water forced out, it is then ready for use. Wax prepared in the above manner will remain on the trees three years and protect the stumps from the weather. If a larger proportion of beeswax or tallow are used, although the scions will grow, the wax will soon wash off and not protect the stump a sufficient length of time. The wax when used must be sufficiently warm to spread easily. I always spread it with my fingers, having first rubbed them with lard to prevent the wax from adhering to them. I cover the top of the stump, and the split on both sides as far as it extends; the wax on the top of the stump should be the thickness of a cent. It may be somewhat thinner on the sides. Great care should be used to make the cleft both air and water tight, and if once made so with the wax, it will remain through the year.

The time for grafting will depend much on the forwardness of the season. I think the best time is when the buds first begin to open. Scions will live set any time after the sap begins freely to circulate, and till the apples on the trees are as large as musket balls, yet those set late, not having the advantage of the whole season, will not grow as much the first year.

CORN.

This great staple article will require great attention. The thrifty farmer will see to it in season. All that is planted will not come up, and in many instances where it does not shoot up, it is cut off by accident or other causes. To guard against this, and fill up the gaps, I find transplanting preferable to re-planting; and there is no difficulty in this, as there is generally a surplus of plants. Great care should be observed in taking up the stalks for transplanting not to injure the roots, and to retain about them as much of the soil as possible. The after culture of corn requires very particular attention. The earth must be kept open or well pulverized, and free of weeds; as it is impossible to get two full crops, one of weeds and the other of grain, from the same ground at the same period. The culture, as it does not injure the lateral roots, and opens the earth for the action of the sun and air. Of late years I have followed the plan of planting my corn in rows, and I think it a decided improvement.

THE DIFFERENCE.

The children of the rich are much helped, whilst those of the poor have to help themselves; this weakens the energies of the former and strengthens those of the latter; depressing one and elevating the other; and this keeps the wheel of fortune always revolving.

KINGSTON MARKET.

August 17.

The Kingston Market is well supplied with all kinds of vegetables, of flesh meats and fruits.

The following are current prices.

Beef per cwt. fresh,	20s to 21s 3d
Mutton, per pound,	0 3d to 3 1/2d
Veal, " "	0 3d " 3 1/2d
Ham, " "	0 6d " 7d
Chickens, per pair,	1s " 1s 3
Eggs fresh, (scarce), per dozen,	0 9d " 10d
Potatoes, per barrel,	3s " 0 0
Apples, " "	12s " 15s 0
Pears, " "	25s " 0 0
Hay, per ton,	50s " 60s 0
Flour, per barrel fine,	27s " 28s 0
Superfine, per barrel,	30s " 31s 0
Oats, per bushel,	3s " 0 0

PROVINCIAL AGRICULTURAL SOCIETY.

We take the liberty of suggesting to our readers, the propriety of establishing in this Province a Provincial Agricultural Society; one which should embrace the interests of the entire Province. We put it to the cultivators of the soil generally, whether the condition of Agriculture in this Province does not require the adoption of some plan by which a more systematic, regular, and profitable mode of farming may be effected? Does not the adoption of some measure by which a spirit of greater enterprize may be awakened, and a feeling of emulation excited among agriculturists, seem indispensable? Would not the formation of a Provincial Society of Agriculture, having delegates sent from the different Districts in the Province, representing their wants, condition and prospects, at an annual meeting to be held early in autumn, have a tendency, in some measure, to produce the desired effect?

Those delegates being selected from among the most intelligent of the agricultural classes, would be able to represent the condition of Agriculture in their respective districts; stating the system of culture there practised; the kinds, quality, and breeds of stock raised; the amount of grain produced, and the probable quantity which might be exported, if any. They would be able to suggest certain improvements in the system of agriculture, and to point out what breeds of cattle, sheep or swine, might be profitably introduced. In this way, might not a more perfect knowledge of the country's resources be obtained, and its wants known and supplied?

Would not such a society exert a salutary and controlling influence in the province, but especially over the farmers? We can scarcely hope for further Parliamentary aid, until the farmers shall do something for themselves. When the public attention is awakened to this subject, and a general feeling on the subject of agriculture shall be excited, then Parliament will be as ready to aid as we shall to ask; all will then work effectually & profitably for the country's good.

We merely suggest the propriety of the formation of such a society, for the purpose of eliciting inquiry, and provoking discussion on the subject. We hope to hear from some of our able agricultural friends on this matter, soon.

ENGRAVINGS.

We are happy to be able to present our readers with several engravings in this number of our paper, and particularly that of the Scotch plough, which is a good representation of the original. That over mechanics is tolerably well designed and well executed.

We have made arrangements with one of the best engravers in the State of New York to execute cuts, and drawing expressly for this paper, which it is our intention to insert as often as illustration of subjects shall require it. Our next number will contain some admirable cuts for illustration of breeds of cattle.

ker a quantity of paper of a superior quality to be made expressly for the Canadian Farmer & Mechanic, and after some delay have been furnished with an inferior sheet. From necessity, we use it for this number. In future, a better article will be provided.

BOOKS AS PREMIUMS.

It gives us pleasure to notice that in many countries about us, agricultural books and papers are offered instead of cash, for the smaller premiums at the public fairs, and have been very favorably received, and the principle promptly acted upon. We doubt not the best effects will result from the practice. The State of Rhode Island has for years ordered annually, several hundred copies of the New England Farmer, for distribution among the several towns of the State. And "experience has proved that the money so employed was well and profitably expended." The Albany Cultivator says, that from ten to fifty volumes of the Cultivator have been subscribed for, and offered as premiums by the Societies, and that some Societies have much exceeded that number. We hope our friends in Canada will consider the propriety of "doing likewise."

MAINE—ITS CULTURE, 1836—8.

We extract the following from the Farmers' Cabinet, with a view to show what may be done in removing prejudices, overcoming established habits, and advancing the agricultural interests of a country, and that, too, in a short time, where an inducement is presented to excite to action. Previous to 1836 it was believed that Maine could not, by any system of culture, be made to produce certain kinds of grain in any quantity; and more than that, she could not grow her own bread stuffs. A premium was offered by the Legislature, and the farmers went to work at cultivating the soil, and the results of the two following years' production is detailed below:

Maine is advancing rapidly in the high road of agricultural improvement and prosperity. She possesses advantages, (all circumstances combined,) unsurpassed by any other State, for the successful prosecution of cattle and sheep husbandry—a system which, if properly managed and persevered in, will keep her soil enriched, and gradually fill the coffers of the hardy tillers of her soil. An astonishing change has taken place in Maine within a short time. Five or six years since, while travelling in that State, we had frequent conversations with farmers and others on the state of agriculture, which to us appeared to be, in most places, in a languishing condition, especially so far as regarded grain crops; while the grasses and roots presented the most luxuriant appearance, and gave ample promise of an abundant harvest—and we found that one opinion generally prevailed, and that was, that Maine could not grow her own bread stuffs! In consequence of this opinion but little attention was paid to the cultivation of grain; and the citizens of Maine paid annually to the farmers of other States very nearly, if not quite, two millions of dollars for flour, an article they could have raised and manufactured themselves, as the sequel has shown, thereby demonstrating the truth of that beautiful sentiment—"nothing is impossible to a willing mind."

The committee on agriculture made a report to the Legislature of Maine in the spring of 1837, in which they state the population

at five hundred thousand souls, requiring each one pound of bread per day, or for the whole population, 915,500 barrels of flour, of 200 lbs. each, per annum. The amount of wheat raised and manufactured into flour in the year 1836, is set down by the committee at 287,331 bushels, making 157,466 barrels, and leaving a deficit of 835,034 barrels. But from this deficiency of bread stuffs is to be deducted 636,805 bushels of corn, and 62,965 bushels of rye. It was therefore apparent that by far the greater portion of bread stuffs necessary to supply the wants of the people of Maine were purchased out of the State, and of course presented an immense drawback on the proceeds from their grazing and fattening of stock, the lumber trade, and the exportation of roots, mainly potatoes, to other States. This being the case, the Legislature, at the suggestion of the committee, determined to hire the farmers to promote their own interests, by turning their attention to the cultivation of grain crops, which had been previously almost wholly neglected, under the prevailing opinion that neither the soil or climate of Maine were adapted to their cultivation. The bounty offered by the Legislature was two dollars to every farmer who raised twenty bushels of good and well cleansed wheat, and six cents for each additional bushel. A small premium was also offered on corn. Although the premium on grain raised in each township was to be paid out of the township funds, it was nevertheless considered as a sufficient inducement for the farmers to address themselves to the work. Many engaged zealously, from a desire to outdo their neighbors, but the great mass were stimulated by the love of gain, to the successful cultivation of their own soil; and gainers indeed they have been, although by far the greatest proportion of the bounty was simply transferred from one pocket of the farmer to the other. Now, with this inducement to cultivate grain, feed themselves, and no longer be dependent on their neighbors for the "staff of life," mark the result. The quantity of wheat raised that year was ONE MILLION, ONE HUNDRED AND SEVEN THOUSAND, EIGHT HUNDRED AND FORTY-NINE bushels, for which the growers received as a bounty eighty-seven thousand, three hundred and forty-two dollars, and six cents! The same year ONE MILLION, SIX HUNDRED AND THIRTY THOUSAND, NINE HUNDRED AND NINETY-SIX bushels of corn were raised, calling for a bounty of sixty-six thousand, six hundred and twenty-eight dollars, and eighty cents. The following is the state of the crops raised in the two years of 1836 and 1838:

	1836.	1838.
Wheat,	287,331	1,107,849
Corn,	636,805	1,630,997
Total,	924,136	2,728,845

Being an excess of \$20,518 bushels of wheat, and 994,151 of corn; total increase of the crop of 1838 over 1836, one million, eight hundred and fourteen thousand, seven hundred and ninety-nine bushels, increasing the agricultural products of the State in a single year to between two and three millions of dollars! It should be borne in mind that the above is only the amount of grain raised on which the premium was actually paid. It does not probably include more than two thirds of the entire produce of the State, as many who raised large crops of grain of the best quality did not apply for the premium, as they were satisfied with the general results, while those who fell below the twenty bushels were excluded.

We hope our readers will give this subject due consideration, and that not a single farmer will say he cannot raise a particular crop until he shall have tried it fairly.

Temperance, open air, easy labor, simple diet, and pure water, are good for a man all the days of his life.

HINTS FOR THE MONTH.

Generally in this country the hay harvest is gathered in the month of July, though there are some, owing to the grain coming on early, who have not yet completed their haying. We would recommend to such as have finished, now to look well to their barns, barracks, and stacks. See that the stacks are upright, not likely to be affected by the winds, that the tops are sufficiently pointed to preserve them from injury during the rainy weather. Unless you have several small windows that may be opened and closed at pleasure, be careful that your barn doors be left open to admit the warm air to escape. Warm air generates to a greater or less degree in a building filled with new hay, and unless it is permitted to escape, adds greatly to the danger of injuring the hay. Small apertures are cut in the gables of barns to effect this, but they are objectionable as they admit easy ingress to birds and vermin—these should ever be excluded from hay barns. To make a good stack, one that shall turn moisture well, and preserve the hay, is a nice work, and one that but few farmers can perform.

IN GATHERING IN YOUR WHEAT, be careful that the body of the sheaves are well cared, especially if cut green and bound large. If not well cured, they are liable to sweat in the mow, heat and mould, the straw is lost for fodder, and the grain will be greatly injured—not fit for seed.

EARLY SOWING.—Last year we noticed several persons sowing wheat in August. From the backwardness of the season it is not likely to be done this year. But we must enter our protest against the practice of too early sowing. Some are of opinion that wheat sowed as early as August is all the better for it—that then it gets a good hold and will endure the severity of the winter much better. But this principle is radically wrong. It is founded on the principle that if sowed early, say in August, that it will grow deeper, firmer, and stand the winter better. It will not “grow deeper, firmer,” nor will it stand the winter as well, for in August there is usually *too much* heat in the earth at that time for it to vegetate freely and quickly, which is requisite for the healthy growth of any plant. Besides, should a drowth immediately succeed the early sowing, a large share of the seed will never vegetate at all. And should it even sprout, the great heat of this month would wither it and retard its growth. A little observation will convince any man that *wheat* is a plant that does not require, or will not endure a high temperature. He that cultivates much and must begin early, but I think wheat put in by the 10th or middle of September stands the best chance of success—though, the weather and the soil are to be considered.

SAVE YOUR SEEDS.—Never neglect to save your own seeds. If the farmer or gardener gathers his seeds in the proper time, is careful to select the best, he is more certain of having good ones than if he purchased them, and is much more sure of a good crop. You should not wait till a particular time, then gather all, for seeds ripen at different times

and should be gathered when ripe, in rotation as they ripen. Always plant the best vegetables for seed.

Budding.—Plumbs, cherries, and pears may now be budded or enoculated with good chance of success. Any time in the month that the bark will peel will do to enoculate—the later, the more certain of a vigorous growth. Enoculation is now admitted to be the best method of propagating fruit, especially those plants too young to graft.

SELLING STOCK.—During several days past I have met with several butchers asking for “good cattle,” “fine wethers,” and “fat sheep.” They will call upon you soon, and the finest, fattest, and best they will strive to take away with them. In this they do right—but don't you part with them, even if you are offered a good price, all they appear to be worth. By selling these you impoverish your stock, and sustain a loss which the extra price will not make good. Sell such as have attained maturity, make your own selection, and sell for desirable prices. In this way the farmer constantly improves his stock, and provides himself with a stock that will sell at any time at fair prices. Farmers, *don't sell your best stock.*

TO THE FARMERS AND MECHANICS OF CANADA.

Is it not really surprising that while there are hundreds of periodicals devoted to commerce, science, politics, law and religion, that not one can be found devoted to agriculture or mechanics? All the interests in the land united would not produce as much beneficial, actual, available wealth, as the farmer and mechanic. Commerce causes wealth to *exchange hands*, but does not create it. The farmer actually creates, or is instrumental in bringing into existence annually a large amount of wealth—an amount and kind of wealth, too, without which the population of no country can long subsist. All classes in society are necessary, and a help to each other. From the present organization of society none could conveniently be dispensed with, but if there is any one on whom the whole is depending more than another, it certainly is the *farmer*.

Next to the farmer stands the mechanic and manufacturer. They mould, cut and fashion the raw material into implements and articles, ornamental and useful, and which seem really, in the present state of society, to be indispensable. To whom is it we are indebted for most of the noble inventions and valuable improvements but to the close-thinking and scientific *mechanic*? It is to the mechanic, the artificer, and farmer, that we are chiefly indebted for the luxuries of life. If this be so, we ask again, how is it that they have been so long neglected? that they have had no *paper* to exhilarate their minds, lighten their labors, and defend their rights.

