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THE BRITISH AMERICAN



CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—*Dr. Johnson.*

VOL. III.

TORONTO, SEPTEMBER, 1844.

No. 9.



THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve."—*Dr. Johnson.*

TORONTO, SEPTEMBER, 1844.

MONTHLY CALENDAR.

By this time, the greatest proportion of the crops will be harvested, and the husbandman will be able to form a pretty correct estimate of his profits for the current year. The most important work for this month is autumn seeding, and we trust that the plans we have from time to time recommended to the attention of the Canadian farmers will be practised, so that the relative merits of each may be generally known.

Each cultivator of the soil should endeavour, by every possible means, to increase his products, and produce only such articles as really remunerate for the capital and labour expended in their production. This is the great secret in carrying out a successful system of husbandry. If a close calculation were made, it would be found that by far too many came short of this in a great

variety of the articles that they attempt to cultivate. Those who have been practising a system that has resulted in loss, instead of profit, would act wisely by adopting the plans which have been pointed out by the most wise and best men of our age who have written on agriculture. The pith of the agricultural information that has been published for the good of mankind will be concentrated in the columns of this Journal; and if any persons engaged in agricultural pursuits should neglect to avail themselves of this easy and cheap mode of obtaining the valuable stock of knowledge contained in the columns of the *Cultivator*, we can only say, that the loss to themselves and their families will be much greater than any one could suppose.

It is of the utmost importance to the farmer, before he commences to sow his autumn wheat, to be in possession of that description of knowledge which would enable him to prepare his ground for the crop, in such a complete manner that the chance for a good return would be most certain. From what has fallen under our own observation, much of the land that is sown with winter wheat is really unfit for this crop. We would, therefore, advise those who have been unsuccessful in growing

winter wheat, for the past few years, to reserve a portion of the land intended for this crop for spring wheat, and in the course of the coming year such improvements may be effected as will better ensure more favourable results in this highly-important branch of farming.

As much of the grain will, no doubt, be thrashed and marketed in the course of the autumn, we would strenuously urge upon our friends to be careful of the straw: none should be wasted, as it will be found very useful,—if for no other purpose, it is valuable as bedding for the stock.

At the close of the month, commence ploughing your autumn fallows. On strong clay soils especially, this operation should not be neglected. As deep ploughing has been recommended, and as it can be performed in the autumn much better than in the spring, we trust each of the readers of the *Cultivator* will satisfy himself on this point.

HEMP CULTURE.

We take much pleasure in giving insertion to the following Treatise on the Culture of Hemp and Water Rosting, from the pen of David Myerle, Esq., who has been employed, for some time past, by the Government of the United

States, for the purpose of introducing the culture of this article into the South-Western States. Any information from such a source may be relied upon, and, we doubt not, will be duly appreciated by such of the readers of this Journal as have made up their minds to engage in the culture of this new and valuable production to the Canadian farmer.

From the various sources that we have received information from the Western States of the Union, we are led to suppose that the farmers in that quarter are about turning their attention largely to the culture of hemp. Their soil and climate are peculiarly adapted to the successful growth of this plant,—so also are their navigable rivers suited for a cheap and expeditious transit, but the genius of the people is quite unsuited to the peculiar kind of work that is absolutely requisite for this crop. Although the subject has been agitated, through the medium of the press, and a premium of forty dollars per ton awarded for the domestic article by the government, still the advance made in its cultivation is so trifling, that it is scarcely worthy of being mentioned. In a recent statistical account of the products of the United States, it is stated that Kentucky produces the most hemp of any State of the Union, yet the annual growth of that State is only 16 000 lbs. If this account be correct, which we can scarcely credit, one would suppose that there is quite as good a prospect of the Canadas supplying the British navy with hemp as the United States. We should suppose that the above figures must have been intended for tons, instead of pounds, as it would not require a very great effort on the part of a single farmer to grow that number of pounds.

We admire the style of Mr. M's composition, because it is admirably well calculated to attract the attention of its readers to the intrinsic merits of the subject. The course which he has pointed out to the American farmer in the west we would zealously press upon the notice of our Canadian friends, for their adoption. The Canadas is, emphatically, the country that should supply the British navy and nation with all the hemp and flax that is required from abroad; and, in our humble opinion, the period has arrived in which a successful attempt will be made in the culture and preparation of these plants for market. All that can be grown for a few years to come will be required for home consumption, but we trust the period is not far

distant when vessels of hundreds of tons burden will be heavily freighted with Canadian hemp for the British market. It is a gratifying circumstance to know, that this long agitated subject is about being placed in a position that the Canadian farmers may know the exact amount of the profits attached to the cultivation of this plant for domestic manufactures, and whether it can be profitably cultivated for exportation to Britain or not. The writer has sown a fraction less than an acre this year, and will probably sow five or six acres the ensuing year. These experiments will be duly and properly reported, so that the public may form their own opinion of its profitableness. The crop now upon the ground will yield about ten cwt. of fibre per acre, and about thirty bushels of seed. This amount of produce is considered a full average crop, and we are of opinion will remunerate the grower in the same ratio as a crop of wheat would which will yield an average of forty bushels per acre. The profits, however, will be much larger when the culture of this plant is well understood, and also when proper machinery is employed in preparing it for market. We are of opinion that hemp may be successfully grown as a preparation crop for wheat, and that by this practice the produce in wheat would be much larger and much more certain, and less liable to rust, than if the land were managed for the wheat crop in the ordinary manner. As the Treatise will occupy a considerable space, and as we intend to continue our suggestions on this subject from time to time, we shall for the present draw our remarks to a close, by recommending the following article to our subscribers, for their careful perusal:

Nashville 14th June, 1814.

To the Editors of the Tennessee State Agriculturist.

On a late visit to Missouri, the great hemp region of the West, I had the pleasure to meet with David Myerle, Esq., the author of the enclosed treatise on the Culture and Water-rotting of Hemp. His attention, for some years, as a government agent, and with a view to its use by our own navy, has been directed to this subject, and by inserting his treatise in your paper, you will no doubt render a service to many of your readers.

Very respectfully, JNO M. BASS.

Washington City, Jan. 8, 1814.

Sir—The following Treatise on the Culture of Hemp and Water-rotting, is submitted to the Farmers of Missouri and the adjoining States:—

The land best adapted to the culture of hemp, is that which has been sown with black walnut, buckeye hickory, and a reasonable portion of white oak; or rich bottom land, answer well. The land should be ploughed deep, and well harrowed before seeding. If sod land, it should be ploughed down in the Fall to receive the Winter

frosts; and when time for seeding, (which is from the 1st of April to the 10th of May,) it should be well ploughed, harrowed, levelled, and sowed.

The seed should be sown broadcast, one bushel and a half to the acre. When the blossoms begin to fall (which is from the middle of July to 1st of August,) it should then be cut. Hemp left standing too long, injures the staple, and produces a harshness and weakness. It should be cut before it ripens, which is before the blossoms begin to fall. By attending to this particularly, you would find the lint heavier, as it will retain its oily substance, (what is termed essential oil,) which, by being left standing until ripe, the action of the atmosphere, as it ripens, causes to leave it, in a certain degree, of its elasticity; consequently, when the hemp is applied to the hatchel, the staple breaks into small fibres, which are converted into tow, and when the tar is applied to it, and converted into cordage it becomes stubborn and brittle in frosty weather, and consequently not so durable. Any chemical process, or any other mode to produce a rapid solution of the gum, extracts the oil, weakens the staple, and reduces the former injurious effects.

The instrument for cutting is similar to the point of any ordinary scythe; it is about two feet long from the point, with a socket standing at right angles with the face of the blade, and angling to the edge to prevent the person when cutting from bending too much, as it is necessary for him to stand upright as possible, to keep the hemp from tangling. The hemp should be cut as close to the ground as possible, and, for watering, it should have the top cut off as far as the seed ends, and thrown into the shade, or kiln dried. The drying in the shade retains its natural color, and causes the essential oil to be retained. The kiln drying has the same effect, but a more rapid process. The sun produces a harshness when rotten, and the dew dis-colors it, and produces less weight. Putting hemp is not recommendable; it injures the soil as well as the quality of the hemp—more particularly that of the water-rotted. When cutting, all the large hemp should be laid by itself; it should be bound up into bundles with two bands on them, about the size of 6 or eight inches through in the butts. When two large, they are awkward to handle, which wastes the hemp. Also, place sticks in the centre of each bundle, about one inch in thickness, or more; it prevents the hemp from breaking and tangling, when rotten, and will assist to facilitate the workman in handling it—the same sticks will answer for a whole crop. If your pools are prepared, commence filling them, and be particular in selecting the size of hemp, placing the large in a pool by itself, and the small also in a pool by itself, as the large undergoes a more rapid solution when immersed. The hemp placed in the pools should be carefully packed down with narrow plank laid on the points and butts, and with rock or timber to weigh it down; rock is preferable.

No hemp less than 5 feet should be water-rotted. Sizes under this may be dew-rotted. It depends upon the temperature of the weather in what length of time it produces maceration. In the month of August it takes 4 or 5 days; September, 6 to 8; October, 10 to 12; December, 3 or 4 weeks. After the 4th or 5th day in August and September, the 6th or 8th day in October and November, and the 3d week in December, or less time, it should be carefully examined, to ascertain when it has fully come to its solution. You will discover that the stalk has a roughness on the surface previous to its being placed in the pools. When the solution has arrived to its extent, by drawing a few stalks out of the bundles in the centre, promiscuously, and passing your hand along the stalk, you will find the roughness has left it, and that it is smooth to the touch. The hemp is then finished, take it out immediately; spread upon the ground, and when perfectly dry on one side, turn it over on the other—dry for two or three times until you find that the tops has

has hardened. If it should receive several rains, it does not injure, provided you attend to turning it. The rains wash off the gum which lies on the surface of the lint, and when applied to the break, it produces a clearer staple, cleans easier, and makes less tow.

There is also another mode, when the stalk will break off short, and free itself of the lint, but the former is the most certain. The hemp as it is dried, should be thrown into shocks or ricks well secured from the weather by covering their centre. If the weather penetrates the centre, it will injure the staple by reducing its strength. In breaking the hemp, it should be broke in small hands, about one-third of the ordinary size. In all my experience, I find our hemp requires to be properly hatched, to stand the test the government requires. This is entirely owing to the different mode of handling the Russian hemp; but by breaking in small hands, it relieves itself of sheaves and produces less tow, and comes nearer to the quality of Russia Riga Hemp, which quality of hemp the government uses for the Navy. It should not be applied to the break too often, nor the breakers suffered to practice the habit of breaking dew rotted hemp, by beating it over the break to relieve it of the seeds. It should be thrown up loosely into the atmosphere, to let the air pass through it. In drawing your hemp, you should draw it from each end, so that the staple will draw clear and have an even hand. See particularly that the burls of the staple be even, and that all the drawings be handed to itself, and not placed in the prime hemp, as it is the habit of doing in dew-rotted. All hemp with the drawings secreted in the centre, will not pass inspection. The hemp must be perfectly clear of sheaves, and that must be effected not by little breaking and beating across the break, but by plenty of shaking. I have had the strongest evidence, in all my operations, that hemp broke in small hands, say 10 or 12 stalks at a time, will yield less tow in hutcheling by 20 to 30 per cent., if the hemp is properly roved. Also scutcheling helps the hemp greatly, and causes it to yield less tow, and straightens out the staple.

This process is very indispensable to produce a merchantable article. The instrument for scutcheling is a flat wooden or non knife in the form of a paddle. The hemp is placed on board upright, about four feet long; one half of the length of the hemp is held by the left hand at the top of the board, and the right applies the knife, which, when properly applied, relieves the hemp of the small sheaves which adhere to it, and strengthens the staple for the hatchel, which adds greatly to the value of the article, and consequently produces less tow.

If the farmer has a desire to arrive at that stage in their staple to be equal to Russia, it is indispensable for them to adhere to these instructions. There is no more labor attending water-rotted hemp, if properly prepared for operation, than dew-rotted. Hemp water-rotted judiciously, and handed properly, will gain from 10 to 15 lbs. on the hundred above the dew-rotted, which more than amply pays for the difference of labor or expense in preparation. This has been proven to be the fact by those who have tested it at one of my pools in Kentucky, and also by an experienced farmer in Missouri. Hemp that is darkened by the dews, or colored water, which is produced by the blackness of the soil, will not meet with a favorable demand in the eastern market; it partakes of the character and price of dew-rotted hemp. To avoid this, immediately after your hemp is cut place it under shelter, or shield it with inferior hemp, that the dews or rains will not affect it; and also let your pools be made of plank, or otherwise place them at the side of the stream, and dam it sufficient in height, that, in case the stream should be disturbed by run or freshet, it does not pass through your pool.

The construction of Pools is as follows. Small spring branches dug down two or three feet, a levee thrown up around them, and small flood gates at each end, made simply out of four pieces of board, a foot wide and

two feet long. A wicket gate around them to let the water pass to and from the pool, if so, it reduces an uneven temperature in its solution. The pools can be made of plank, and the water pumped into them, supplied for a small lease on the 15th or 20th of May. A pool 10 by 60 feet, 2 1/2 feet deep, will receive 3 to 4 acre of ordinary hemp. The pools must not be over 3 feet deep, it will produce an irregular solution, owing to the uneven temperature of the water. To water in ponds or large streams, is not so commendable, particularly running stream. The hemp becomes irregular in its solution, and loses its lint. The preparation necessary is to have two long saplings; put them at each end with a cross-bar, forming a raft, with uprights at each end, their length to be the depth of the water. These form a raft, say 20 or 30 ft. long; load your hemp on them, and sink them with rock. For the conveyance of water, and from your pools, I will call your attention to the lead pipes manufactured in this city by Mr. W. W. Thompson. These pipes will be a great acquisition for this purpose, as also for watering stock and avoiding waste of water. They can be made any length, and at a much cheaper rate than an ordinary spout. To those farmers who are not in possession of springs, they can fix a small lifting pump in any part of their farm, and supply their vats with water.

As regards the process there need not be the slightest apprehension as to deleterious effects to health. As a demonstration of this fact, in my operations for the Government, I had about two hundred men at various pools in the hemp-growing region in Kentucky, from 1840 to 1841, in a circuit of 100 miles, and there was not one instance of sickness, although many of the men exposed themselves to the water when it was not necessary. I also advise gentlemen not to attempt to deliver more than one ton of hemp to each laborer they have, and not to exert from 5 to 10 tons the season: beyond this will produce difficulties.

I will also observe the necessity of watching your hemp closely when near the time of its full solution. If you permit it to have too much rot, it will injure the hemp seriously in strength and in weight, and to avoid this to those that are not particularly acquainted with its proper solution, they may take it out before it is carried too far, and spread it down upon two fields, for the dews and rains to finish, but at the same time be particular to attend to turning it, that it may receive an equal portion of dews and rains throughout. Hemp rotted in the spring, is not of as good quality as that rotted in the fall, say the months of October, November, and December. The spring rot produces a lightness of color, and the rot weakens and loses much in weight. This is produced by the state of the atmosphere, and the sudden and extreme changes of it, as also, the hemp lying in the stack after being a long time cut, undergoes what is termed a sweat, which changes the state of the staple. In all the hemp growing regions of Russia, the crops amount yearly to 90,000 tons. The best hemp produced is in the government of Cheringoff. The hemp is mostly of short staple, and of the very best quality, the produce is about 15,000 tons yearly;—and also in a part of the government of Orel, short staple is produced, and carried to the port of Riga, but the great part of the hemp produced in this Government is long staple, of which the produce is about 14,000 tons. The hemp of Kursk is mostly long staple, and the produce is about 13,000 tons. The hemp of the government of Icolet, is also long staple, and produces about 13,000 tons. In the governments of Tamboff and Razan, the produce is about 14,000 tons, but not of good quality, being more of the color of flax, and its staple is weak: it is chiefly produced for the Archangel market and a portion of it reaches St. Petersburg. The hemp grown in the government of Smolensk, is of short staple, partakes of the character of that produced in the government of Tamboff and Razan, and which

is mostly manufactured into sail cloth fabrics; the produce is about 8,000 tons. The government of Calonga produces about 7,000 tons, mostly short staple. The Russian mode practiced in preparing their hemp, differs only with their instruction in relation to the care and pains in preparation; a portion of the country also adopts a chemical process to produce a rapid solution of the gum, which is injurious to the staple. As this country is subject to frequent hail storms, the crops often times fall short of this.