The time is come when it shall no more be said that there is not an agricultural or mechanics' paper published in our land. We here offer to you a paper devoted entirely to your interests. Its columns are open to all mechanics, manufacturers and farmers; we court your correspondence, reserving to our-

selves to say what shall be admitted and what rejected. Upon you will chiefly depend the respectability and usefulness of this paper. If you, as a people, interest yourselves to extend its circulation among both mechanics and farmers, and contribute largely and freely by correspondence to its columns, you can make it the *best, most interesting and widely circulated paper in British America*. This you can do, and justice to yourselves and to your occupations *requires* you to do.

On our part, no effort shall be wanting to make it both respectable and valuable. It has been said that Canadians are no readers—that “farmers” and “mechanics” will not support a paper in Canada! I hope that the inventors of this slander may be put to the blush by a practical demonstration of its falsity. There are, we believe, in Kingston alone, mechanics enough who could profitably, and would willingly, spare *five shillings* for a paper like this during one year, to pay the expense of publication. The Mechanics' Institute and the mechanics of this town will see to this. We submit it to their generosity.

There is not a farmer within one hundred miles of this who could not spare five shillings in something from his farm during the year for a paper like this, and whose money would not be well laid out. The hints which will be offered for the cultivation of lands, the use of manures, the economy of labor, the management of dairies, the treatment of diseases in cattle, sheep and swine, the making of fences, cultivating gardens, &c. &c., will *ten times* pay the price of the paper. What excuse, then, will any “farmer” have for not taking this paper?

It gives us great pleasure in looking over the list of names for this paper, to see the names of many among the first literary, scientific, wealthy, independent gentlemen of this country, who have condescended to extend their patronage to our paper. Their interest on our behalf will do much for us, and more for the country.

We are equally happy to acknowledge also that the “merchants” of the country have interested themselves in our behalf, some taking ten, some twenty, and in some instances fifty copies each. Where men interest themselves in this way, can there be any doubt of success? We think not.

THE WEATHER—HARVEST—PROSPECTS.

The weather.—Since the settlement of this country few seasons have been marked by such an extraordinary drought as the present. For seven weeks previous to the 5th of July, in this region, scarce a drop of rain fell to moisten the surface of the earth. The drought was severe and unremitting—the grass was dried up in the pastures—the springs yielded no water—the meadows looked yellow and sere, the grass was short; many of the seeds sown and planted in the spring did not appear to vegetate—potatoes were a long time in before, they appeared, and much of the corn did not sprout at all. The cattle, sheep and horses, were thin and weak from the scarcity of fodder in the spring; and the lack of grass in the summer

and in a word, the prospect before the farmer was dreary, and many despaired of reaping a harvest. But, the Hand that guides all things, directed the 'winds and the storm' in this direction, and in the first week of July, the timely long-looked for fructifying showers came, reviving the whole face of nature and clothing the fields with green foliage no less beautiful than needful, filling the heart of man with the prospect of food and gladness.

We have taken a tour through a part of the country lying on the Bay of Quinty, and it gives us pleasure to be able say that the prospects of crops in general, are, notwithstanding the drought, about an average crop. Those on close hard soils, of course, suffered most, but many farmers assured us their crops were as good as usual.

The fall sown wheat was much injured by frost and ice during April, and by the drought in May and June; still, although short and in many cases thin, it is well filled, plump and heavy, and we believe an average crop. Rye, of which there is but little in this part, is very good, some cornfields look excellently well, and promise a great yield, others are thin and light. Oats and barley are very good, but barley is late, peas are finely podded and well filled, though we noticed some pieces that were mildewed, or rusted. But of hay, we dread to speak, it is not half a crop; so far as we can learn, from Toronto to Montreal there is but a slight yield of hay, though the quality is superior. It will stand the farmer in hand to be prudent in the gathering, as well as the foddering of all his straw, corn fodder and hay; and he should also adjust his stock to the fodder he will be able to procure.

Most of our root crops were injured during the spring drought; potatoes are late, but bid fair for a good crop.

From the Western part of the province we learn that crops of all kinds are abundant, particularly wheat.

The crops in the United States are reported to be good—but in England, very poor, the weather for harvest bad.

CORRESPONDENTS WANTED.

In a paper like this, where articles reporting and explaining the results of practical experiments are required, whatever may be the talents of the conductor it is impossible to make it what it should be without able and numerous correspondents. We have already anticipated this and engaged the services of some of the most able and scientific Agriculturists, both in this country and in Europe, still we wish to avail ourselves of that knowledge which the practical farmer alone possesses, to give variety and interest to our paper, as well as extend useful information through the country. But, how is this practical information to be obtained? We know of but one way.

Let the man whose occupation it is to cultivate the soil also cultivate the mind, and let him observe the best time, the best and cheapest way of doing every thing, and communicate it to his agricultural Journal;

ing himself, and by its publication and circulation among other cultivators will also benefit them. This will elicit inquiry and observation, and also induce improvements.

We respectfully and earnestly solicit the farmers, both theoretical and practical, to aid us in advancing the great interests of our country, by communicating to us the result of any experiments that they may make, in cultivating the soil—raising of grain,—breeding of cattle, or stock of any kind,—managing of dairies, or any department of domestic economy. We know very well the farmer's reluctance to write, and we are equally well aware the loss that a country sustains in consequence. Farmers in general have been famed for the exercise of this christian virtue "help one another," and we hope you will now help each other and us too, by sending your communications immediately to the "Canadian Farmer and Mechanic." Will you do it?

TO AGENTS AND POSTMASTERS.

To you we are much indebted for the prompt attention given, and exertions made on our behalf, in circulating our prospectus and obtaining subscriptions for our paper. We most cordially thank you for the past and hope you will continue to aid us in this arduous undertaking. We have to request that particular care be taken in giving the Names of persons becoming Subscribers, that they be intelligibly written, and that the Post office where the paper is required to be sent, be mentioned, to prevent mistakes.

DIRECTIONS FOR CHOOSING FLESH, MEATS, AND POULTRY.

BEF—Ox beef is decidedly preferable, if you require the best, choose that which has a fine smooth grain—the lean a bright red, the fat as nearly a white as may be. The best roasting piece is a sirloin; the next, the first ribs; if kept till they are quite tender, and boned, they are nearly equal to the sirloin, and better for a family dinner. The round is used for a-la-mode beef and is the best for cooking.

The best steak is cut from the sirloin, the inner part. Good steak may be cut from the ribs.

Veal.—The best part of a calf is the loin—it requires to be roasted about three hours—the fillet is good stewed like a leg of mutton. The neck of veal makes fine cutlets—season and fry or broil like mutton chops. The knuckle is the best stewed.

Poultry.—If a turkey is young, the toes and bill are soft—the legs purple, the surface of the skin uneven, and if rubbed with the head of a pin, will easily give way.

A Goose.—If young, will be quite plump in the breast, and the fat white and soft,—the feet yellow, the web of the feet thin and tender.

Ducks.—If young, feel very tender under the wing, and the web of the foot is transparent. The best fowls have yellow legs—if very old the feet look stiff and worn.

EFFECTUAL CURE FOR COUGH IN HORSES.

A writer in the Cultivator signed J. L. B., furnishes a curious, and it is said effectual cure for the cough in horses. He has tried it repeatedly and found it to succeed. He says, "my carriage horses had an extremely bad cough which had continued for six or eight months; different applications were made without effect. I applied to a man

who I knew dealt in horses, and had paid some attention to their diseases, for a remedy. He at once told me he had never found any thing so effectual for a bad cough as human urine, given a few times by being put into a bucket of water and let them drink it, or on their food and eat it. I directed my driver to do so, and in one week my horses were relieved. I have frequently had it tried with the same good effect." Coachmen, Stage proprietors and farmers, try this.

To the Editor of the Farmer & Mechanic.

DEAR SIR;—I have just noticed with pleasure your prospectus for publishing an Agricultural and Mechanical Periodical, in which I wish you every success, and beg leave to remark, that such a work combining two branches so intimately connected with each other, is deserving not only the decided support of every tradesman and farmer in the country, but also demands the patronage and encouragement of every influential person interested in the prosperity, happiness and welfare of the Province. I am well aware of the difficulties which you have to encounter and will experience before you can derive sufficient remuneration for your time, trouble and expense, which will be attendant on an undertaking of the kind; particularly, in a new country where Woodcuts, et cetera, et cetera, cannot be procured, but must be had elsewhere; all which will occasion an heavy outlay; also, that you will be subjected to all the disappointments incident to an undertaking of the kind. The usefulness of combining these two branches in such a publication, in giving all new plans of roads, agricultural implements, &c., will have the most beneficial effect, and will often tend, from the force of example, to urge the back-woodsman to renewed exertion; will also be the means of developing the resources of the country, and making this colony what it ought to be, the brightest appendage to the British Crown. Having from experience acquired a perfect knowledge of a large portion of the country, I will feel happy to give you any information in my power. Wishing you every success in your new undertaking.

I am truly,
Your obedient Servant,
FRANCIS HEWSON.

Kingston, July 29th, 1841.

CREAM CHEESE.

Cream gradually increases in consistence by exposure to the atmosphere. In three or four days it becomes so thick that the vessel which contains it may be inverted without risking any loss. In eight or ten days more its surface is covered over with mucous and byssus, and it has no longer the flavor of cream, but of very fat cheese.

Cream possesses many of the properties of oil. It is specifically lighter than water; it has an unctuous feel, staining cloths precisely in the manner of oil, and if it be kept fluid it contracts a taste very analogous to the rancidities of oil.

These properties are sufficient to show that it contains a quantity of oil; but this oil is combined with a part of the curd, and mixed with some cerum. Cream, then, is composed of a peculiar oil, curd, and cerum. The oil may be easily obtained separate by agitating the cream for a considerable time. This process is usually called churning.—The continuance of this operation for a sufficient time causes the cream to separate into two portions: one fluid and resembling creamed milk called butter-milk,—the other solid and called butter.

SELF-GOVERNMENT.—No man, whose appetites are his masters, can perform the duties of his nature with strictness and regularity. He that would be superior to external influences, must first become superior to his own passions.

ITEMS OF FOREIGN NEWS.

PERU.—We learn that a revolution has broke out in Peru, and that General Santa Cruz is in possession of Lima. Piñira was in possession of the forces of Santa Cruz under the command of Lieutenant Colonel Angelo, formerly an Adjutant to the Commander in Chief. No country is more frequently visited by revolutions than Peru, and unaccountable as it may seem, its prosperity is continually advancing.

LONDON MONEY MARKETS.—In the money markets there has been little doing of late, though money is easy at reasonable interests; but commercial interests are on the decline, and political events begin to produce an unfavorably effect. The accounts of failures among the manufacturers of Scotland are very distressing, and letters from Manchester and the vicinity, are also exceedingly gloomy. A sale of £100,000 reduced 3½ per cent, by an insurance office, excited a momentary uneasiness in the beginning of the week. August 2nd, money has been sold to be loaned on mortgage at 4½ per cent.

FISHERIES.—The Peterhead whale ships from Greenland have returned home, bringing with them 165 tons of oil, being the produce of 37 whales and 18,000 seals.

WHEAT was selling in London on the 2d instant, at 66s. 3d. per quarter. Rye at 35s 5d. Barley at 32s 9d. Oats 22s 9d.

DUTIES ON FOREIGN GRAIN.—Wheat 22s 6d. Barley 15s 4d. Oats 13s 9d. Rye 35s 5d. Flour per stone 68s.

GLASGOW.—The census of Glasgow being taken for 1811, shows the population has arisen since 1831 from 202,120 to 290,076, showing an increase of no less than 78,250 persons in the short space of time alluded to. We are sorry to say that the prosperity of the country has not increased with the rapidity of the population.

SOUTH AMERICA.—We learn from the Glasgow Chronicle that the Duties on many articles imported into South America is entirely taken off, among which are, live animals, Agricultural improvements, Books, drawings, cooking stoves, statues of all sorts, machines of all descriptions, steam engines, gold, silver, copper, brass or zinc, carriages, printing paper, seeds, jackets and staves.—Material reduction is made on many others.

EXTRAORDINARY PASSAGE.—The Steamer *Britannia* performed her trip from Halifax to Liverpool in the unprecedented short time of nine days and eighteen hours. The quickest trip ever performed by any of the Cunard line of steamers.

CHINA.—Business has again been resumed, and foreigners are presented at the factories during business hours.—Teas were very scarce, silks said not to be plenty.

An attempt is about to be made by Capt. Elliot to retake Chusan, and immediately to make an onset upon Peking.

UNITED STATES.—The bill providing for a U. S. Bank, which has been passed by Congress, was vetoed by President Tyler. The probability is that the Sub Treasury will yet prevail in spite of all opposition.

THE LAUNCH.—The frigate Congress, was launched at the Navy Yard in New Hampshire on the 15th inst. under a salute of 13 guns, and loud cheering from the surrounding hills. She is said to be a beautiful ship of 44 guns. She is 100 feet long on her spar deck, 50 feet beam, and of 1700 tons burthen.

FRIGATE RARITAN.—Orders have lately been received at Philadelphia to launch the frigate Raritan and fit her out for use. She is intended as a portion of the home squadron.

BANKRUPT BILL.—On Thursday and Friday last a spirited debate took place in Congress on the Bankruptcy Bill, which finally passed, and has received the President's signature.

DREADFUL FIRE AT SYRACUSE, N. Y!—On Friday evening Aug 20, a fire broke out in a carpenter's shop near the Weigh Lock. A large concourse of people, and among others firemen, had assembled in a few minutes after

the alarm: all set to work to extinguish the fire, when the cry was made that the building contained a quantity of gunpowder—hundreds fled—others did not heed the announcement—the explosion took place, when twenty three persons were in an instant hurried into eternity—and forty three more dreadfully burned and otherwise wounded.

We learn from the N. Y. papers, that Congress has appropriated one million five hundred thousand dollars for the fortification of the frontier, and for military purposes.

HOUSE OF PARLIAMENT.—The much talked of and closely contested Municipal Bill has at been passed by a vote of 42 to 30.

HEURON ELECTION.—The committee on Elections gave in their report on the 21st inst., declaring Wm. Dunlop Esq. duly elected.—He accordingly took his seat.

FORECAST.

There is no profession or calling wherein not only the energies of the body, but those of the mind, are brought into more profitable requisition than that of agriculture. Those who entertain the opinion that farming can be carried on with reputation and profit, without a good deal of sound reflection and thought, appear to labor under a grand error of judgment in the matter, for of all kinds of business in which man is engaged, none requires more sound discretion and *forecast*.