In laying this information before you, my object is to convey to you the quantity and the various qualities of hemp produced in the hemp growing regions of Russia. You will also notice that we have a decided advantage over the Russian article, in comparing the small quantity of long staple to ours, as all our hemp generally is of long staple; therefore, by assiduous attention to the culture and preparing of it, our staple must and will have the ascendancy in the European market: in a reasonable time, Missouri can supply the whole world with hemp; as well must Illinois and Iowa arrive to be extensive hemp-growing States, and of a superior quality. And let the agricultural interest of these States buckle on their energies and industry, and consummate it to the advancement of their own prosperity and the country in general.

I have had the assurance recently given me, from a gentleman direct from London, of the highest standing in mercantile transactions, that the moment we are prepared, he will effect a contract to supply the British government with our hemp for the Navy, which consumes equal to our Navy and our commercial enterprise, about 12,000 tons yearly. Also, the consumption of the port of London is 20,000 tons yearly, embracing the requirement of the Navy. I have also had the assurance, from a gentleman of high standing in commercial transactions in France, that from the character of our hemp, the moment the country is prepared, he will effect the supplying of the French Navy with our staple. These countries are desirous to encourage us, that they may have two markets to go to in case of any warlike disturbance.

I have labored with great sacrifice of interest for these four years, with the pleasing and proud anticipation to see the country independent of this foreign staple, and that we may become heavy exporters; and the day is not far distant, when these anticipations will be fully realized.

And to facilitate this most important object, I have, by the solicitations of a number of gentlemen, delegates from the West, and others in power at this city, consented to embark upon this arduous and hazardous undertaking with the view supplying the Navy with American Water-Rotted Hemp, from the West, for a term of years. I do assure you gentlemen, that no pecuniary inducement could have influenced me to embark upon this work of enterprise again. But something must be done to keep alive and finish this great work, which has been commenced, and is in progress to its ultimate accomplishment. I have lost a large fortune in establishing the practicability of it, and have undergone great afflictions, in consequence of which I have felt reluctance to subject myself to a second trial of the various circumstances which befel me, in effecting that important object. But with a desire to promote the agricultural interest of the West, and to see my country speedily independent of this foreign staple, and with the confidence that I have in you, that you will support me in this act of enterprise, I now come forward once more with all my resources and energy, to give this subject additional impetus, that will convince the world and the Russian Autocrat, that this Republic can stand free and independent of her staple and fabrics, and can supply the commercial world. To accomplish this great work, I lean upon you, the Farmers of the West, to rally to my aid, and give me your most energetic co-operation. And to you, enterprising.

[Continued on the 10th Page.]

From the American Farmer.

MANURES.

A Prize Essay, By S. L. Dana.

SECTION SEVENTH.

Of the Circumstances which affect the Quality and Quantity of Dung.

That we may reduce to some general principle, easily understood and easily remembered, the fact scattered up and down, among the mass of writers and observers, about the different quality of manure, afforded by different animals, or the same animals at different times, let me, reader, request your company while I walk into a new department of your chemistry. You may not understand the reasons of this difference in manures; why, for instance, fattening cattle give stronger manure than working oxen, without going a little into the mode how animals are nourished. The whole may be stated in plain terms, thus:—All food serves two purposes. The first is to keep up the animal heat, and this part of food disappears in breathing or in forming fat; that is, after serving its purpose in the animal body it goes off in the breath or sweat, or it forms fat. It is so essential to the action of breathing, that we will term it food of breathing or the breathers. The second purpose answered by food, is, to build up, sustain, and renew the waste of the body.

Now all this is done from the blood. To form blood, animals must be supplied with its materials ready formed. They are ready formed in plants; and animals never do form the materials for making blood. We may therefore term this kind of food the blood formers. We have then two classes of food; the breathers, and the fat formers, and the blood formers. If we look to the nature of these different classes, we find that sugar, starch, and gum are breathers. Now there are three principles found in plants, exactly and identically the same in chemical composition with white of egg, flesh, and curd of milk. Now these three principles, exactly alike, whether derived from animals or from plants, are the only blood formers. I shall not, reader, tax your attention further upon this subject, than to say and to beg you remember these important facts. First, all food for breathing and forming fat contains only these three elements, oxygen, hydrogen, and carbon. Secondly, all food for forming flesh and blood, in addition to these, contains nitrogen.

This is the gist of the whole matter, so far as relates to manure. Bear in mind, as you go on with me, reader, that fact, that of all the food animals take, that alone which can form flesh and blood contains nitrogen. The door is now open for explaining why age, sex, kind of employment, difference of food, difference of animal, can and do produce a marked difference in value of different manures. And first let us consider how the quantity is affected; this depends on the kinds of food. The analysis of cattle

dung which has been given, is that of cows fed on hay, that is, herd's grass, red top, &c., or what is usually termed, English hay, potatoes, and water. The cattle kept up the year round; an animal, so treated, consumed in seven days:—

Water,.....	611 lbs.
Potatoes,.....	87 lbs.
Hay,.....	167 lbs.

During this time she dropped clear dung 599 lbs., or very nearly a bushel of dung a day. Every attention was here paid to accuracy of measurement and weight. The annual amount of dung from one cow exceeds by this account that which is usually assigned. But, as it is a matter of some importance for the farmer to estimate what the produce of his stock may be in dung, the following statement, containing the results of a large establishment, will probably give that average.

At this establishment the cows were kept up the year round for their dung. It was collected for use free from litter, and measured daily into large tubs of known capacity. The average number of cows kept was fifty-four for nine and a half years. During that time they consumed of beets, meal, and pumpkins, brewery grains, corn-stalks, turnips, potatoes, carrots, and cabbages, 942,436 lbs., giving an average of green fodder, for each cow, per annum, 8,164 lbs. The total dung for nine and a half years was 120,520 bushels, or per cow per annum, 235 bushels. This gives a daily consumption of green food, 5 lbs., and 22 lbs. of hay per cow, and two and about a half pecks of dung per day, or 56 lbs. per cow.

But, according to some experiments, made to determine how much the quality of the food affected the quantity of dung, it appears that the solid and fluid excrements partially dried, were, compared with the food, as follows:

In	Cattle.	Sheep.	Horses
	lbs.	lbs.	lbs.
100 lbs. of rye straw gave dung	43	40	42
100 lbs of hay " "	44	42	45
100 lbs of potatoes " "	14	13	
100 lbs. of mangel-wurtzel " "	6		
100 lbs. of green clover " "	9½	8½	
100 lbs. of oats " "	49	51	
100 lbs. of rye " "			53

My own experiments on this subject gave for 100 lbs. of hay and potatoes as above, estimating both as dry, or free from water of vegetation, 32.9 lbs. of dung, and this estimate as dry is reduced to 5.6 lbs., or 26 lbs. of dry food gave 14 lbs. of dry dung. But as general facts, we may say, that well cured hay and the grains, give one half of their weight of dung and urine; potatoes, roots, and green grass, about one tenth. It will be easily understood why the quality of food should affect the quantity of dung. The more watery, the less in bulk is voided, because there is actually less substance taken. And as the animal requires this to form its flesh and blood and fat, and to keep up his breathing, so will he exhaust more completely his food. More going to support him less is return-

ed by the ordinary channels. So when much vegetable fibre exist, as in chopped straw and hay, then, as it goes but little way towards supporting breathing or forming blood, a greater bulk is rejected. In grains, on the contrary, which afford much of all that the animal requires, less is extracted and more voided. These circumstances are intimately connected.

The Quality of the Dung.

It is affected first, by the season; second, by the age; third, by the sex; fourth, by the condition; fifth, by the mode of employment; sixth, by the nature of the beast; seventh, the kind of food.

1st. The season; it is because digestion is worse in summer than in winter, a general fact, that summer manure is best. And where cattle are summer-soiled, it is said the manure is worth double that from stall-fed winter cattle. I do not think much is to be attributed to the worse digestion in summer, but the cause of this great difference in value, is to be found in the fact, the soiled cattle generally get a large proportion of blood-forming food.

The wear and tear of their flesh is little, and hence, requiring little of their food to keep up their flesh, a greater portion goes off in dung, which thus becomes rich in ammonia. The green plants, rich in nitrogen, afford abundance for milk, which being rich in all the elements of cream, should afford large returns of butter.

2nd. Age; from the fact, that young and growing animals require not only food to form flesh and blood, to repair the incessant waste and change taking place in their bodies, as in older animals, but also a further supply to increase the bulk of their frame, it is evident that their food will be more completely exhausted of all its principles, and that also less will be returned as dung. All experience confirms this reasoning, and decides that the manure of young animals is ever the weakest and poorest.

3rd. The sex. This is one of the most powerful of the causes which affect the strength of dung. From the remarks which have been already made, and which I trust, reader, are now fresh in your memory, of the important part acted by nitrogen in dung, it must be plain why sex should exercise such influence.

1st. In all food, as we have explained, that only which contains nitrogen, can form flesh and blood, or substances of similar constitution, that is requiring a large proportion of nitrogen, as milk. Hence an animal with young, that is a cow before calving, requires not only materials for its own repair, but to build up and perfect its young. Hence the food will be most completely exhausted of its nitrogen, and consequently the dung becomes proportionably weaker.

2nd. The young having been formed, then milk is required for its sustenance. Milk contains a large proportion of ni-

crogenous or blood-forming elements, and so the cause which originally made the dung weak, continues to operate during all the time the animal is in milk. Sex then, it is evident, affects materially the quality of the dung.

4th. The condition. If the animal is in good condition, and full grown, it requires only food enough to supply materials to renew its waste.

Hence, the food, supposing that always in sufficient quantity, is less exhausted of its elements, than when the animal is in poor condition. In the last case, not only waste, but new materials must be supplied. If the animal is improving in flesh, (and here, reader, I would have you bear in mind, the distinction between flesh and fat.) if the animal is improving in flesh, then the manure is always less strong, than when he is gaining fat. There is no manure so strong as that of fattening animals. An animal stall fed, kept in proper warmth requires but little of his breathing food, to keep up his heat. All the starch, gum, sugar, &c., go to fat. Having little use for his muscles or flesh, that suffers little waste, and the nitrogen which should go to form flesh, is voided in dung. If it is a she, no milk is given during this period, for a cow, in milk, fats not.

The dung, then, of fattening animals, contains more of all the elements of food for plants, than at any other period, and is peculiarly rich in nitrogen. I trust, reader, it is not so long since you have met the word-ammonia, that you have forgotten that its source and origin are due to this nitrogen. Now the source of this nitrogen is in the food, and as, during fattening, grain is supplied for its starch, &c., to make fat, and very little waste of the body taking place, the extra nitrogen of the blood-forming materials of grain, is nearly all voided in dung.

5th. The mode of employment. Your working beasts, suffer great wear and tear of flesh and blood, bone and muscle, thews and sinews. Hence their daily food supplies only this daily waste; the food is very thoroughly exhausted, and of course the dung is weak. It derives its chief value from the excretions of those parts of the body which are voided as waste material, among the excrements. There is a distinction to be noted here: excretions are the worn out flesh and blood elements, excrements the undigested and unused food; dung includes both excretions and excrements. Now the chief value of the dung of working cattle depends upon the excretions.

6th. the nature of the beast. If his coat is wool, he requires more sulphur and phosphorus, the natural yolk or sweat of his wool, more lime and ammonia, than does the hairy-coated animal. Hence sheep produce manure less rich in many of the elements of plants, than cattle; but as at the same time it contains a larger portion of nitrogen, and is very finely chewed, it runs quicker into fermenta-

tion. It is a hotter manure, quick to eat, quick to work, and is soon done.

7th. The kind of food. We have already spoken of this as affecting the quantity of dung. Its effects are no less marked on its quality. Now all that requires to be said on this subject, is to remind you, reader, of the two divisions of food, the fat formers, and the flesh and blood formers. It must be evident, that the more of this last the food contains, that is, the more nitrogenous is the food, the richer the dung. Hence, grains of all sorts, peas, beans, &c., will always give a richer dung than fruits, as apples, &c. The more nitrogenous the hay the richer the dung. Meadow cat-tail and ryegrass are nearly six times stronger in ammonia. Red clover is twice as rich in nitrogen as herds grass; wheat, barley, and rye straw, green carrots and potatoes, contain only about one third to one fifth the ammonia of herds grass, and turnips only about one sixth. The quantity of ammonia contained in these different grasses and straws, shows at once the effect they must have in the compost heap. The kind of litter must have no small effect upon the value of manure. And while we are upon this subject, it may not be out of place to mention, that the kind of a green crop turned in, materially affects the value of the process. While the straws of the grain-bearing plants afford for every ton of green crop turned in, about three quarters of a pound of ammonia, green corn-stalks and herds grass, about five of ammonia per ton, red clover affords about seventeen pounds of ammonia per ton. [This is the relative, not the absolute proportion of ammonia. The analysis of Boussingault, gives fifty, and one hundred and seventy as the absolute quantity.] The very great value of clover in enriching land is thus made evident. But to return to the quality of the dung, as affected by the food, it has been proved, that animals fattening on oil cake, give manure in value double that of common stock. Here abundance of nitrogen is supplied where every little is required, and consequently much is avoided in dung. The point to which we have arrived is a breathing place, the remarks which have been offered upon the action of salts, have prepared the way for our entering upon the next Section;—the second class of manures.

SECTION EIGHTH.

Manures Consisting of Salts.

In using the term salts here, to designate a class of manures. I wish to distinguish between these and mineral manures, as they are usually termed. These manures are similar in kind to the salts whose action in cow dung we have already considered. They are truly mineral salts, derived from the mineral kingdom, entering into and forming a part of plants, and from this source introduced into the dung of animals. Their action,

whatever be their name, has been explained. But the salts composing the second class of manures now under consideration, are not of mineral origin. They are derived from the animal kingdom. The source from which they are formed is the living process of the animal body. They are animal salts. Here, then, let us divide the second class of manures into animal salts, which are truly manures, both their base and their acid acting as nourishers of plants, and into mineral salts. Here again, reader, you will find that the few facts, which we have pointed out, relating to the food and nourishment, will help us on our way, in tracing the source of these animal salts. It has been already said, that the food of animals is divided into two classes—that which does, and that which does not contain nitrogen. All domestic animals eat these classes. In a few words, let us trace their course after the animal has digested them. The one class goes to form fat, or to support the natural heat of the body, and passes off by the skin in sweat, or in moisture of the breath, and all its excess or undigested part goes off in dung. The excess of nitrogenous food, all that not required for repairing the daily waste of the body, or to increase its growth, also passes off in dung, as excrement. This is a small portion, and its effects on the strength, have been pointed out. But the wear and tear, as we may call it, of the flesh and blood, the parts which are daily and constantly thrown out of the body, as excretions, or old materials, enter the circulation, and pass out of the body in urine. This is the point to which I would call your attention. The undigested food, and the excrements not containing nitrogen, go off in dung. The food and the spent parts of the body, containing nitrogen, go off in urine. This last, too, is the course of most alkaline salts taken into the body. They pass off in urine. Here, then, we come to the subject quite prepared to understand it. The urine is a collection of salts, some are of mineral, others of an animal origin. But that which gives the urine its peculiar and characteristic properties, is a substance formed from the nitrogenous food, and termed UREA. Now you need hardly trouble yourself to remember this new name; all I want you to understand about it is, that when urine is exposed to air it rots, and this peculiar substance is changed to ammonia. This is the point to be remembered. In considering urine, therefore, as a manure, it will not be necessary to point out further the mode of its action, than to refer that of every animal, to its salts and power of forming ammonia. The quantity of the last will be in proportion to the quantity of urea. These are other salts of ammonia in urine, and also mineral salts. These affect but little the value of urine as a manure.