During the winter, in addition to the current duties of the season, of threshing out, and preparing his grain for a market, and taking a *fatherly* care of the domestic animals constituting his stock, he must carefully lay his plans, and carefully and wisely digest them, so as to enable him to carry on his spring and summer operations effectively; and all this requires a good deal of sound discretion and *forecast*.

On the opening of spring, nature never waits to accommodate an idle careless farmer; he must therefore be up and doing, for there are scores of matters to do, and no such thing as stretching out the time for accomplishing them. There is the oats which can't be too soon in the ground; the Indian corn (the most important and valuable crop which we produce) won't permit any delay or neglect in the preparation of the ground, or of its subsequent treatment, without affecting his interests very seriously; the garden can't be started too early, and the grass fields and fences must be looked after and attended to, at as early a period as possible; all these with a host of minor duties of the season, keep the mind and body in perpetual motion, and show the importance of sound discretion and *forecast*.

Summer, with its numerous heavy cares and duties, is down upon us, almost before we are aware of it, and generally before most farmers are ready for it. Here is hay making, corn dressing, and harvesting with numerous other important matters, all requiring prompt and vigilant attention, and all impatient of delay. These are heavy duties, and the penalty for their neglect is so serious as to call forth all our energies, and to bring into requisition a double share of sound discretion and *forecast*.

Now comes the autumn, when there is every thing to do, and you don't know how short the time may be you will have to do it in. The winter grain must be put in nicely and completely, or there is a heavy penalty in store for the delinquent: the potatoes and other root crops, the buckwheat and the Indian corn must all be gathered in and housed and taken proper care of. In fact, the labors of the fall months resemble the preparations for a siege; they have to be extended not only to the winter, but much has to be done in anticipation of the succeeding spring; the oats and corn grounds should be ploughed, so as to give the benefits of the meliorating influence of the winter frosts; and the garden grounds should be thrown up and trenched for the coming year.

son. Now where is the person who will venture to say that the man who conducts all those various processes effectively, has not a necessity for a double dose of sound discretion and *forecast*.

FAT MUTTON—ROOTS.

It is to be regretted that so little attention is paid to the proper sheltering of cattle in this country. One would naturally suppose that the interests of owners would point out a proper course; and that once systematized, and the advantages of strictly attending to the comfort and convenience of our cattle made manifest, even to the most skeptical, that whole neighborhoods would adopt the system, and that, in a reasonable length of time, it would very extensively, if not universally, prevail. It is lamentable to say that this is not the case. For some reason or other, which I have not as yet been able to ascertain, improvements make but slow advances among our farmers. It may be that they consider improvements as innovations in those customs which have "grown with their growth."—Some, with the evidence before their eyes, evidence which they cannot possibly resist or gainsay, refuse to profit by the experience of others. I have several cases in point, one of which I will note. For a number of years I have been in the habit of attending the Philadelphia market, principally with mutton, and as I always personally superintended my sheep and other animals on the farm, and saw that they were regularly and sufficiently fed, I generally brought meat which I was not ashamed of, and which by its good quality recommended itself to purchasers, inasmuch that I had no difficulty in securing a regular set of good customers, who cheerfully paid a fair price for a good article. Some of my neighbors attended the same market, but as I generally sold out first they thought I was 'uncommonly lucky.' Four years since I obtained a quantity of the seed of the French sugar beet, and put in an acre by way of experiment, not in the way of making *sugar*, but the making of *fat*. This first trial fixed me. My cows, sheep and hogs were very fond of them, during the long and severe winter which followed. They all kept in good heart and condition: what surprised me most was the rapid manner in which my sheep, fed on the sugar beet, took on fat; and when carried to market the saddles excited particular attention, from their very superior appearance. But it was not in appearance only; the meat was of a much better quality, more juicy, and exceedingly tender. The inquiry was, "why, sir, on what do you fatten your sheep?" And when I replied, on the sugar beet, hay, and a small portion of corn, it would generally call forth an exclamation of surprise. Ever since I have been a grower of sugar beet the meat I take to market is always in demand, and brings several cents more per pound than that fattened in the old way; and yet, strange to say, some of my neighbors, although I have urged them, will not plant the beet for their stock. I have been benefitted to the extent of several hundred dollars by the introduction of this root; the effects are visible; my neighbors know it, and yet they stand lookers on, halting between two opinions. But, light is breaking in upon us, and of one thing you may be assured, that is, that the time is not far distant when every extensive stock feeder will be an extensive root grower.

To the delinquents, and there are many in my vicinity, I would say, rouse ye from your lethargy, and although for the present season you have lost the advantage of planting the sugar beet and the mangel wurtzel, yet you may in some measure atone for your past neglect by putting in immediately a sufficient quantity of ruta бага. The ruta бага is an excellent root: plant it liberally, cultivate it thoroughly, and you will find your account in it in more ways than one, if you are spared until the ensuing winter. Depend upon it, there is nothing better for your stock than

properly prepared. I put in some of almost all kinds, and I find carrots answer well for a change. But with me the sugar beet is superior to all others. My way of feeding is simple. When the cattle are housed they are kept constantly furnished with good hay, have roots three times a day, with an occasional change to corn or cut feed. I find great benefit from currying my cows; indeed, it seems to me as necessary to curry a cow as a horse, and if any one will make an experiment as I did on two oxen, it will remove every doubt. They were both put up at the same time, fed precisely alike, and the treatment throughout for each was similar in every respect, except in the use of the curry comb, and the ox on which it was used was in reality, as well as in appearance, six per cent. better than his fellow. The cause of this must be apparent to every reflecting mind.—*Farmer's Cabinet.*

ROOT CROP.
FARMERS ATTEND.

The scarcity and dearth of beef cattle seem to offer a fit occasion for us to urge upon our agricultural friends the propriety of putting in a few acres of roots, in addition to their usual crops, for the purpose of feeding their cattle, as every plan which can be adopted of saving the grain crops should be an object with them, provided that in so doing they can affect a saving of time, labor and money. Now as we believe all this can be done by the plan we are about to urge, we trust it may be favorably considered, and carried out, so far at least as to make a fair experiment of its utility. From various experiments made, it has been reduced to a certainty that one thousand bushels of mangel wurtzel or sugarbeet can be raised on an acre of well manured land, and this number of bushels will not be considered large when we state, that it will only require that these roots should weigh three pounds each to give us this quantity, and that they have been raised to weigh 22 pounds. For milch cows they are peculiarly well adapted, [especially the Sugar Beet] and if given out to them in the quantity of half a bushel a day, in two meals, say night and morning, in addition to their usual quantity of hay or fodder, will, during the winter and spring months, add seventy-five per cent. to their product in milk and butter, besides greatly increasing the richness and flavor of both. A half a bushel a day from the 1st of December till the first of May, a period of 150 days—will at the rate of a thousand bushels to the acre carry 13 cows well over the whole period of time named, and leave them at the date named in excellent condition. As to the mode of keeping beets, no other care is necessary than is usually given to the preservation of potatoes or turnips. In proof of this we have sugar beets now, this 19th day of April, that have been kept in a dry cellar, unprotected by covering of any kind, that are now as sound as the day they were taken out of the earth, having preserved unimpaired all those qualities which render them a delicious table beet. Having stated the capacity of an acre, and shown as we trust conclusively, that it is competent to be made produce enough to sustain 13 cows from the first of December until the first of May, we would ask, to what else could an acre of land be appropriated that would do as much? *We know of no crop that would prove as profitable, and, therefore, urge the propriety of a trial upon every farmer and planter. They may be planted from the present period throughout all May, and with proper manuring and culture will produce what we have stated.*

In fattening beef cattle, if given in the quantity of a bushel a day, divided into four meals with the usual quantity of hay or fodder, they will prove eminently efficient, and save a vast quantity of corn. Should they

could not raise four times as many cattle for the butchers as he now does, as one acre in such culture will give him the material for fattening seven head.

THE SEASON—IMPORTANCE OF ACCOUNTS.

MR. EDITOR.—So far the season has been remarkably fine, and every thing around us looks smiling, and gives ample promise to recompense most abundantly the well directed labors of the persevering and industrious husbandman. But it invites not to repose. The farmer must bestir himself, for at this season, when so much depends upon the proper economy of time, and the judicious application of labor, he has no leisure hours. A multitude of matters require prompt attention, and the most minute cannot be overlooked with safety. System is as necessary in the management of the affairs of a farm as of those in the state—and neither can be properly and honestly managed without it. One of the great aids in the good work of system, and the farmer will assuredly find it so, is the keeping of a memorandum book, in which every thing done or to be done should be punctually and carefully noted. Follow this plan rigidly and it will not only prove satisfactory, but absolutely and highly profitable. But I would not have my brother farmers stop at a memorandum book—they need a regular set of books, in which all their daily transactions shall be entered. I began this system late in life—I see my error now; but am determined to tax my punctuality now and hereafter for my past neglect. I keep a regular daily journal and ledger; into which all my transactions are carefully noted, all my expenses, sales, &c. I have an account opened with each field—stock, swine, sheep &c., if I purchase or sell, plough, plant, reap—all is regularly entered, and that on the very day. I may hereafter send you a transcript of a page or two of my books. At all events, I hope the subject will not be permitted to slumber, but that keep accounts!—keep accounts!! KEEP ACCOUNTS!!! will be rung in the ears of our farmers until they all commence the good work in real earnest.

OBSERVATIONS ON GRASS SEEDS.

A very knowing man gave it as his opinion, "that whoever could make two ears of corn, or two blades of grass to grow upon a spot of ground where only one grew before, would deserve better of mankind, and do more essential service to his country than the whole race of politicians put together." Now although the mass of noisy politicians who wish to fatten, not by making grass or corn grow, but by lugging fiercely at the public teat, may incline to controvert this opinion, yet it is presumed that the plain, honest, industrious farmers of our country, who gain a livelihood by close attention to agricultural pursuits, will think favorably of it. Being myself a believer in the opinion, has induced me to take up my pen with a view to pointing out to my friends and neighbors what may be done towards accomplishing so desirable an object.

It is now universally admitted that neither grass nor grain nor indeed any plant whatever can be produced without seed; and that wherever we wish to produce any particular plant we must sow or plant the proper seed to produce it. In sowing the seeds of the artificial grasses, it should be borne in mind that you will not have more spears or grass plants than the number of seeds sown, and not even that number, for more or less of them, from various causes, will fail to vegetate or be destroyed. If it is desired to have the plants numerous, the seeds must be thickly dispersed; it is true many seed cost more than a few, but then the object being to obtain a full crop of grass, this can only be obtained by being liberal in the application of seed: let those who wish only

a very moderate return of grass sow the seed thin, very thin, and they will accomplish the object; they may have the plants six inches or a foot distant from each other if they are careful to put the seeds far enough apart.

Being desirous of ascertaining the number of seeds of the kinds usually sown which would fill a bushel measure, I recently caused to be accurately weighed the one-sixteenth part of an ounce avoirdupois of the kinds designated below; the seeds in each parcel were then carefully counted, from which it was ascertained the number of them contained in a pound, and also the number contained in a bushel, the weight of which was known. The seeds were all perfectly clean, and the best of their kind.

Timothy seed rated at 40lbs per bushel, the number of seeds contained in a bushel is, - -	60,600,220
Red clover seed (American) 60lbs per bushel, - - - - -	24,094,450
Dutch red clover seed, imported, 60lbs per bushel, - - - - -	16,919,200
Dutch white clover seed, imported, 60lbs per bushel, - - - - -	3,929,600
Orchard grass seed, 12lbs per bus.	5,818,308

The imported red Dutch clover seed was considerably larger than the American, and it will be perceived that the latter contains about fifty per cent. more seeds to the bushel than the former, and consequently it would take a bushel and a half of the Dutch seed to furnish as many plants as one bushel of the American.

It has been a very general error amongst our farmers to sow grass seeds too sparingly, thereby leaving much of the ground unoccupied, or filled with weeds, which will inevitably be the case where the soil is fertile, and grass seed has been applied with a parsimonious hand. A very small share of common sense observation, and a little arithmetical calculation will correct this pernicious and impoverishing error. An acre of land contains 1810 square yards, or 43,560 square feet, or if brought to square inches, 6,272,640 spaces, each of one inch square, is equal to one acre. If clover seed is sown evenly at the rate of seven and a half pounds or the eighth of a bushel per acre, it would produce about three millions of plants, provided they generally vegetated, which would allow each plant about two square inches of space for its accommodation. But it must be recollected that there is always a considerable loss of seed occasioned by its being imperfectly ripened, from its having been heated, or by its being buried in situations unfavorable to its growth, or other causes, so that ample allowance should always be made to guard against contingencies of every kind. From the data furnished above, it will be easy to make a calculation in regard to any of the seeds enumerated, so as to operate as a guide to those who don't desire to give their grass plants more elbow room than may be necessary to promote their proper growth and expansion and the farmers' true and most permanent interest.

AGRICOLA.

FRAGMENTS.

"Gather up the Fragments that nothing be lost."
AGRICULTURE

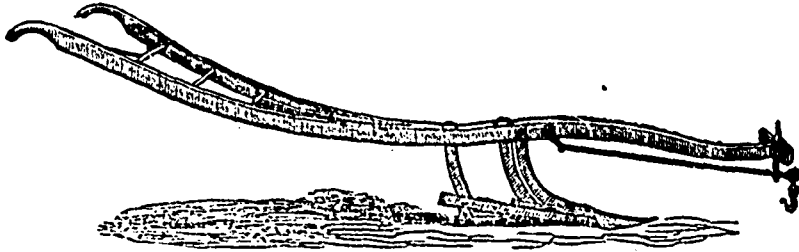
Is the most ancient, the most honorable, and the most useful of arts; by it the whole human race are fed and clothed; and is supposed that at least three fourths of the inhabitants of the earth are directly or indirectly engaged in it.

CLOGS TO AGRICULTURE.

The greatest clogs to improvements in agriculture are indolence, ignorance, and self-conceit; wherever their influence extend, they paralyze the very earth, and produce sterility.

THE HELPED ARE HELPLESS.

There are many people in the world whom it would be in vain to assist; for the more aid they receive from others the less they exert themselves; verifying the saying, that those who are helped much are generally most helpless.



THE DUNSTON OR SCOTCH SUBSOIL PLOUGH.

The subsoil plough, of which the above is an exact engraving, is now extensively used in Scotland and England, and no doubt is destined to work a great reformation in the business of ploughing, wherever it shall be known. We extract the following remarks by Mr. Phiney, on subsoil ploughing, from the *New Genesee Farmer*, which we hope will be sufficient to explain the use and value of the subsoil plough.

"The plough from whence the above drawing has been made, was brought to this country and deposited in the Franklin Institute by the late James Ronaldson, Esq. It is a gigantic implement, measuring 12 feet 6 inches in length, constructed throughout of wrought iron, weighing upwards of 300 lbs., and capable of rooting up stones of two hundred pounds weight; it is intended for a team of 4 or 6, or even eight horses or oxen, when it be let down to the depth of the beam. But, much of the soil of our country would be effectually worked with an instrument of far less magnitude, constructed chiefly of wood and properly ironed, the *sole* or *share*, probably, being of cast iron; the length of the handles being in proportion to the weight of the plough to be raised by means of their *Leverage*.

"Subsoil ploughing has formed in Europe—as it is destined to do in this and every other country—a new era in agriculture; it is applicable to all soils, and even in the most sandy will be found of superlative import-

MECHANICS AND AGRICULTURE.

From the *Louisville Journal* we extract the following article, which entirely expresses our views of the *New York Mechanic*, and also of *Mechanic Arts and Agriculture*. He says:

"Among the many valuable papers which we receive, there are few possessing more substantial merit than the *New York Mechanic*. It is a weekly paper published in New York by Rufus Porter & Co. and, as its title indicates, is devoted to the diffusion of information on subjects connected with the arts and sciences—notice of the progress of mechanical and other improvements, discoveries, and inventions, scientific essays, philosophical experiments and general miscellany. Each number contains plates illustrative of some new invention or improvement in machinery, with accurate and copious explanations, calculated to keep the mind of the reader well informed of the progress of the useful arts.

The success of a paper of this kind is a cheering evidence of the increasing interest of the reading community in whatever tends to develop the genius and unfold the resources of our people, as well as of the growing intelligence and enterprise of the mechanics of the country. In times past, no class of society has been so poorly represented in the world of letters, as the mechanics and farmers. Literary periodicals are everywhere to be found—political papers have multiplied until their name is legion—even until every political party and fragment of a party has its horde of stipendiaries, performing its behests with a blind and heedless devotion—theology has its champions—law its advocates—medicine and surgery their defenders, and even phrenology, animal magnetism, and Graham's system of sublimating the mind on bran bread and Taun-

ance, preventing the disease called the *stunt* in wheat, which is supposed to rise from a superabundance of moisture which cannot pass away, by reason of some impervious substratum, until it has chilled and deadened the roots of the plants and brought on a mortification of their sap-vessels: the disease is in some parts known as the *stunts* or *stunted*. It is understood that the subsoil plough does not turn the furrow—it passes along the open furrow made by the common plough, rooting up the bottom to any depth it might be put to, thus leaving it stirred and pulverized, to form a bed of loosened soil, into which the lower or tap roots of the plants might penetrate, when they will easily find moisture in seasons of the greatest drought, and from whence it is pumped up by them for the supply of the lateral roots, which are destined to seek food in the upper stratum of the earth."

The subsoil plough will be found to be of immense value in this country where so much of the land is low, the soil wet, and specially where the subsoil is of a cold hard nature. In most cases where the surface is wet, the soil cold and sour, the subsoil plough will answer the place of draining. If it should be generally applied in this country on those kinds of land which we have mentioned above, no doubt that an increase of thousands of bushels of grain annually would be produced and a thorough improvement of the soil effected.

ton water, have secured the aid of the press, which, with its thousand times multiplied voices, has heralded the merits of each all over the land, and compelled the public eye and ear to entertain its claims to attention.

"But the interests of agriculture and the mechanic arts, and the beautiful and glorious sciences in the midst of which they spring into life and usefulness, have scarcely been deemed worthy a place in the archives of the age. It has been deemed enough for the farmer to plough, sow and reap, as his father did before him; and for the mechanic to learn his trade and pursue it in the beaten and unimproved track that his master trod—as tho' labor were the only means on which to rely for success and experience—interchange of opinions—diffusion of knowledge—intellectual cultivation and generous emulation, out of place or not worth the pursuit.

"Of late, however, those classes on whom the prosperity, wealth, and glory of our country so much depend, have assumed a more commanding position. A newspaper devoted to the interests of the mechanic and the cultivator of the soil, and conducted with taste, ability and effect, is now no strange thing. We see no surer mark of the progress of society than the elevation of the laborer to his proper dignity, wherein his moral power is brought into action as well as his physical strength.

"Of all the varied employments of men, there are none so well calculated to unfold the powers of the mind and lead it from discovery to discovery—from invention to invention, as the cultivation of the soil and the pursuit of mechanical science. The mind has always a fund of fresh materials to work upon, capable, by a thousand changes and combinations, of being improved without limit,

yet without ever reaching absolute perfection. The chemical properties of soils—their adaptation to particular crops—the cultivation of the fruits of the earth, and the rearing of the useful animals, afford a never ending series of instructive lessons. And the mechanic arts, how noble—how useful—how well calculated to enlist the inquiring mind in the pursuit of those improvements which, while they develop its own powers, enlarge the sphere of human happiness, and strengthen the dominion of the intellectual over the material world."

TO CAST IMAGES IN PLASTER.—For this purpose a model of the figure that is to be cast, must be provided, and suspended by a rod or staff, one inch in diameter, and fixed in the top of the head. This model may be of wood, or chalk, or any other substance that is smooth, and sufficiently cohesive to support itself.—This being prepared, mix fine sulphate of lime with water, to the consistence of soft putty, and having brushed some olive oil over the model, cover it completely with the plaster, which must be applied and spread over it with the hands, to the depth of two inches or more. When the plaster is nearly dry, divide it into several parts with a thin blade, so as to take it off from the model without breaking any part. When the several parts of the mould are dry, oil them inside and put them together as before, and bind them with pieces of tape or twine; set the mould upright and fill it with a fresh mixture of sulphate of lime and water, of as much consistence as may be poured in through the aperture at the head. This plaster should be poured into the mould as quick as possible after being mixed, otherwise it would become too stiff and be spoiled. The plaster in the mould will soon cohere, so as that the mould may be taken off, and the figures set up to dry; and the mould being oiled and put together again, is ready for another cast.

BEST METHOD OF TRACING OR COPYING A PICTURE.—Perhaps the most simple method of copying the outlines of a picture is to place the picture against a window with the paper over it on which the copy is to be drawn: the principal lines of the picture will be seen thro' the other paper, and may readily be traced with a lead pencil. But the usual manner of copying in landscape painting, and which will answer for pictures of any size, is to rub over the back of the picture with plumbago, or red ochre; then lay the picture on the ground that is to receive the copy, and trace the lines with a smooth pointed steel, or piece of hard wood. The ground will thus be very accurately and distinctly marked by the plumbago or red ochre adhering to the ground in the lines that are traced. When several copies are to be taken from the same pattern, (which frequently occurs in ornamental painting), the outlines of the first copy may be perforated by some pointed instrument, so that being laid on the other grounds that are to receive the copies, and brushed over with a little fine dry whitening, or red ochre (as the case may require) the whitening or ochre will penetrate the perforated lines of the pattern, and thus mark the ground on which it is laid.

COMPOSITION OF VARIOUS ALLOYS.—Brass is composed of two parts of copper to one of zinc; or copper and calamine (an ore of zinc) equal quantities. Pinchbeck consists of from five to ten parts copper and one of zinc. Bell metal is composed of three parts copper and one of tin. Gun metal, nine parts copper and one tin. Tombac, sixteen parts copper, one part zinc and one of tin. The composition of pewter is seven pounds of tin, one of lead, four ounces of copper and two of zinc. That of type-metal is nine parts lead, two parts of antimony and one of bismuth. Solder, two parts of lead with one of tin. Queen's metal, nine parts of tin, one of bismuth, one of antimony, and one of lead. Jewel gold is composed of twenty-five parts gold, four parts silver, and seven parts fine copper.

NEW PLAN OF HIVING BEES.

From the *Mechanic and Farmer*.

I have practiced two methods of securing new swarms of bees when they leave the old hive, both of which I think preferable to the old fashioned way of rattling all the old tin pans and sleigh bells in the neighborhood, until the swarm settles, and then brush them topsyturvy into the hive. My first method is this:—as the season for swarming approaches I cut an evergreen, such as fir or spruce, about six or eight feet high, and trim off all the branches on one side close to the tree so that it may be laid flat on the ground, the lower end, or butt, is sharpened like a snake and set in a hole made by an iron bar in the ground about ten or fifteen feet in front of the hives. Swarms will very seldom seek any other resting place when a bush like the above is at hand. When a swarm leaves the hive I say nothing, but stand and look on, until they become still and quiet on the bush. I then carefully raise the bush from the hole, and lay it flat on the ground, and place the hive over them. If the limbs on the upper side interfere, I press the hive down and lay a stone or some heavy substance on to keep it in its proper place, till the swarm takes possession, which is generally in ten or fifteen minutes. In this way I have never lost a swarm, and have frequently hived a swarm and removed them to the bee house among the old hives in one hour from the time of their leaving the hive.

My other way is as simple, and as far as I have tried it, equally sure. I take a board wide enough to set a hive on, and two or three feet long, bore a hole in the centre, and drive in a pin, one or two inches in diameter, and eight or ten inches long; I then take two small cords and fasten the end of each to the corners of the board so that they form a loop at each end of the board about two or three feet long: this board thus prepared I suspend from two stakes in front of the hives, with the pin pointing downwards, taking care that the stakes slope towards each other so that the board may not touch at the end; around this pin the bees will cluster, and when they get still, unhook the cord from the stakes, turn the board over carefully, lay it on the ground and set the hive over it: in this way much time and trouble may be saved, or there is no need of watching for swarms, only provide such resting places, and there you will find them. I have left a swarm suspended under the board as last mentioned, through the day and found them safe in the evening, and hived them after the other labor of the day was past. I think on the whole this method the best, as they seem more contented under cover of the board than when more exposed, and not so likely to take wing before they are hived.

From the *Western Star*.

BOTANY.

In the whole family of sciences there is not one more instructive and pleasing than Botany. It cultivates and purifies the better feelings of our nature, by directing our minds to the goodness of God, as displayed in the very extensive portion of His works. And while it refines the taste and captivates the fancy, it enlightens the understanding and strengthens the judgment.

Cold and unthankful indeed must that man be, who feels no warm emotion while he beholds the bounties and smiles of an Omnipotent Creator. How then can that science fail to be interesting which treats of so important an operation in nature as the process of vegetation, and which classifies plants and explains their properties. Whether we survey nature in the wild luxuriance of the forest, or in the most delicate beauties of the garden, without some knowledge of the science, all is equally irregularity and confusion. We may admire the wilderness of the one, or be pleased with

the variety of the other, but we cannot feel that interest which even a partial acquaintance with this science will impart. All then is order, beauty and harmony. We see the sturdy oak of ages, and appropriate to its legitimate place in the vegetable kingdom; we scrutinize the polish petal of the flowers and glow with admiration and delight. We no longer walk in the woods, or the fields, or amuse ourselves in the garden without discovering new beauties in every shrub, and plant, and flower, which comes under our notice. The vegetable world at once becomes animate. We read new lessons of wisdom and goodness in every blade of grass, and find that there is not a leaf nor a fibre, which does not perform its proper office in the production of the plant.

The science of Botany has already secured itself a place in almost all schools of the higher order, and only needs an introduction to be gradually received and studied, in our schools of even the humblest character. It has nothing abstruse in it, but is entirely within the capacity of every grade of intellect, and may be acquired even by children. True they may not become thoroughly versed in it, nor are they capable of fully understanding many other branches of knowledge which they study. It is a matter worthy of investigation and trial whether the introduction of as pleasing a study as that of flowers, for which all children have a great fondness, would not have a happy influence on our schools. It would be connecting pleasure with improvement, and would have a tendency to create a taste for study which should not be the least object of schools.

It would be an instructive amusement too for youth of both sexes to study this science even after leaving school. Youth is a period in which amusement will have a place in the distribution of time. This is as it should be, but that course cannot be an unwise one, which makes that amusement a source of instruction. The study of which we speak, is one where the path of science is literally strewn with flowers. How many an hour which we spend in idle lounging, might be occupied in some pursuit, which while it recreated, would improve us. And at this season of the year nothing could be better suited to such a purpose than the study of Botany.

TO PREVENT HORSES BEING TEASED BY FLIES.

Take two or three small handfuls of walnut leaves, upon which pour two or three quarts of cold water; let it infuse one night, and pour the whole next morning into a kettle, and let it boil for a quarter of an hour;—when cold it will be fit for use. No more is required than to moisten a sponge, and before the horse goes out of the stable, let those parts which are most irritable be smeared over with the liquor, viz. between and upon the ears, the neck, the flank, &c. Not only the lady or gentleman who rides out for pleasure, will derive benefit from the walnut leaves thus prepared, but the coachman, the wagoner, and all others who use horses during the hot months.—*Farmer's Receipt Book*.

INDUSTRY.—Whatever busies the mind without corrupting it, has, at least, this use, that it rescues the day from idleness; and he that is never idle, will not often be vicious.

INDOLENCE.—Perhaps every man may date predominance of those desires that disturb his life and contaminate his conscience, from some unhappy hour, when too much leisure exposed him to their incursions; for he has lived with little observation, either on himself, or others, who does not know that to be idle is to be vicious.

FRUGALITY.—Without frugality none can be rich, and with it, very few would be poor. A man's voluntary expenses should not exceed his income.

Let no man anticipate uncertain profits.

SETTING UP AND SETTING DOWN.

A chap once told St. Patrick's Dean
While rising from his seat, "I mean
To set up for a wit."
"Ah!" quoth the Dean, "if that be true,
The very best thing you can do
Is quickly down to sit."

'Too many, like that would-be wit,
Set up for what they are not fit,
And always lose their aim;
Set up for wisdom, wealth, renown,
But end the farce by setting down
With poverty and shame.

A middling farmer thinks he can
Set up to be a gentleman,
And then sit down content;
But after many a turn and twist
Is set down on the pauper list—
A fool, not worth a cent!

When tradesmen's wives and daughters fair
Set up with silks and Leghorns rare,
To look most wondrous winning,
They sit upon a slippery stand,
Till indigence, with iron hand,
Upsets their underpinning.

Some ladies too, whose costly gear
Has made them to their husbands dear,
Set up to lead the ton;
Though they are high on fashion's seat,
Age, death, or poverty, albeit,
Will set them down anon.