It is the urea, essence of urine, that substance which forms ammonia in rotting urine, which alone makes this liquid more valuable than dung. Hence,

reader, if this is impressed on your mind, you will perceive, that the chiefest things to be regarded in urine, are first, the circumstances which affect the quality, and quantity. Second, the best mode of promoting a change of urine to ammonia. Third, the time required for the process, and fourth, the best mode of preserving the ammonia, when formed. You will perceive, reader, that all along, I have endeavored to point out the principles on which manures act. If you go by general principles, then for a plain practical farmer, like yourself, with only chemistry enough to understand a few of its terms, it must be quite a thankless service, to point out to you in detail, all the various things contained in urine. It would confuse you more than the names, aye, and hard ones too, which are given to the varieties of pears and apples. All you want to know is this, does urine contain, as solid dung does, water, mould, and salts?

It does. The mould is so small a part, it may be left out of view. The salts are like those in the solid dung, mineral salts, and then we have the peculiar principle urea, which for all practical purposes may be called ammonia. We may then with this division present in a table the composition of the urine of various animals at one glance:—

	Water.	Salts.	Ammonia.
Cattle urine, per 100 lbs.	92.62	3.30	4
Horse urine, per 100 lbs.	94.00	5.03	.70
Sheep urine, per 100 lbs.	86	1.20	2.80
Hog urine, per 100 lbs.	92.60	1.76	5.61
Human urine, per 100 lbs.	95.75	1.88	2.36

Now cast your eye carefully over this table, the figures at once tell you the value of these different liquids. The last column gives the true value. The other salts vary much in quantity, and this affects the quality. The actual amount of ammonia in human urine and cattle dung is about the same; yet on actual practice it is found the effects of urine are nearly double those of dung. Look now for the reason of this; in the first place, the principle which gives ammonia in urine runs at once by putrefaction into that state. It gives nothing else, whereas in dung, the ammonia arises from a slower decay, and the principle which here affords ammonia may, and without doubt does, form other products. Hence we have a quick action with the liquid, a slower one with the solid. A second cause of the better effects of the liquid, is that it contains, besides its ammonia, a far greater amount of salt, and these give a more permanent effect. The amount of salts in human, cow, and horse dung is about one pound in every hundred. While the urine of the same animals contains nearly six pounds, in every hundred. A third cause of the greater fertilizing action, is found in the peculiar character of some of these salts, which are composed of soda, potash, lime, &c., united to an acid formed from urea, in the animal body. This acid is like the acid of saltpetre; it is a nourisher of plants, as much so as is carbonic acid.

(To be Continued.)

From the Boston Cultivator.

RURAL SOUNDS.

You must know, Mr. Editor, that Nature has endowed me with what is termed a musical ear, and the situation in which my life has been cast by an all-wise Providence contributes not a little to the development of that bump of mine; for I have the happiness to live, where every one hopes, if he be successful in life, to die—in the County, the peaceful country which, according to my favourite poet, God made with his own right hand. And this distinctive feature I consider about the greatest blessing that could have been bestowed upon me. But is not the subject upon which I am writing rather novel to my brother farmers, I wonder, and will they be prepared to accompany me to length to which I may be carried in my flights of imagination? It is true we are told of the music of nature, and even read of the music of the spheres, but few seem to be aware of the meaning of the term.

“Sounds inharmonious in themselves and harsh, Yet heard in scenes where peace forever reigns, And only there, please lightly, for their sakes.”

And though there are few who do not willingly admit that

“Sweet is the breath of morn, here rising sweet, With charm of earliest birds.”

yet far different to most imaginings is the raging of the dreary winter storm, the roaring of the billowy ocean, or the creaking of an old gate on its rusty hinges! all pleasing, however, to a musical ear, when found in keeping with surrounding objects. Thus being prompted, Mr. Editor, I thought your readers would consider the following description of my domestic worthy regard, I should be tempted to offer it for your acceptance as a portraiture of a well-tuned farming establishment. Suppose, then, that I venture, and observe—My farm consists of 150 acres of land, five miles from a market town. It has been long enough in my possession, for all the shifting bars to become gates hung on hinges, shutting off their own accord; the liches falling into their catches with so distinct a musical sound, that in a calm evening I can tell what gate is being shut by its key note, my front gate being A sharp, and my barn yard gate, B flat; while the distant and approaching team is known to be mine or my neighbour's, so soon as I can distinguish the sound of the wagon wheels, there being two notes of difference between them, as they pass the front of my premises. Then come the doors of the out-houses and stables, all in their proper key-notes: while the bells of the sheep, selected in 3ds and 5ths, and the major key, enliven the day and sometimes the night, by their harmonious tinklings. And it may appear trifling, but I intend to have 3 horns to call the men from labor—that at breakfast, sharp, clear, and of a high tone, for dinner, lower in tone, but in the major key, while the evening horn will be in the minor, of a soft and mellow tone, in harmony with the close of the day and its duties. I have regulated the going of my clocks, after much trouble and some expense, having had to change them more than once, neither the ticking nor striking pleasing me in time or tune; for I know of nothing more satisfactory than an old showy, asthmatic clock, with a grand tuffure every stroke, which a length comes for him in the minor key; or more irritating, than one that strikes too quick, in an impudent and careless way, with a sharp and unmusical ring that absolutely makes one nervous. My parlor clock now strikes in the open key of C, in common time, and with a noble cadence that invites you to count the hours and improve them; the kitchen clock being a third higher in tone, and somewhat sharper in time. I have had some trouble with my chickens also, several of my roosters had voices in the minor key, and were too slow in their ejaculations, while others were too shrill and quick in their movements for my ear and feelings: I therefore took some pains in regulating their voices, so they now crow in 3ds and 5ths, and in perfect time and tune, and my yard now sends forth a concord of “sweet sounds.” Some of the hens also had voices of arrant scolds—these I have

stopped, and the “music of the farm-yard” is now more than mere po-try. Then come the dog, and in gamut, the watch dogs with a deep and sonorous minor for the night; the sheep-dog's softened and attenuated bark, which neither terrifies nor hurries the flock; and the terrier, or rat-catcher, with a yap so sharp, that the vermin are half frightened to death before they are caught. Our cats, of which we have about half a score, now caterwaul in perfect cadence, having exchanged some flats and sharps with a neighbour fifty miles distant, who considers himself benefited by the transaction: I have now, therefore, nothing but the true music of Nature, and can enjoy their nocturnal concerts hugely. I have had less trouble with my dairy than I expected, having had to part with one cow only, which had a most terrific bellow for a female, indeed, truly awful;—while the bull is a fine deep, majestic bass, of great power and compass; the calves in general being remarkably well in tune. My hogs, being all of the soft and cellular breed of Chester county, milk-white and sweet-handlers, are no longer grunters, but whine in soft accord, very unlike, I expect, from the round barreled Berkshires, whose black color and barrel frames must, one would conjecture, give forth sounds in accordance with the peculiarity of their conformation, and I fear too much of the *sesquialtra* stop for my feelings; for I must confess, I consider the hog about the least musical of all the animals on a farm, if you except the mule, which, by the bye, reminds me of the promise that my neighbor has made to me to exchange a mule, as one of mine has a most unearthy yell.