Some fools set up to live by law,
And though they are all "over jaw,"
Soon fail for lack of brains;
But had the boobies only just
Known where they ought to sit at first,
They'd saved a world of pains.

A quack set up the doctor's trade,
But could he use the sexton's spade
No better than his pills,
The man might toil from morn till night,
And find his match, with all his might,
To bury half he kills.

You may set up for what you choose,
As easily as wear old shoes,
If e'er so low at present;
But when you have set up in vain,
And find you must set down again,
'Tis terribly unpleasant.

BUTTER.

Butter is of a yellow color, possessing the properties of an oil, and mixes readily with other oily bodies. When heated to the temperature of 96° it melts and becomes transparent: if it be kept for some time melted, some curd and whey separates from it, and it assumes exactly the appearance of oil.—When butter is kept for a certain time, it becomes rancid, owing in a good measure to the presence of these foreign ingredients, for if it be well washed, and a great portion of these matters separated, it does not become rancid near so soon. Butter may be obtained by agitating cream newly taken from milk; or even by agitating milk newly drawn from the cow. But it is usual to allow cream to remain for some time before it is churned.—Now, cream, by standing, acquires an acid taste; butter, therefore, is commonly made from sour cream. Fresh cream requires longer churning before it yields its butter than sour cream does; consequently cream acquires, by being kept for some time, new properties in consequence of which, it is more easily converted into butter, which in all cases is perfectly sweet.

The affinity of the oil of cream for the other ingredients is such, that it never separates completely from them. Not only is curd and whey always found in the cream, but some of this oil is constantly found in creamed milk, and even in whey it has been ascertained by experiments that butter may be obtained by churning whey. This accounts for the fact that more butter may be obtained from the same quantity of milk if it be churned as drawn from the cow, than when the cream alone is collected and churned.

COMPARATIVE VALUE OF HAY, VEGETABLES,
AND CORN.

I wish briefly to draw the attention of farmers to the value of hay, compared with other crops, for the feeding of stock. An acre of hay yields one ton and a half of vegetable food. An acre of carrots or Swedish turnips, will yield from ten to twenty tons; say fifteen tons, which is by no means an exaggerated estimate. It has been ascertained by experiment, that three working horses, fifteen and a half hands high, consumed at the rate of two hundred and twenty four pounds of hay per week, or five tons one thousand and forty-eight pounds of hay per year, besides twelve gallons of oats each per week, or seventy-eight bushels by the year. An unworked horse consumed at the rate of four and one-quarter tons of hay in the year. The produce, therefore, of nearly six acres of land is necessary to support a working horse by the year; but half an acre of carrots, at six hundred bushels to the acre, with the addition of chopped straw, while the season for their use lasts, will do it as well if not better. These things do not admit of doubt. They have been subjects of exact trial.

It is believed that the value of a bushel of Indian corn in straw and meal will keep a healthy horse in good condition for work a week. An acre of Indian corn which yields sixty bushels, will be ample for the support of a horse through the year. Let the farmer, then, consider whether it be better to maintain his horse upon the produce of half an acre of carrots, which can be cultivated at an expense not greatly exceeding the expense of half an acre of potatoes, or upon half an acre of ruta baga, which can be raised at less expense than potatoes, or upon the grain produced of an acre of Indian corn, or on the other hand, upon the produce of six acres of his best land in hay and grain; for six acres will hardly do more than to yield nearly six tons of hay and seventy-eight bushels of oats. The same economy might be as successfully introduced into the feeding of our neat cattle and sheep.

These facts deserve the particular attention of the farmers who are desirous of improving their pecuniary condition. It is obvious how much would be gained by the cultivation which is here suggested; how much more stock would be raised; how much the dairy produce might be increased; and how much the means of enriching the land, and improving the cultivation, would be constantly extending and accumulating. But when we find on a farm of two hundred acres, that the farmer cultivates only two acres of potatoes, one acre of ruta baga, and perhaps a quarter of an acre of carrots, we call this "getting along," in the common phrase; but we can hardly dignify it with the name of farming. I am aware that labor of a proper kind is in many cases difficult to be procured, and with our habits, as difficult to be managed. Farming, likewise, can in few situations be successfully managed, unless the farmer has capital to employ, equal at least to one year's manure and one year's crops. A large portion of our farmers, also, from the nature of their habits and style of living, are so prosperous and independent, that they have no occasion to extend their cultivation beyond what it now is, in order to meet their wants; and to incur all the trouble, vexation, and risk of employing more labor, expending more capital, and increasing their cares.

But it is not fair to produce such instances as any examples of the profit or unprofitableness of husbandry: when carried on, as all other branches of business, to be successful, it must be carried on with intelligence, skill, industry, enterprise; and all the capital and all the labor which can be advantageously employed in it. I will not, however, anticipate such general views of

the subject, as I propose to take in the retrospect of the whole survey.—*Colman's Surrey*

DOMESTIC ECONOMY.

In looking over my returns, I was struck with the remark of a man of much practical wisdom, and one of the best farmers in the commonwealth. He says "that a farmer should produce upon his farm all those supplies for his family which the farm can be made to yield." In his case this is done within doors and without, for there the spinning-wheel has not forgotten to turn round, nor the shuttle to speed its flight. In this cottage, whose neat and beautiful arrangements cannot be surpassed, the clothing, the bedding and the carpeting were all the product of their own fields and flocks. I shall not soon forget the unpretending and hearty hospitality of these enviable dwellings. I have slept many a time under a silken canopy, and trodden many a carpet as soft as the pride of eastern luxury could make it; but never with anything like the sentiment of honest pride and independence which I saw here. The floors spread with carpets made from their own flocks, which for fairness or beauty the foot of a prince's need not disdain, and on a cold night slept in woolen sheets from their own looms as soft as the shawls of Cashmere; and wiped my face with towels spun with their own hands from their own flax, of a whiteness as transparent and delicate as the drifted snow. In such beautiful examples of domestic management it is delightful to see with how limited means the best luxuries and comforts of life may be purchased. Nor were these instances few. The county of Berkshire abounds with examples of this domestic comfort and independence. Much to be regretted will be change, which has already invaded many parts of the state, when, under the pretence of superior cheapness, these household fabrics shall give place to the more showy but flimsy products of foreign industry, and the healthy exercise of domestic labor and household cares shall be deemed degrading in our wives and daughters, and exchanged for the idleness and frivolities of pride and luxury.

I agree entirely in the sentiment above expressed, that every farmer should, as far as possible, supply the wants of his family from his own farm. He should supply himself with bread, meat, vegetables, milk, butter, cheese and clothing, so far as his farm can be made to do it. He can almost always do it at a less expense than he can purchase these supplies. The labor requisite for this purpose may often be given at times when it would not otherwise be occupied; and by hands for which there might otherwise be no employment. The sentiment of self-respect and self-dependence inspired by such a course is a great gain. The satisfaction of eating bread raised by one's own labor is not small; and various and important moral influences, which I shall not now discuss, render it altogether desirable, though in some cases the same amount of labor consumed in their production, if applied in other ways, would purchase a larger amount of the same supplies. Though the supply of our own great wants from our own farms might seem, however, in some cases to be a pecuniary loss, it is always in the end a moral gain, with which the pecuniary loss is not to be put in competition.—*Colman's Surrey*.

DRAINING.

MESSES GAYLORD & TUCKER—I submit to your consideration, some of my views upon a subject which has been extensively examined in England and on the continent of Europe. These views, however, have been adopted with reference to a state of things with them; such as the price of land, labor, redundancy of capital, and many other considerations, differing so essentially from ours, that their adoption to their full extent in this country may be considered of doubtful utility.

I have desired to see this subject thoroughly investigated, with particular reference to our own condition; but if it has been done, it has not fallen under my observation. With these views, therefore, if my suggestions shall be found to vary somewhat from standard English authority, I beg that it may be considered as emanating from a desire rather to suggest inquiries for those better able than myself to examine the subject in this light, than from any spirit of controversy with systems which are probably well adapted to the state of things in Europe.

Two questions are necessarily involved in the subject; first, its utility; secondly, the mode of effecting it. To do justice to either, it will be necessary to understand the different conditions in which water is found, and the manner in which it affects the soil. So far as my observation has extended, it may, with sufficient accuracy, be classed under the four following heads:

First—What is usually termed 'surface water.' Under this head I include both standing water and running streams, when their source is beyond the premises affected, as the mode of removing either is nearly the same, although they may and generally do affect vegetation in many respects.

Secondly—Subterraneous ponds. These differ but little from those above the surface, except that they are filled with porous earth or a sufficient quantity of it to allow of a circulation of the water to every part of the basin. These subterraneous collections of water are evidently held in their position by the same means as surface ones; an impervious understrata; and like them rise and fall with the wet and dry seasons.

Thirdly—Springs. This term has been commonly used to indicate the point where a subterraneous stream breaks out upon the surface; but I use it in a more extended sense, as including all well defined subterraneous streams. There are some respects in which these differ from surface ones, having a serious bearing on the vegetable kingdom. They have their immediate source at a considerable depth in the earth, from whence the water arises, uninfluenced by the air, the sun, or any of the causes which fertilize the surface.

Fourthly—For the want of any more definite term to indicate the remaining condition in which water appears to the farmer, I shall call it a *leach*. Water is frequently found sluggishly leaching out upon sloping lands without any defined channel. These leaches are frequently of great extent and depth. This is the worst condition in which water is found, whether we consider the extent of its injury, or the draft which it makes upon the intelligence and patience of the ditcher. Like springs, they have their immediate source below the influence of the air or surface heat.

This classification will enable us to look more accurately at some of the operations of water upon soil; how it affects its vegetating powers; what influence it exercises upon the atmosphere, and through that upon vegetable life; and what *direct* influence it exercises upon vegetation, and thus enable us to decide upon the utility of draining.

I am aware that I cannot go into an extended analysis of these propositions, without intruding upon the rights of others, equally entitled to your hearing. I will confine myself, therefore, to a single case, and that by way of illustration, of frequent occurrence among good farmers: a piece of land, which is too wet for early ploughing, but from the surface of which the water will retire so that the crop may be sown in "pretty good season," to use a common expression. Now, suppose this field to be affected by a leach, as is frequently the case with such lands. It will be seen that this soil, up to the time of putting in the crop, or about that time, has received little or no benefit from the influence of spring. The water coming from a source below its influence, and mixing freely with the soil, retains it at its own temperature; and at a point below that

at which the elaboratory of nature commences its process of preparing the manure, or fertilizing qualities of the soil, to produce vegetation, and after all it must be noted, that the water receding more slowly as it disappears from the surface, and the more active means of evaporation, probably remains but a short distance below the surface at seed time, and continues its influence upon it. But be this as it may, the soil is wet, and at a low temperature, a number of days later than on a dry soil, other things being equal. On these few days, in a climate like ours, frequently depends the crop, or at least a good share of its value. It must be borne in mind, that the water which has only ebbed during the dry season, rises again as this season terminates, chilling the surface, and reducing its temperature, some days before the eye detects its presence, thus preparing it for an early frost, which the dry and warmer soil escapes. Here we find a solution to the inquiry, why some pieces of land are more subject to frost, in spring and fall, than others. We frequently find a valley or low piece of ground covered with a deep rich mould, but no crop can be raised on it, because it is so inert, or it is so frosty. Is not the above solution of the difficulty satisfactory? Can any other be given? The inquiry may be made, why these frosty pieces have such a depth of vegetable mould, while warmer ones equally low are equally destitute of it? The late and early cold water has always affected it; and the leaves and grass falling on it, or which have been blown on to it, have been retained there by its moisture. This moisture and low temperature consequent thereon, has retained them in an inert and imperfectly decomposed condition, until the present quality has accumulated. But the man who waits for the water to dry off from his land, to put in his late crop, may object to my view of the subject, that after all, his crops are as good, or nearly so, as those grown on dry and earlier ground. This may be, and frequently is the case; but it will be seen that it fortifies one of my points, and does not militate against my theory. These moist lands, from the cause above assigned, have frequently a much greater amount of unexpended vegetable matter than any others; indeed, a fertility sufficient to overcome, to a considerable extent, the difficulties which I have enumerated, and if properly drained, would be ranked with our most fertile and certain lands. Look at this subject in connection with the application of manure. If the soil is wet and leachy, it is certain to carry off a portion of its strength with the superabundant water, and what is left, the coarser part from its low temperature is comparatively inert and useless, at least in the early part of spring.

As I intend to confine myself rather to the theory of this subject, with barely sufficient illustration to be understood, I will restrict my remaining remarks to the mode of draining. This depends on so many local circumstances; for instance, under which of the above heads is the water to be classed? What is the character of the soil? What is the slope of the land? What is its elevation above the lowest point at which it can be discharged? that I shall content myself with a few rules applicable to most cases. My first general rule is, do all you can by a single ditch. One properly located, and of sufficient width and depth, will generally supersede the necessity of many smaller ones, will be more economical, and will generally be decidedly more efficient and durable. My second general rule is, make an open ditch. So far as my experience has extended, it costs more to cover a ditch, so that it shall be permanent, than it does to dig it. Here is a saving of one-half of the expense, superseding them both to be dug by hand, which should be done, where they are to be covered. The ditch which I recommend, can be done almost entirely with the plough and scraper, and at an expense not exceeding one-half of what it would cost to dig it with a shovel; and if the earth

is soft and wet, it will make more difference. If the plough and scraper are used, the common farm help can generally do it; these men are seldom willing to do much with a shovel and pick-axe, in a ditch. The ditch will not look quite as smooth when first finished with the scraper, but in the end it will look better, as you will have a better slope, the earth will be removed to a more secure distance from the edge, and if there are any holes or inequalities near, they can be filled up or smoothed down. Where these ditches can be so located as to form the boundaries of fields it should be done, even at the expense of a small crook in the fence. This commonly furnishes the best of water on both sides. Its banks furnish a dry and advantageous location for a fence; cattle are not as apt to press on it as when approachable on both sides, and it is usually located where different soils divide, fit for the different purposes of tillage or grass. There are other considerations of greater weight in my mind in favor of this course. All subterraneous water, except what falls under my definition of a leach, has a well defined strata of porous earth, such as sand or gravel, through which it percolates, resting on a hard strata, impervious to water. This porous strata is at different depths, and is covered with every variety of earth. In swamps, its immediate covering is usually clay, or a hard cement of clay and sand, or gravel, and sometimes both. This is generally covered with a vegetable deposit, and sometimes to the depth of a number of feet. The porous strata never extends beyond the lower edge of the swamp, if it did it would drain it. The head or source of this strata is more elevated than the highest water in the swamp; the clay, or hard pan which covers this strata under the swamp is full of holes, the result of the action of water, roots of trees, or other causes, through which the water is forced up by its more elevated head, and presents itself upon the surface in the numerous springs with which such lands abound; to maintain an obstinate and successful defence against all the efforts of the farmer, with his innumerable small drains and ditches covered with turf, straw, or something else, which, in four cases out of five, in the end, go over to the enemy, and render his last sate worse than the first; while the courage of the farmer lies buried with his outlay, until he is again reminded of his defeat by a proposition to underdrain his swamp. I grant that cases may occur where this mode of doing business is the only resort. The situation of the land may be such, possibly, that this is the only remedy; but I would remark that, except in the case of small pieces, to improve the looks of otherwise valuable tracts, if land cannot be otherwise reclaimed, I doubt much whether the advantage to be gained will justify the expense in this country, although it may be different in England.