And then come the hummes of my family, of whose musical talents I can truly boast. Here is the true large or organ style embodied in human frame; my wife's soprano, for which I choose her as a partner, and whose voice and keeping has never varied a demisemi-quarter from the true pitch since our union, leads the whole family in perfect accord, her voice being at once soft and commanding, mellifluous and exciting; in the minor as well as the major key, first treble and leader in all our family concerts; while our sons and daughters fill the subordinate parts of the piece, leaving no room for discord or disagreement in any, and making such harmony as I never heard at a theatre in all my life. It is true we have had some trouble to tune our helps, some of them being too flat and others too sharp, but the harmony of my establishment seems at present to be about as perfect as any thing, whether human, animate or inanimate, can be supposed to be. Thus our labors are sweetened, and the effect of such a state of things is so apparent, that many of our friends have made the remark, “I know not how it is, I find Danposon, but I visit no house where I am so comfortable as at yours; there is such a feeling of truth and harmony, seemingly in the very atmosphere with which you are surrounded, that I know not how to leave. All goes with the regularity of clock work, and a peace and happiness that may be felt; nothing seems out of tune with you.” Ah, there it is, says I; that's a devotion we pay to Nature! But if I were to go into particulars, would they not smile? and am I sure that this is not the case with you at this time! So, then, Mr. Editor, I take my leave.

“Nature inanimate employs sweet sounds, But animated Nature, sweeter still, To soothe and satisfy the human ear.”

To take Film from a Horse's Eye.—Blow loaf sugar and a little salt into the inflamed eye, and in most cases it will be relieved. Sassafras buds pounded, and put in water, to stand till it becomes nearly as thick as cream, applied to the eye, is an excellent remedy for inflammation.

For stings of the adder or slow-worm, apply immediately strong spirits of horshorn. For sting of bees, apply chalk or whitening mixed with vinegar.

Poisons swallowed by oxen are commonly the yew, the water dropwort, and the common and the water hemlock. One and a half pint of linseed oil is the best remedy.

METALLURGY AND THE MANUFACTURE OF METALS.

Of Nails.—To the United States are due the invention and introduction of cut nails, and the power machines which cut and head them with such astonishing rapidity. The following extract from the writings of the celebrated Dr. Ure, will show in what high estimation this branch of purely American industry is held in England:—

“As nails are objects of prodigious consumption in building their block houses, the citizens of the United States very early turned their mechanical genius to good account in the construction of various machines for making them. So long since as the year 1810, it appears, from the report of the Secretary of the Treasury, that they possessed a machine which performed the cutting and heading operation, with such rapidity that it could turn out upwards of 100 nails per minute. ‘Twenty years ago,’ says the Secretary of the State of Massachusetts in that report, ‘some men, then unknown and then in obscurity, began by cutting slices out of old hoops and, by a common vice gripping these pieces, headed them with several strokes of the hammer. By progressive improvements, slitting mills were built, and the shears and the heading tools were perfected; yet much labor and expense were requisite to make nails. In a little time Jacob Perkins, Jonathan Ellis, and a few others, put into execution the thought of cutting and heading nails by water power; but, being more intent upon their machinery than upon their pecuniary affairs, they were unable to prosecute the business. At different times other men have spent fortunes in improvements; and it may be said, with truth, that more than \$1,000,000 has been expended. But, at length, these joint efforts are crowned with complete success, and we are now able to manufacture at about one-third of the expense that wrought nails can be manufactured for—nails which are superior to them for at least three-fourths of the purposes to which nails are applied, and for most of those purposes they are full as good. The machines made use of at Odiorne, those invented by Jonathan Ellis and a few others, present very fine specimens of American genius.”

The manufacture of wrought nails in the United States, which, for some purposes, cannot be substituted by cut nails, because of their brittleness, was so limited, in consequence of the expense of performing the whole operation by hand, that, until a few years since, it was scarcely worthy of consideration; but, after many attempts, machines were finally invented, and are now in successful operation, for making this kind of nails with no more hand labor than is necessary to supply the rod of iron to the machine, which completes the nail by a series of connected operations: cutting off a piece from the bar, rolling it into the required form, and then forming the head. These machines have been very successfully applied to the making of large nails, called spikes, employed in iron-structures and in ship-building. When these machines, however, were applied to the making of what are termed “hook-headed spikes”—that is, a spike with the head flat on one side, used for fastening the iron rails of railroads—it was found that the head, formed by simply bending over the metal was not sufficiently strong to resist the jar to which they were subjected, and therefore were inferior to those made by hand, and strengthened at the head by the skill of the workman. This difficulty, however, soon yielded to enterprise and ingenuity; and machine-made spikes are now preferred to those made by hand. Those simple and successful improvements cannot be dwelt upon too much, as they indicate that important results are generally attained by the simplest means. Instead of bending the head entirely over at one operation, the part of the metal of which the head is formed is only bent over to form an angle of about 30 degrees with the shank of the nail, and then it is struck by a second die moving in a line, or nearly so, with the shank, which finishes the head, and forces or concentrates the metal in the angle uniting the head and shank—thus giving all the requisite strength where it is required. As the brittleness of the cut nail constitutes its inferiority in one

respect, and its sharp and serrated edges its superiority in another respect, to the wrought nail—the former being due to the fact that the length of the nail is formed from the breadth of the bar from which it is cut; and the latter because it is cut by a sharp instrument, instead of being rolled or hammered—many attempts have been made to make nails which would have the combined advantages of the cut and wrought, by rolling the bars or rods from which the nails are to be cut, of the desired form, and then to cut them to the length of the bar, so as to have the grain of the iron run in the length of the nail. I believe, however, that so far, these attempts have been unsuccessful.

Door Hinges.—The making of hinges, either of cast or wrought iron, is a branch of manufacturing industry which has made great progress in the United States, and which has been the fruitful source of many valuable and ingenious inventions and improvements. The casting of hinges on to a wrought iron pin with a free and good joint, is truly one of the triumphs of mechanical ingenuity. One half of the hinge is cast on the wrought iron pin in a sand mould, the other half is cast on to it, in such a manner as to chill the surface of the mottled iron when it comes in contact with the cold iron of the half first formed, which prevents the two halves from adhering. Many improvements have been patented for various methods of forming the moulds, most of which, I believe, are in successful operation. The price of hinges thus made is, of course, very low, and peculiarly adapted to the condition of this country.

The wrought-iron hinges are made of plate iron, the plates being cut into the required form by powerful steel dies operated by lever power, and the knuckles formed to receive the joint pin by being forced into a die which curls or bends over the knuckles. The parts are then filed, and the pin introduced to unite the top halves. The introduction of this method of working wrought-iron hinges has, of course, greatly reduced the expense of manufacturing them.

Of Horse Shoes.—The manufacture of an article of such general and extensive use, the production of which affects so large a portion of the population of all countries as horse shoes, at an early period attracted the attention of ingenious manufacturers and mechanics in this country, who made many attempts to render this an automatic instead of a handicraft operation. As early as the year 1809, a patent was granted by this office for a machine for making horse shoes; but which, from a want of knowledge of the nature of iron, and the manner of working it, did not succeed. Within a few years past, several machines have been patented in England and the United States, that answer the full expectations of the projectors. To one acquainted with the nature of iron, the various operations to be performed in giving the requisite form to a horse shoe, presents many difficulties; and, therefore, it required a mind of no common order to perfect this automatic operation.

Cure for Burns.—The *Medical Times* says:—“After opening the vesicles, if they are formed, the part is dipped in cold water, and then plunged, still wet, into flour, keeping it there for a moment or two; by this means a certain quantity adheres to the parts, and prevents the access of the air. It is remarkable that the flour falls in scales from the surrounding parts the next day, whilst on the burn it remains adhesion.”

Croup.—Two or three spoonfuls of strong ley, made of oak ashes, and mixed with molasses, are recommended as a positive cure for croup.

Artificial Oysters.—Take young green corn, grate it in a dish. To one pint of this add one egg well beaten, a small teacup of flour, half a cup of butter, some salt and pepper, and mix them well together. A table spoonful of the butter will make the size of an oyster. Fry them a little brown, and when done butter them. Cream, if it can be procured, is better than butter.

NEW METHOD OF OBTAINING CREAM.