If a piece of ground is to be drained by a single ditch, the location and depth of the porous strata must be ascertained; the ditch should then be commenced, at a point low enough to cut through this strata, as it progresses. If the porous strata is thoroughly perforated, the result must be both effectual and permanent. After this is done, the water can be no more forced up to the higher outlet, the old spring holes, upon the surface, than it could be to the discharge, in a vent, after the pump log, or other aqueduct was broken off, and for the same reasons. It is not necessary that the ditch should be dug as low as the bottom of the porous strata, but I would usually prefer it, if not too deep, as a precautionary measure. The fine earth which, in the process of time, has washed down these subterraneous streams, is frequently deposited more in one place than another, and as this is continued, a point is shot up to the stream and widens, and has frequently a small stream under it. This may have projected itself above where the ditch crosses, and must be so, if any spring continues to discharge. The remedy is plain.

They must be tapped, and this would be easier, and perhaps the necessity for it would have been obviated, if the ditch had been dug to the bottom of the strata. If the porous strata should be found at such a depth that no outlet can be adopted, low enough to drain it, or if the depth should be such that the expense would prevent setting the ditch to its level, the water may be reached by sinking wells to the bottom of the ditch, to the region of it. The uncertainty, however, of opening all of the veins by this process, is such, that it should not be adopted, except in extreme cases. The ditch should usually be carried along the upper side of the land to be drained, or the side on which the water approaches it. One main reason is, that the porous strata will be found easier, and better defined here; but there may be cases where, from the want of fall, the depth of the porous strata, or the depth of intermediate excavation, the width of the swamp, or other causes, an intermediate course may be adopted. If the porous strata is effectually perforated, the water will discharge itself through the lower artificial orifice, before it would force itself to the higher level, to supply the old discharge. I have known a ditch thus situated, to draw off water that stood upon the surface some distance above it.—There is danger, however, in adopting these lower locations, that a branch of the porous strata may not extend as low as the ditch, and thus not be perforated.

Where what I have termed a leach occurs, a resort to a number of parallel under drains may be proper, if the situation of the land will justify the outlay. If, however, the slope is moderate, I would still adhere to the other system. It is true, that it might not be convenient to cut a ditch to the bottom of the leach, yet it would probably cut off the water from all the land above a level extending out from the bottom of the ditch to the surface, where if necessary, a second may be cut. If the quantity that could in this way be reclaimed would not justify the expense, I doubt whether any other course could be adopted, with hope of better success.

I would make the additional remark, that unless the earth above the porous strata is cut through the ditch of whatever depth, will only operate as a surface drain. I have seen frequent instances, where an individual having determined to make thorough work, has cut a deep and expensive ditch across a field of clay, or other impervious under strata, which only operated as a surface drain, and when one of a few inches in depth, would have been equally beneficial. Had he dug through to the porous strata, perhaps but a few inches lower, or what is more than probable, had his ditch been properly located, with much less depth and expense of excavation, his field would have been drained.—*Cultivator.*

SOILING MILCH COWS.

The Zoarites, a religious sect of Germans, on the Muskingum river in Ohio, keep their *milk cows constantly in the stall, and feed them with the offal of the milk, hay, roots, &c.* and they are said to yield an extraordinary quantity of milk—some twenty quarts a day throughout the year. They also pay particular attention to their cleanliness. Their stalls are thoroughly washed daily, and the water used for this purpose is carefully collected in reservoirs, and applied, in the form of liquid manure, to their hot houses and gardens.

In a late communication to the British Board of Agriculture, it stated that thirty cows, one bull, four calves, and five horses, were fed through the summer from fifteen acres of clover, sown the preceding year. The labor of two men and two women were sufficient to tend them, and the nett produce of the season, in butter, from June to October, was £19 10s. from each cow.

From the Farmer's Cabinet.

APPLICATION OF LIME TO SOILS,
Read before the Philadelphia Society for
Promoting Agriculture.

Lime has long been regarded by farmers in certain sections of our country, and cultivating districts, as a most valuable agent. Still and tenacious soils are greatly benefited by its application, as is admitted by all who cultivate them. Whether the various chemical influences which have been assigned to its presence, are really those which constitute its virtue, I shall not inquire in this essay; I suppose merely to submit some views that have occurred to me, which the plain practical farmer can fully appreciate without the aid of chemistry or science, or their technicalities.

Clays and red shell soils are compact and tenacious and are therefore greatly benefited by an admixture of lime, as they are rendered more mellow or friable by application; the color of the soil is also changed to a dark brown, and has a rich oily appearance.—These combined influences give it a greater capacity for imbibing heat from the action of the sun, and this additional heat communicates an increased vegetative power; besides, the improved friability or mellowness of the soil gives greater facilities to the fibrous roots of plants to shoot further into it, and hence they obtain a larger supply of nourishment or food. Its capacity for absorbing moisture is also greatly increased, because, for the reasons above stated, the plastic properties of a stiff soil are removed, and moisture, either from rain or dew, is more freely admitted and absorbed; and having penetrated deeper into the soil, is retained, as if by a sponge, for a longer period. Farmers who are familiar with stiff soils, know full well that they will not admit heat nor absorb moisture so readily as those which are lighter, and the latter do not bake and become so hard and dry as the former—besides, a purely clay soil is always cold at a short distance below the surface.

Such soils, so improved, have increased capacity for imbibing heat from the action of the sun by day; and this heat is maintained for a longer period at night; and hence a protracted evaporation or emission of heat is secured, which, acting upon the atmosphere of night, produces a greater amount of dew. The soil is therefore rendered capable of creating a larger supply of moisture—of imbibing more heat, and of receiving and retaining these agents of vegetation alternately, for a more protracted period. Dews are occasioned by a cool atmosphere coming in contact with the exhalations from the heated earth, or vice versa, and hence a condensation of the aqueous particles: the dew-drop of evening is first seen upon a blade of grass at its highest point.

Heat and moisture are necessary to vegetation, and the more you can obtain of these agents for your plants the more vigorously will vegetation be sustained. Lime when applied to a stiff soil renders it more friable, porous or mellow, and it becomes more easy to cultivate: the plough does not meet with the same resistance; the roots of the grass and weeds are more easily separated from the soil, and may therefore be readily destroyed, and a thorough tillage or pulverization of the land is thereby greatly facilitated. Besides, we find that vegetation is most vigorous where the soil is adapted to secure the largest amount of these supplies; and consequently that soil which by nature or cultivation is capable of imbibing and retaining the largest amount of these indispensable elements, has the greatest capacity for producing vegetation. A sandy soil appears too porous to retain heat at night to promote to any important extent a condensation of the atmosphere, and thus supply

itself with sufficient moisture from dew—besides, it is too readily drained; while a clay or compact soil becomes indurated upon its surface, and heat from the sun cannot sufficiently penetrate it to be available for a like purpose; but when these are properly mixed and combined with other earths, such as lime, marl, or with manure, the soil opens its pores to receive the invigorating influence of the sun during the day, and at night the heated exhalations escaping from it, producing a greater amount of dew, supply the plants, nestled in its bosom, with necessary moisture from the pure and bounteous fountains of the atmosphere.

Some farmers think that lime is injurious to wheat land—that it makes the soil cold, and that their lands, when dressed with it, are more apt to produce mildewed grain than there was before it was applied. That thus, in many instances, has appeared to be so, I do not doubt, because the soil by its application, is rendered more productive, and therefore we have more grass, which under our present system of sowing grass-seed with wheat, is injurious to that crop, as I have contended in a former paper. Toll, in his excellent Treatise on Blight, says, "wheat being doubtless originally a native of a hot country, it requires by its constitution a considerable degree of heat to bring it to perfection; and if much of that degree of heat is wanting, it will be the weaker, and when the solar rays cannot reach the lower parts of the stalks, the lowest leaves and knots cannot do their office;" and hence the maturity of the plant is protracted, because "the lower parts of the stalks must receive the greater share of heat, being nearer the point of incidence of the sunbeams reflected by the ground." Being deprived of this genial and necessary heat, since it is shaded near the roots by grass, and being imbedded in too moist and cold a soil, it has not the power of elaborating its sap or evaporating its fluids, and is therefore slow in ripening; and hence the crop, becoming diseased, is frequently destroyed by mildew.

In the application of lime to land, much care and close observation is required, to produce the best results. The farmer should not be too generous; he should not forget that lime and earth constitute mortar, and therefore his care should be only to apply so much to his soil, if light, as will render it sufficiently compact to retain moisture and heat; for a sandy soil is composed of spherical particles, and is too readily ventilated and drained of its moisture, and being mixed with lime, the interstices being closed, the soil is greatly improved. After several years of experience and careful observation, I am convinced that lime, when applied to a sandy soil, renders it more compact and much more productive; and that manure, when applied to it after a dressing of lime, will have a much more lasting influence than it would have had before its application. Upon heavy soils, lime should only be applied in such proportions as will render it most mellow or friable: any thing beyond this, will be found to be injurious. It is not material, as I apprehend, whether it be put on in a hot or cold state, because it is soon cooled under the atmospheric influence after being slaked, and cannot be ploughed in after being spread before it becomes chilled. I usually apply it in the spring, when preparing for corn, the working of which, and the preparation of the land for subsequent crops, thoroughly mix it with the soil. I obtain the lime when ready to apply it, have it placed in a situation convenient for water, where it is immediately slaked: and as it falls, it is carted out and spread upon the land previously ploughed, which, after being harrowed is struck out and planted. I have applied it in other ways, but the result was never so satisfactory.

I have been told by some farmers, that the greater benefits from the use of lime on

their land are exhibited in about seven years after its application; some say in four years; some contend that they have seen its effects the second year, and others say that they never saw any effect whatever from its application, although they put it on in generous quantities. Now, I verily believe all these statements to be true, and I account for this singular anomaly in the following manner. In the latter instance the lime was ploughed in so deep that it was never mixed with the soil, and therefore produced no effect; and in the former the admixture took place probably in one, four or five years after it was applied. In some cases, it is said, land has been injured by it. I am inclined to believe those cases the farmer has been too generous, and would recommend as a corrective, that he plough deeper, and thereby mix more earth with his lime. He will thence have the advantage of a deeper soil.

As the quantity best adapted to improve most soils, I would recommend from forty to fifty bushels unslaked to the acre. I have found excellent results on sandy, clayey, and loamy soils, from the application of that quantity. As I have never farmed limestone or red shell soils, I cannot advise respecting them.

I therefore repeat, mix your soil well with the lime which you may put upon it—pulverize it thoroughly—destroy all natural vegetation, if you wish to raise naturalized crops—exercise a sound judgment as to time and method, and you will seldom have reason to complain, in this part of the Pennsylvania, at least, either of an ungrateful soil, or an unfavorable climate.

KENDERTON SMITH.

MILK.

Milk is a fluid secreted by the female of all those animals denominated Mammalia—and intended evidently for the nourishment of their offspring. The milk of every animal has certain peculiarities which distinguishes it from every other milk. The milk of the cow is most used by man as an article of food, and consequently more particularly claiming their attention. Chymists, therefore, have made choice of it for their experiments.

Milk is an opaque fluid, of a whitish color, a slight peculiar smell, and a pleasant, sweetish taste. When newly drawn from the cow, it has a taste very different from that which it acquires after it has been kept for some hours.

CREAM.

When milk is allowed to remain for some time at rest, there collects on its surface a thick, unctuous, yellowish colored substance, known by the name of cream. After the cream is separated the remaining milk is of a bluish white color and is much thinner than it was before. If it be heated to the temperature of 100°, and a little rennet, which is water digested with the inner coat of a calf's stomach, preserved with salt, be added to it, coagulation ensues; and if the coagulum be broken, the milk very soon separates into two substances; a solid white part known by the name of curd, and a fluid part called whey. Thus we see that milk may be easily separated into three parts, namely,—Cream, Curd and Whey.

FIELD ENGINE.—A machine by which a field may be harrowed, sowed, harrowed again, and smoothed with a roller, all at one observation, yet requires no more power to propel it than a common harrow. The sowing part may be regulated to any required quantity of grain per acre—has a convenient seat on which the driver may ride, and will in fact save two thirds of the ordinary labor required in this branch of agriculture.

IMPROVED COFFEE-MILL.—The mill is enclosed in a neat, regular, square upright box, grinds with ordinary facility, and costs but 25 cents.

We would call the attention of our readers to the Agricultural report of that part of the province formerly known as Lower Canada, written by Mr. Wm. Evans, of Cote St. Paul.

REPORT FOR JULY.

The past month was as favorable for the farmers as they could have desired. There was sufficient rain to advance vegetation, and not too much to give any interruption to hay making, which commenced about the middle of the month, and is now well advanced to completion. The hay crop is good where justice has been done to the land, but on poor old meadows it is thin and light. In a ride of about fifty miles through the country this week I have found, that the small quantity of wheat that was sown is almost destroyed by the fly. I have not seen it more injured any former year. The color of the ears is quite changed to a red hue. The rye is also nearly destroyed. The wheat that came under my inspection was generally late sown, but that has not saved it this year. Most of the crops of wheat were miserably thin, poor and full of weeds. Some fields, I am convinced, would not produce the seed, though there should not be an insect to injure them in Canada. This I attributed chiefly to the insufficient draining on lands that were naturally of good quality, but on other lands to constant cropping and bad management. I have seen fields this week, both of wheat and oats, so thin and full of weeds that were they perfectly safe from the ravages of vermin, would not pay anything near a fair remuneration to the farmer for the cultivation and harvesting. Though this has been a most favorable season for vegetation in this neighborhood, yet in riding through the country you cannot see one-fourth of the grain (with the exception of barley and peas, that are generally good) anything like a clean, close crop, such as you would find in Britain. Indeed, three-fourths of the wheat and oats now growing would not be equal to the title of good crops in the British isles. In justice to Canada, this certainly cannot be attributed to any defect in the soil or climate, but rather to want of draining, over-cropping, and a defective system of rotation and management every way. Hearing the general report of splendid crops this year, one is surprised and disappointed, in riding through the country, at meeting so few fields that could be entitled to any such character. No doubt, in such a season as this, where justice has been done to good land, the crops cannot fail to be excellent; but it only requires to see the country to be convinced that not one field in ten has been properly treated in either cultivation, draining or weeding, and therefore the crops upon them are scanty, and full of weeds of almost every species. If all the lands under oats this year were to produce a full, close, clean crop, what would the farmers do with it all? It would, certainly, be much over what would be required for consumption here, unless it was applied to other than the ordinary uses. It is much to be regretted that farmers will not see how beneficial it would be for them to plough and cultivate only ten acres of land in a proper manner, if ten acres so managed would produce more crop than fifty or one hundred acres would do managed in the ordinary way. Land that is worn out and exhausted, if allowed to repose under grass and pasture, will soon recover its fertility.

If farmers must keep the plough going, let them summer fallow the strong lands that are exhausted and full of weeds, and they will obtain from such lands, after being properly summer fallowed, a crop five times as valuable as that which they produce under the present system of management. There cannot be a more easy and effectual mode of improving the strong clay soils of this country than by summer fallowing. It is

only by this mode they can be drained, weeded and perfectly cleaned; and I have no doubt it would be an excellent means of destroying vermin. On lands that are constantly under crop and producing the food necessary to support insects and vermin, it is no wonder they should be numerous, particularly in such a climate as this. No doubt constant cropping and high manuring has a great tendency to propagate vermin destructive to the produce of the soil. Summer fallowing would produce ample crops, check weeds, and destroy vermin; and these are results which no other management will produce in this climate. How much more delightful would a tour be through this beautiful country, if the farmers exhibited proofs of more judicious management, by more perfect drainage and cleaner and better crops. Under the present circumstances the country shows the farmer's labor wasted to no purpose, because injudiciously employed in ploughing and sowing lands that are not in a fit condition to produce remunerating returns. The cultivated crops are full of weeds because they would not pay for weeding. The land that is not in a fit condition to receive and grow the seed sown in spring will be sure to have a most abundant crop of weeds instead of grain. I have seen many proofs of this the present week. I am aware that the ravages of the wheat-fly has brought great distress upon the country farmers, whose chief reliance heretofore was upon wheat. Unable to grow it for some years past, and not introducing any substitute, they have no money to expend on labor or the improvement of their lands, and hence they are in such a bad state now. If farming, however, is to pay under any circumstances, it can only do so under a judicious system, and always prudent expenditure. The Canadian farmers must understand this perfectly, or we need not expect much improvement in our agricultural system or the appearance of the country. Until the farmers are more generally educated, it will be a matter of some difficulty to introduce the improvements that are possible, and would be advantageous. Much, however, might be accomplished in the meantime, by example and encouragement. I have, for years past, endeavored to induce our authorities, or persons possessing capital, to erect a few mills for dressing hemp and flax, without which it is useless to cultivate these plants; but though one thousand pounds expended for this purpose would, perhaps, be sufficient to make a commencement, and show the farmers the benefit of introducing hemp and flax, not a shilling, I believe, has been appropriated to encourage what is so necessary, under existing circumstances, when we cannot produce any article for exportation. I have seen, this week, flax growing on two or three farms, of excellent quality, though not cultivated in the very best manner. It was about three feet high and the crop clean and close. It was a satisfactory proof that the soil and climate is suitable for growing flax in perfection. These observations are respectfully submitted for consideration, in the hope that something may be done for the advantage of by far the most numerous class in this Province, and the most neglected up to the present time.

Barley is now sown upon the best land, and consequently the crop is generally good. It has suffered some degree of injury by the ravages of the wheat-fly. Oats are good where the land is fertile and clean. Peas are an excellent crop. There may be a considerable surplus of this grain for exportation—the English price would pay. Of buckwheat a very large quantity is sown this year, and promises to be a good crop, if uninjured by early frosts. Indian corn looks well, but is not sown to any extent in this neighborhood. Potatoes are very luxuriant in the vine, but require some rain occasionally to perfect the roots and produce a good

crop. The soil is now very dry, and in want of some showers. The pastures have more of grass and weeds upon them than usual at this season of the year. The produce of the dairy is selling at moderate prices. Butcher's meat sells at fair prices both for the farmer and consumer. The produce of orchards will be very short this year—not, perhaps, equal to a tenth of what it was last season.

The barley harvest is partly finished, but that is the only grain yet come to maturity in this district. It is impossible, therefore, to say what may be the general results of this year's crops. So far as regards wheat, we need not expect much from it. The straw of oats will not be long, and never was more mixed with weeds of ever species, except where the land was in good condition—and there the oats are very good. It is very easy to see, this year, the results of good and bad farming. In the one case the crops are excellent, generally, with the exception of wheat; in the other they are thin, weedy and short, unless on land that is naturally of good quality, and not exhausted.

WM. EVANS.

Cote St. Paul, Aug. 7, 1811.

THE FLOWER GARDEN CULTIVATED BY THE LADIES.

A neat flower garden in front of the farm house is proof that the farmer's wife and daughters are industrious and refined. It is proof that the work within doors is well performed: for it is never the case that disorder and thriftlessness reside within, while the garden—tended by female hands—is neat and flourishing. This out-door labor gives bloom to the cheeks, vigor to the whole frame, cheerfulness to the disposition, and general efficiency.

Fair and gentle woman is never in a better school than when busying her fingers and twining her affections around the fair daughters of Flora. There she mingles with beauties whose tongues never utter envy or malice, and whose ears are deaf to every ill or sinful word. There the lovely and innocent One who delineates their graceful forms and paints their rich and varied colors. Purer, richer, better, are the teachings of the shooting blade and opening flower, than come from the musings of a listless mind, the pages of romance, or the gossip of corrupted society. The seeds of health and purity are in the soil on which the pink and primrose grow, and those who labor to promote the fragrance of the latter, will taste the delicious fruit which the former bear.

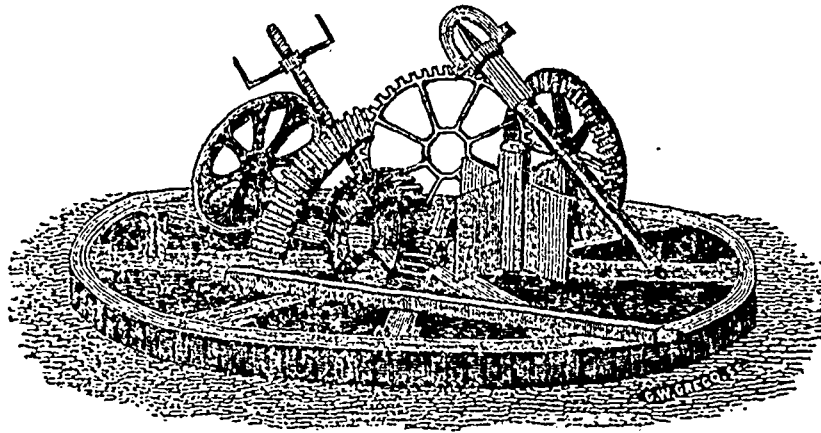
Fear not, ye busy wives and daughters, that the care of a small flower garden will be a burthen, rendering more arduous the labors of the kitchen, the dairy room, and the needle. For the invigorating exhalations of the freshly turned soil, the draughts of pure oxygen which will be found among young plants when the warm sun is expanding their foliage, the variety of exercise which the garden gives to body and mind, together with the pleasure derived from the beauty and fragrance of your flowers, will furnish more strength than the labors of the garden will exhaust.—*New England Farmer.*

RECIPE FOR MAKING FRENCH HONEY.

Take six eggs, leaving out two whites, one pound of loaf sugar, a quarter pound of butter, the juice of four lemons, and the rind of two grated; the sugar to be broken into small pieces, and the whole stewed over a slow fire until it becomes of the consistency of honey. It is very nice.—*New Genesee Farmer.*

UNIVERSAL GOOD.—All skill ought to be exerted for universal good. Every man has owed much to others, and ought to pay the kindness that he has received.

MECHANICS.



There are few of our readers who will not need some information in this department of our magazine. We therefore deem it our duty to bring before them the most useful and instructive matter each month our resources can afford.

To every farmer a knowledge of the art of constructing his field gates, his fences, his sheds, and even his barns and cow houses, in the most substantial manner, with a view, at the same time, to both economy of time and materials, such information, it is needless to say, must prove invaluable. We say again, as far as we can go to give this necessary instruction we will. And as there are numbers of our readers who possess information on this subject, and as there are, also, many of an inventive turn of mind, who will be constantly introducing new methods and devices—to all such we will address ourselves, seeking at their hands a communication of their ideas, that they may through the agency of our little periodical experience the pleasure of adding to the comforts and conveniences of their fellow creatures.

Let no man be deterred by the feeling of his inability from want of sufficient education. No, we do not seek the exclusive correspondence of the wealthy and well informed. We seek the humble ideas of the poor, industrious, and practical man. To such we promise our attention. Let them explain their ideas as they best can, and we will put them in form for the public eye. Every man should bear in mind that the roughest stone conceals the diamond, and that the greatest inventions of our day, as well as of past times, have in five cases out of six been produced by the humbler classes of society.

But we would not be understood to seek by this reasoning the wild theories of unpractical brains. Certainly not. Our object is to obtain plain, practicable information, and such hints and suggestions as may be beneficial to the two great classes of our supporters, viz.: the farmers and mechanics.

All such articles as shall require diagrams to illustrate them, shall have fair play given them in that respect.

Without intruding more on the patience of our readers, we will proceed to lay before them such information as we hope may prove acceptable.

CHEAP ROOFING.

Let your joists be so slight as to be merely sufficient to bear a person's weight on them:

Over these nail boards grooved and fitting into each other like a floor; these also need be no thicker than to support a person's weight. Get a quantity of coarse brown or wrapping paper, and cut it into strips of about two inches broad. Take a quantity of tar boiled with a little slaked lime; do over the joints of your boards with the tar, and on this lay your strips of paper. And lastly, do over the paper with a coating of the tar. Next get a caldron as large as you can find; provide yourself with river or sea sand, and a quantity of slaked lime quite dry. Light a fire under your caldron, and pour into it a portion of tar. Take next a riddle or coarse sieve, and as your tar heats riddle into it about equal proportions of lime and sand, stirring it till it boils. Provide yourself with flat instruments like tailors' geese, with long wooden handles, and heat them almost red hot. When you have made your tar thick enough, and brought it to the boiling point, put a quantity of it into a small iron pot, with which, and one of your heated irons, mount on the roof. Pour out a quantity of the boiling tar on the roof, and spread it flat with the hot iron to about the thickness of one-fourth of an inch or more. You cannot make your tar too thick provided you can spread it with your iron.

WOOD PRESERVED FROM DAMP.

Two coats of the following: twelve pounds of rosin beaten in a mortar, to which add three pounds of sulphur, and twelve pints of whale oil. Melt them over a fire, stirring them during melting. Ochre reduced to an impalpable powder, by triturating it with oil, must then be combined, in the proportion necessary to give either a darker or a lighter color to the material. First coat must be put on very lightly, having been previously treated. The second coat may be laid on in two or three days afterwards, and a third at an equal interval if required.

WHITE PAINT.

To make a good and very economical white paint, we would recommend the following to our readers. We have already tried it ourselves, and found it to succeed admirably. Take two quarts of skim milk, of fresh slaked lime eight ounces, six ounces of Linseed oil, two ounces of white Burgundy pitch, three pounds of Spanish white. The lime must be slaked in water, exposed to the air, mixed in about a quarter of the milk. The oil in which the pitch is previously dis-

solved must be added, a little at a time, then the rest of the milk, and afterwards the Spanish white. This quantity is sufficient for twenty-seven square yards, giving two coats, and the expense does not exceed ten pence.

ANOTHER RECIPE.

White paint may also be made by an equal quantity of lime, fresh slaked, and curds of whey. Use as little water as possible. Blend both lime and curds together well, and lay on the paint thus made with a brush. This white paint is a dead color, but can be very highly polished with a linen rag. It gives no smell, is easily cleaned by washing with soap and water, and is extremely durable.

The foregoing recipes will be found not only practicable, but highly useful; and like all recipes will require care in their formation and patient attention to bring them to bear to the full extent of their utility. And here we would remark that we have known it to be the case too often, that very useful recipes have been condemned merely on the evidence of some impatient person who would not allow time or sufficient attention to what he, in his over-heated imagination, dreamed of extravagant results from. We must allow that some writers on the value of their own discoveries laud them a great deal too much; and this, we may add, we know from sad experience to be true, having ourselves more than once tried seemingly excellent recipes, which were so plausibly given and so warmly applauded for their utility, that we feel not ashamed at owning to our being fooled into trying them, and after toil and trouble finding ourselves the dupes of some wild theorist. Having, therefore, a fellow feeling for others, we have come to the determination in our periodical to recommend only such as we have positively tried.

CHURNING.

The Dutch have a plan in operation among them by which there is a great economy of time and labor in churning. It is this:—there is a long pole of ash made fast to the wall or some joist on the ceiling, and midway along this ash pole or lath there is a cross piece made fast. The churns are placed in a line under this cross piece, and their dashes made fast by the tops to it. A person then catches the long ash pole or lath by the end, and works up and down; thus

churning three, four, or five churns at the same time, and with a motion that is far less fatiguing to the churner than the present mode, as the very weight of the body is sufficient without working the arms. We would strongly urge our farmers and those who are the proprietors of dairies, to give this simple plan a trial.

FARM HOUSE BUILDING.

We have much useful instruction to give our farmers on this subject, and we will from time to time present them with as much matter under this head as we can afford space for. We beg in return that they will give us the results of their experience of them.

WALLS.