We extract the following from the valuable Report of the Hon. Mr. Ellsworth, Commissioner of Patents.

New method of obtaining Cream from milk; by G. Carter of Nott's-gham Lodge, near Ellham, Kent.

The process of divesting the milk of its component portion of cream, to an extent hitherto unattainable, has been effected by Mr. Carter, and is thus detailed by that gentleman, in a paper presented to the Society of Arts:—

A peculiar process of extracting cream from milk, by which a superior richness is produced in the cream, has long been known and practiced in Devonshire; this produce of the dairies of that county being well known to every one by the name of “clotted” or “clouted” cream. As there is no peculiarity in the milk from which this fluid is extracted, it has frequently been a matter of surprise that the process has not been adopted in other parts of the kingdom. A four-sided vessel has been formed of zinc plates, twelve inches long, eight inches wide, and six inches deep, with a false bottom at one half the depth, the only communication with the lower apartment is by the lip, through which it may be filled or emptied. Having first placed at the bottom of the upper apartment a plate of perforated zinc, the area of which is equal to that of the false bottom, a gallon, or any given quantity, of milk is poured (immediately when drawn from the cow) into it, and must remain there at least for twelve hours. An equal quantity of boiling water must then be poured into the lower apartment through the lip. It is then permitted to stand twelve hours more, (i. e. twenty four hours altogether;) when the cream will be found perfect, and of such consistency that the whole may be lifted off by the finger and thumb. It is, however, more effectually removed by gently raising the plate of perforated zinc from the bottom, by the ringed handles, without remixing any part of it with the milk below. With this apparatus, I have instituted a series of experiments, and, as a means of twelve successful ones, I obtained the following results:—

Four gallons of milk, treated as above, produce, in twenty four hours, 4½ pints of clotted cream; which after churning only fifteen minutes, gave 40 ounces of butter. The increase in the cream, therefore, is 12½ per cent., and of butter upwards of 11 per cent.

The experimental farmer will instantly perceive the advantage accruing from its adoption, and probably his attention to the subject may produce greater results.

FROM MR. FOY, ON PRESERVING BUTTER.
Hartford, Jan. 12, 1843.

SIR,—In answer to your enquiry,—What has been your practice in putting up butter, especially for preservation in hot climates, for long voyages? I will cheerfully state that I have had considerable experience on this subject, and, in some particulars, good success. There are many things required to ensure good butter. The butter itself must be well made; that is, worked enough and not too much, and salted with rock salt. This being well done, and the buttermilk all expelled, the butter may be packed in good white-oak, well seasoned casks, well filled. In cool climates larger can be used. In hot climates it is best to buy small casks—say from 25 to 30 lbs.—so that too much need not be exposed while using. Then put these small casks into a hoghead, and fill up the same with a strong pickle that will bear an egg, and the butter may be shipped to the West Indies or Europe, and kept perfectly sweet. I have never found saltpeper or sugar of any benefit. Butter of my packing has opened as good in the West Indies as it was in Connecticut, I will remark, that to keep butter in ice houses, when it remains frozen, will answer, if the butter is to be continued in the same temperment; but if it is exposed to warm weather after being taken from the ice house, it will not keep as long as if it had not been exposed to so cold a temperment. Yours, respectfully,
G. Foy,
Hon. H. Ellsworth,
Commissioner of Patents.

EVERY MAN HIS OWN CATTLE DOCTOR.

In a former number of this paper, we took a favourable notice of the above work, and also copied the first three chapters, and promised our readers further extracts, as opportunity might present. Since that period we have examined into its merits more minutely, and have formed so high an estimate of its character, as to come to the conclusion, that we could not confer a higher favour upon the majority of our readers than by copying largely from its columns. In each future number about two pages will be occupied with the highly-valuable and practical information which has been so cheaply and so neatly furnished to the public, by the enterprising publishers; and we hope that our subscribers will receive more real value from this source alone than will compensate them for the price of twelve copies of the *Cultivator*.

CHAPTER IV.

On Setoning.

The utility of setoning for the cure of several diseases incident to neat cattle cannot be doubted. There are many localities in which, if farmers did not adopt this precaution, they would lose great numbers of their young from the black leg.

In some districts the hoose in calves is very prevalent and fatal: where this is the case, they should all be setoned when they are getting into condition, and before they are attacked by the disease. This will either lessen the violence of the complaint or prevent it altogether.

In joint evil, I have frequently inserted a seton in the dewlap with decided good effect.

Setoning will be often prescribed, in the course of this treatise, in inflammatory complaints; and it acts by exciting a new and artificial inflammation in the neighborhood of the former one, and thus lessening its intensity. This plainly proceeds on the principle of diverting to another part a portion of the blood which was determined to the original one, while also a new direction is given to a portion of the nervous influence or power which was concentrated on it. This is in accordance with the generally received medical maxim, that no two violent inflammations, of different character, can exist in neighbouring parts at the same time; and that in proportion to the intensity of the one the other will be diminished.

By the discharge which a seton produces it will likewise relieve the overloaded vessels of a neighbouring inflamed part.

Mode of inserting a Seton.—The seton is commonly made of tow and horse hair plaited together, or cord or coarse tape alone, or leather. It should

be tolerably thick, and eight, ten, or twelve inches in length. Before inserting the seton, it should be dipped in oil of turpentine. The seton being now prepared, an assistant is to hold the animal, while the seton-needle, with the cord affixed to it, is plunged into the upper edge of the basket or dewlap, and brought out again towards its lower edge: the space between the two openings should be from four to eight inches. The seton is to be secured by fastening a small piece of wood, or tying a large knot at either end of the cord. Matter will begin to run the second day, and, after that, the cord should be drawn backwards and forwards two or three times every day, in order to irritate the parts, and by this means increase the discharge.

When setoning is had recourse to in inflammatory complaints, the cord should be dipped in the following blistering ointment:—

Blistering Ointment.—Take yellow basilicon, one ounce; cantharides, in powder, three drachms; spirit of turpentine, two fluid drachms.

This ointment will be found to act efficaciously and quickly in stimulating the parts to action, and hastening on the suppurative process.

The root of the common dock forms a very good seton, and one that will act speedily and powerfully; but the best of all, where a considerable effect is intended to be produced, is the root of the black hellebore. This will very quickly cause considerable swelling as well as discharge.

CHAPTER V.

Cold and Cough—Hoose.

A simple cold, attended by slight cough and discharge from the nostrils, is easily removed. Warm housing, a few mashes, and the following drink, will usually succeed:—

Recipe, No. 1.—Cough and Fever Drink.—Take emetic tartar, one drachm; powdered gentian, half a drachm; and nitre, three drachms. Mix, and give in a quart of tolerably thick gruel.

There are few things, however, more dangerous, if neglected, than cough or hoose; and there are few maladies that are so often neglected.

The farmer will go into the cow-house, or into the pasture, again and again, and hear some of his cows coughing and that perhaps hardly, or hollowly, or painfully; but, while they continue to chew the cud, and do not waste in flesh, he thinks little about it, and suffers them to take their chance.

The inflammation is slight; the animal is scarcely ill at all; the cough remits and returns, with or without his observation. He adds to it, perhaps, by improper treatment. He exposes the beast unnecessarily to cold or wet; or he crowds his cattle into stables shamefully small compared with the number of the animals, and the air is hot and nauseous, and charged with watery fluid thrown off from the lungs and from the skin. The cough increases, it becomes hoarse, and harsh,

and painful; and that affection is established which oftener lays the foundation for consumption and death than any other malady to which these animals are exposed.

That farmer is inattentive to his own interests who suffers a cough, and especially a hoarse, feeble cough, to hang about his cattle longer than he can help. He should be warned in time, before his cows are getting off their feed, and becoming thin, and are half dry; for then it will generally be too late to seek for advice, or to have recourse to medical care: the disease has fastened upon a vital part, and the constitution is undermined.

Cough occasionally assumes an epidemic character—from sudden changes of the weather, chiefly and particularly in the spring and the fall of the year: it then spreads over a great part of the country, and is often particularly severe.