It is our earnest desire to see the use of timber in constructing houses lessened. It is dangerous in dwelling houses, but far more so in barns where spontaneous combustion is so very apt to take place. Another objection is its liability to decay. We would recommend strongly to all persons interested, the necessity of walls being of *incombustible material*. We therefore propose the following plan to our intelligent readers: Having marked out the extent of your intended buildings, allow a foot beyond the walls all round, and make a platform of loose stones, gravel, sand, and clay, (in fact *rubbish*.) When you have raised your platform one foot at least, then pour over it lime and gravel well saturated with water; leave it to harden. When ready to commence your walls strike down stakes at the angles; then nail boards on the outside of these stakes. Having determined the thickness of your walls, stick down stakes at the angles or corners inside the intended dwelling, then nail on planks on the inside of these stakes. Thus we have in the space enclosed by the outside and inside sets of planks the thickness of the intended walls. A floor may now be formed inside the house, four inches thick, of layers of small stones, gravel, and earth, having hot lime and water, together with fresh animal blood, well mixed together, and poured over the whole. This floor should be smoothed over and left to dry. While drying the builders may come on the outside of the walls, and having erected a scaffold sufficient to stand on, with boards forming a gangway up to it, they may proceed to throw in from the top baskets and boxes full of clay mixed with lime and water, having straw in it in good proportions, (it must not be *very wet* but *stiff*.) Thus the walls will be filled up. The building may now be left for two days to dry. The planks and stakes may now be removed, and the position of each window and door marked on the walls inside and out. Commencing at the top of each window and door, cut with a spade a hole through the thickness of the wall, and six inches longer at each side than the breadth of the intended open. Into each of these cuts insert a stone, if it can be procured, of sufficient length; if not, get a piece of well seasoned oak, the ends of which must be charred in the fire. Now cut away the entire of your window and door opens, and put in your frames, which may be secured

by wooden *plugs* to the walls. Planks should be laid flat on the top of the wall, and nailed together; then the frame of the roof put on and planked.

The inside should now be white-washed four coats, and the outside dashed with lime and water, having round pebbles in it, and made pretty thick. The doors, windows, and all wood work may receive two coats of white paint, made of the lime and curds before described, which has the advantage of being without smell, drying immediately, and being easily made in any farm house.

— We feel great pleasure in laying before our readers the foregoing specification for building a cottage, given us for publication by Mr. Dwyer, architect, lately arrived in Kingston from England. We are sure its extreme simplicity and clearness must render it very acceptable to the great majority of our friends. We are happy to be able to add that Mr. Dwyer has most kindly offered us the aid of his most valuable information occasionally, which we will give with illustrations, and which we are convinced will give additional interest to our pages.

To the Editor of the Farmer & Mechanic.

SIR:—It is to me a source of unfeigned pleasure that we are about to have among us a paper devoted to those two most important branches of our domestic economy—Agriculture and Mechanics. You will not deem it flattery when I say that the two classes of persons who labor in these respective departments, to one of which I am proud to belong, owe you a debt of gratitude for the step you have taken; and I at once take the liberty of availing myself of a portion of your columns—columns devoted to the advancement and protection of my interests, and in which I can consequently feel perfectly “at home”—to address to you, and through you to my fellow mechanics, a few words on a subject of much interest to them. I do so with the more confidence as I imagine from the fact of your proceeding in your enterprise, that you have received sufficient encouragement to warrant the undertaking from those hitherto despised classes who stand represented in proud relief at the head of your paper—the Canadian Farmer and Mechanic.

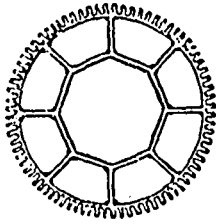
As a mechanic, I, as a matter of course, belong to the Mechanics' Institution of this city—an institution with whose objects you are no doubt perfectly acquainted. It has been established for several years, with rather a chequered existence. At one period it boasted of scarcely half a dozen members, and not being able to incur the expense of an active existence, slumbered awhile. It was aroused from that slumber by a few spirited individuals, and made rapid strides to permanency. It now numbers about three hundred and fifty members—a proud array, you will admit, but it looks better on paper than on viewing it as it actually is. Its public meetings are rather thinly attended, and there exists an apathy, happily not fatal to its existence, but to a thriving and flourishing condition. Why is it? I might mention a number of reasons—one, the diversity of opinion which naturally exists in so large a body where there appears nothing tangible to excite an active interest—doctors will disagree. But the principal reason is the want of that spirit of enterprise which should ever characterize the mechanic. I have found, and I have regretted much to find amongst them a disposition to leave projects of higher nature to those who are erroneously supposed to possess a natural or hereditary right to lead in public measures—a disposition which cannot be too strongly deprecated. It is yielding up tacitly the dearest right we possess—the free exercise of judgment—to others whom experience has proved are not

over-anxious for our improvement. From this reason—for no other can I divine—mechanics have been apparently content to maintain their Institution in a building which alone is calculated to throw discredit on it, under a heavy annual rent, with all its discomfort and inconvenience—and the evident clog which it forms to its progress—with its reading-room, its library, and its museum crowded into apartments about the size of an Editor's sanctum, a description which you will no doubt understand.

Now, this is a disadvantage which might be remedied by the exhibition of a little enterprise, exerted in the way of obtaining a building—one which would assist in stamping a high character for the Institution, and restoring public confidence in its operations. I do not know what the cost may be, but say that it would be necessary to expend £1500 or £2000, will any one so far insult the mechanical portion of the community as to assert that with the great objects in view which the Institution is designed to carry out, so paltry a sum cannot be raised? I am pleased to find that some project of this kind is on foot, and as far as I understand the details, they stand thus: that supposing the sum to be as I stated, or in fact any given sum, it shall be raised by way of loan by a joint-stock company. Perhaps the principle is novel, but it is independent in its character, and when the object is considered, it is perhaps the best plan which could be adopted. The shares to be placed at \$5 or \$10, to be within the reach of all—and when sufficient is subscribed, to proceed with a building which besides furnishing proper accommodations for the Institute would be composed of shops, a large public hall, offices, &c., which being rented would produce a sufficient fund to purchase after a few years, or gradually, as the case may be, the stock from the holders, paying legal interest. I have not the least doubt that a much larger amount could be raised if necessary.—The plan appears very simple—it is so in theory; but if pushed on, as I hope it will be, the practical part will come, and then it will be demonstrated whether mechanics possess sufficient enterprise to place themselves in an independent and proud position, and their Institution on a permanent establishment. We shall see. I wished to make some remarks on the influence such a step would have on the condition of the mechanics and also to draw a comparison with our neighbors, but I fear that I have taken up already more space than you will be pleased with, and will therefore defer those remarks to your next number. But perhaps you will feel disposed to second me, taking a similar view of the subject. If so I trust you will apply spur to the indolent horse.

A MECHANIC.

‘A Mechanic’ may rest assured he is quite welcome to our columns, and as this is the first we hope it will not be the last from him on the subject of the Institute. We hope the friends of the Institute will follow his example. Let the subject of promoting the interest of the Association of Mechanics and particularly the erection of a building for the Institute, be freely discussed, and the opinions of the members be fully expressed.—Ought not all the members to express, either in writing or orally, their views as to the proper means to be employed for promoting the objects and interests of this Institution? Let enquiry be made and discussion be had on the subject. This is the way to elicit facts, and arrive at just conclusions on any important subject. To us, the plan suggested by ‘a Mechanic,’ appears perfectly feasible, and so far as we can judge, the best plan that can, at present, be adopted. Although comparatively a stranger, we think we know some twelve or fifteen persons who would, on the proposed plan, take from fifty to one hundred shares each of Stock in the Institution.



NEW AND VALUABLE INVENTIONS.

We copy the following new inventions from the *New York Mechanic*, one of the best papers published in America. A specimen of the inventions may be seen at the General Patent Agency Office in New York, the rights of which, in whole or part, can be had at that office.

ORNAMENTAL COLOR PRINTING MACHINE.—This machine is calculated for printing paper-hangings, and picture ornaments in a great variety of colors and the most elegant designs, by a single simple process and operation. It is expected to color and print the ground and figure, working from twelve to twenty-four different colors, on a strip or roll of room paper of ordinary length in one minute. The probability is, that when this machine comes into full operation, such paper hanging as usually command one dollar to one dollar and fifty cents per strip, may be afforded from 25 to 37 cents. Any variety of designs and figures may be produced by one machine.

Door Lock.—This article, which is usually termed the independent door lock, is believed to possess an unusual degree of excellence, utility and safety, as it certainly does of novelty and simplicity. It is small, compact and plain, though somewhat ornamental; and without requiring the aid of a key, is evidently more convenient to manage, and at the same time more perfectly safe than any other lock in use, being capable of more than six millions of different positions, only one of which will unlock it; yet any person who understands its peculiar arrangement can unlock it with the utmost facility by day or night. They appear likely to come into immediate and extensive use, and as far as elegance, safety and convenience are consulted, supersede all others.

HORIZONTAL WIND WHEEL.—Latest improvement with bevel-gear. In this article the subject is brought to a degree of perfection which has no parallel. It really adjusts itself to the direction of the wind, regulates its own velocity, is secure from damage by gales, is put in motion and stopped with ease and facility, and produces more power in proportion to the quantity of sail employed than any other kind, and will operate machinery with a uniformity of motion nearly approaching to that of water power.

DOUBLE CAM AND RATCHET PRESS.—It has long been a desideratum with mechanics to find some method of applying an immense power with a continuous and uniform motion, without the expense and inconvenience of a multiplicity of gear, or the excessive friction of the screw. This is now accomplished by an arrangement of a double cam and ratchet, in a manner conveniently applicable to the pressing of cotton, cloth, or paper, hay or ground apples, or to the raising of buildings or other ponderous articles. This press is simple in construction, its motion is uniform, and its power is only limited by the strength of the materials of which it is made: with the ordinary proportions, however, it will give a pressure of a ton for every pound that is applied to the crank; thus the power of one man will produce a pressure of a hundred tons or more. It has also the important advantages of having the follower move up or down occasionally without the process of working the machinery by which the pressure is produced.

RAILWAY WATER WHEEL.—There are many situations in this country where available mill-streams are scarce, but where there are plenty of small streams descending from the mountains and hills. These may be made available for milling purposes by means of the Railway Water Wheel, without the expense of building a dam, or an elevated plume or pentstock. This water-wheel or hydraulic engine operates on an inclined plane parallel to the surface of the earth, and may be extended to a great length, thus accumulating an immense power from a very small stream. In this way a saw-mill or flour-mill may be operated by a stream that would pass through a two-inch aperture, and that would ordinarily be overlooked as entirely unavailable.

THE MOMENTUM RETAINER.—This machine is to be attached to one of the cars on a railroad train, and will occasionally stop the said train, yet retaining all the power which would otherwise be lost by the friction of the brakes, and holding the said power in readiness to be applied to give the train a forward motion when required; thus saving time, power, and the labor of those who would otherwise be employed in managing the brakes. The advantages that may be derived from a machine of this kind, will be at least two dollars per day in the saving of labor, fuel and time, besides contributing much to the safety and comfort of the passengers. An operating model has been exhibited to the officers of several Railroad Companies, and has met their decided approbation.

ARBITRARY BLOWING WHEEL.—It is generally known that many of the proprietors of forges, furnaces and of coal-burning steam engines have adopted a fan-wheel or blower in preference to bellows, for the purpose of producing the requisite blast of air. These fan-wheels produce a blast by means of the inertia and centrifugal force of atmospheric air, which is received near the axle of the wheel: and for this purpose they require an extensive surface and a violent motion. The recently invented Arbitrary Blowing-wheel on the contrary requires but a moderate motion, and not more than one-fourth of the ordinary size of the fan-wheel to produce an equal effect. One of these machines of a proper size for blowing a smith's forge occupies a space of only six inches square; and the inventor will guarantee that less than one-fourth part of the power required to drive an ordinary fan-wheel blower will produce an equal blast with the arbitrary blowing wheel.

THE SENSITIVE FIRE ALARM.—This is an elegant and very promising invention—a picture with frame and glass—yet so constructed as to ring a loud alarm bell whenever the air in the room becomes warmer than its ordinary temperature. It appears evident that if generally adopted they will prevent more than half of the ordinary damage by fires. Keepers of public and boarding houses will find it for their interest to patronize them, as boarders will give the preference to houses where the article has been adopted. They are simple in construction, elegant in appearance, and it is satisfactorily ascertained that they will command an extensive sale at more than double the cost of manufacturing.

CYLINDRICAL WATER WHEEL.—Is so constructed as to be operated by the weight or pressure of the water, without regard to its momentum, and will operate at least 90 per cent of the whole power of the water, which is more than three times as much as is usually obtained by either an under-shot or a reacting wheel. This wheel is compact, cheap and portable, and may readily be flowed to prevent freezing or being encumbered with ice in the winter; or may be made to run under water altogether. The floats project and recede alternately in such a manner that the water cannot escape but by the motion

of the wheel. The ordinary cost of building them will not exceed fifty dollars each.

REVOLVING ALMANAC.—This beautiful article combines more elegance and utility than any thing of the kind ever offered to the American public. It is a calculation for 8000 years, commencing with the Christian era, and extending more than 6000 years into futurity. It shows the day of the month or day of the week more readily than any other calendar, is convenient for counting time from date to date, and shows the rising and setting of the sun for the 1st, 10th and 20th of each month; besides being sufficiently elegant to ensure its adoption as a parlor ornament as well as a counting house manual.

THE DISTANCE REPORTER.—A small ornamental machine, to be attached to the axle tree of a carriage, midway between the wheels thereof, with which it communicates by wires. This machine is enclosed in a small brass box having a glass top, under which are three dials with indices. These indices will show the distance travelled by the carriage to which it is attached, from one rod up to two hundred miles. The cost of the machine complete is less than five dollars.

TRIANGULAR SHELLING MACHINE.—This is a light and portable machine, its entire weight being but 15lbs, yet it is very perfect in its operation, will shell 60 bushels of corn per day, leaving the corn whole and free from chaff, and depositing the cobs in a separate place. These machines are in demand at more than double the cost, and whenever they are introduced the ordinarily irksome drudgery of shelling corn is rendered an agreeable amusement.

SELF ADJUSTING CHEESE PRESS.—In this press no weight is required but that of the cheese itself; yet the pressure is continually increased, extending from four to near forty times the weight of the cheese during the process. The press is simple, cheap, compact and convenient to manage, and requires only to be seen to be approved.

WIND POWER FOUNTAIN.—This is an apparatus for supplying cattle with water in dry pastures, and where no elevated fountain head can be obtained. A capacious but not expensive reservoir is kept constantly supplied with water from a well, by an economical wind wheel and forcing pump, yet the water is never permitted to overflow and waste, neither to become stagnant; but a current is passed through the reservoir and returned to the well, whenever there is even a light breeze of wind. A watering trough is connected with the reservoir, from which it is supplied with water in such a manner that, although its capacity may be no more than two gallons, it never becomes empty nor ever overflows. Those who are accustomed to draw water from deep wells by hand for supplying a stock of cattle will readily appreciate this invention. On this principle a small reservoir placed in any part of a dwelling house may be generally supplied by a current of fresh cold water from the bottom of any well in the vicinity, and that without any waste of water.

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