The symptoms of epidemic cold or catarrh, or influenza, as it is sometimes called, are frequently serious. The beast is dull and heavy, with weeping at the eyes, and dry muzzle; the hair looks pen-feathered, or staring; the appetite fails; the secretion of milk is diminished; there is considerable heaving of the flanks; the pulse is from 60 to 70, and the bowels are generally costive or *sapped*.

Cattle that have been tenderly managed during the winter, and cows after calving, are very subject to it, especially if they have been poorly fed, or driven long distances, and exposed to a cold, piercing wind.

It will be necessary to commence the treatment of this disease with bleeding. From four to six quarts of blood should be taken, and then a dose of physic administered. The following will be a good purgative medicine in such a case:—

Recipe, No. 2.—Purgative Drink.—Take Epsom salts, one pound; powdered caraway-seeds, half an ounce. Dissolve in a quart of warm gruel, and give.

After that the drink No. 1 should be given morning and night, the drink No. 2 being repeated if the bowels should be costive.

It will be proper to house the beast, and especially at night; and a mash of scalded bran with a few oats in it, if there is no fever, should be allowed. It is necessary carefully to watch the animals that are labouring under this complaint; and, if the heaving should continue, or the muzzle again become or continue dry, and the breath hot, more blood should be taken away, and the purgative drink repeated. At the close of the epidemic catarrh, the animal will sometimes be left weak and with little appetite. It should be well ascertained whether the fever has quite left the beast, because listlessness and disinclination to move, and loss of appetite, and slight staggering, may result as much from the continuance of fever as from the debility which it leaves behind. If the muzzle is cool and moist, and the mouth not hot, and pulse sunk to nearly its natural standard, or rather

below it, and weak and low, the following drink may be ventured on; but No. 1 must be returned to if there is the slightest appearance or increase of cold or fever.

Recipe, No. 3.—Take emetic tartar, half a drachm. nitre, two drachms, powdered gentian root, one drachm; powdered camomile flowers, one drachm; and powdered ginger, half a drachm. Pour upon them a pint of boiling ale, and give the infusion when nearly cold.

When the beast begins to bleed, he should not be exposed in any bleak situation, or to much rough weather.

In some years this epidemic disease destroys a great many cattle. In the winter of 1830, and in the spring of 1831, thousands of young cattle perished in every part of the country. Some of them were carefully examined after death, and the membrane lining the windpipe was found to be inflamed, and the inflammation extending down to and involving all the small passages leading to the air-cells of the lungs.

In a great many instances the windpipe was nearly filled, and the small passages of the lungs were absolutely choked by myriads of little worms. These cattle had had their flanks particularly tucked up, and had stood and coughed with a violence that threatened every moment to burst some blood-vessel; and well they might cough thus violently, when the delicate and sensitive lining of the air-tubes was incessantly irritated by the motion, if not by the bites, of these worms. The origin of the worms no one has satisfactorily ascertained. There is no doubt that there are innumerable little eggs of various animalcules, too small to be seen by the unassisted eye, always floating in the air, and only waiting for some proper situation or nest in order to be nursed into life. The proper nidus or nest of these animals is probably the mucus of the air-passages, and they are plentifully lodged upon it in the act of respiration.

I scarcely know what to advise in the treatment of these aggravated cases. The violent cough is an effort of nature to expel the parasites. Can we assist her in accomplishing that expulsion? There are certain medicines which afford us much relief when we have difficulty in expectorating a quantity of thick viscid phlegm. After a dose or two of liquorice or squills we find the cough considerably loosened, or, in other words, the phlegm is a great deal more fluid, and easily got rid of. The same effect, although not to such an extent, is produced in cattle, and a few, at least, of the worms are expelled. The following prescription may be tried with advantage:—

Recipe, No. 4.—*Expectorant Drink.*—Take liquorice root, two ounces; bruise, and boil in a quart of water until the fluid is reduced to a pint; then gradually and carefully add powdered squills, two drachms; powdered gum guaiacum, one drachm; uncture of balsam of Tolu, half an ounce; honey two ounces. Give it morning and night.

There is another way in which the worms may with greater certainty be got rid of. There are some substances which are immediately destructive to worms

when brought into contact with them. Some of these medicaments may be taken into the circulation of the animal with perfect safety to him, and probably death to the worms. Among those which must readily enter into the circulation after being swallowed is the oil or spirit of turpentine. The breath is very soon afterwards tainted with its smell, which shows that a portion of it has passed into the lungs. Therefore, when other means have failed, and the continuance of the violent cough renders it extremely probable that worms are in the air passages, the following prescription may be resorted to:—

Recipe, No. 5.—*Turpentine Drink for Worms.*—Take oil of turpentine, two ounces; sweet spirit of nitre, one ounce; laudanum, half an ounce; linseed oil, four ounces. Mix and give in a pint of gruel.

This may be repeated every morning without the slightest danger; and even when we are a little afraid to give it longer by the mouth, it may be thrown up in the form of an injection. A pint of lime water every morning, and two table spoonfuls of salt every afternoon, have also been administered with advantage when worms are present in the windpipe.

Before I quit the subject of hoose, I must repeat my caution against the use of spices and cordials for the cure of this disease. Hundreds of animals are yearly lost by this mode of treatment. As easily may a fire be put out by pouring oil upon it, as hoose, attended with fever (and it is so attended nine times out of ten), be subdued by the farrier's comfortable, or, in other words, highly stimulating, and almost intoxicating drink.

Should the case appear to be obstinate, the exhibition of half doses of physic every second or third day will often be useful, with the following drink morning and night, on each of the intermediate days:—

Recipe, No. 6.—Take digitalis, one scruple; emetic tartar, half a drachm; nitre, three drachms; powdered squills, one drachm; opium, one scruple. Mix, and give with a pint of gruel.

A seton in the dewlap should never be omitted; and if the disease seems to be degenerating into inflammation of the lungs, the treatment must be correspondingly active.

The termination of hoose that is most to be feared is consumption. That will be indicated when the discharge from the nose becomes purulent, or bloody, and the breath stinking, and the cough continues to be violent, while the beast feeds badly, and the eyes begins to appear sunk in the head, and he rapidly loses flesh. The best remedy here, so far as both the owner and the animal are concerned, is the pole-axe of the butcher; for in the early part of disease the meat is not at all injured, and may be honestly sold. If, however, it is wished that an attempt should be made to save the animal, the cough and fever drink (No. 1, p. 46) may be given daily; more attention should be paid to the warmth and comfort of the beast; and, if the weather is favourable, it should, after a while, be turned into a salt marsh, either entirely, or during the day.

FALL GRAFTING.

Hitherto, says the Maine Farmer, the spring has been considered the only time suitable for grafting, and the summer for budding or inoculating trees. An old serving-man of Neptune, residing in Beverly, Ms., (Capt. Josiah Leavitt) having ploughed the ocean to his heart's content, thought he would try ploughing the land a little by way of change, and has hit upon a plan of fall grafting with good success.

The following is an extract from his communication, in Hovey's Magazine of Horticulture, upon the subject:—

"Your remarks in the November number of the Magazine, for 1843, page 433, respecting my mode of procuring the specimens of fruit presented on several occasions at the Horticultural Society's rooms, last autumn, is partly incorrect; they were not procured by budding, but by grafting. I have practiced budding with fruit buds for eight years past, occasionally succeeded in getting good fruit from them. It is not three years since I began grafting with fruit wood in autumn, (and I never heard of any person attempting a previous to that time,) thus far I have been eminently successful with the pear and apple (occasionally with the plum;) the grafts thus set have been more certain to mature their fruit, than the trees from which the grafts were cut; this can only be accounted for by supposing the sap to flow slower in the graft in the spring in consequence of their not having been a perfect union with the stock in autumn; and, the grafts not blooming or setting their fruit quite as early in the tree from which they were cut, escape the injurious effects of our late spring frosts and cold north-east storms, to which, in our climate, we are so subject.

I select a healthy shoot for a scion, with fruit buds on it, (I have set them a foot long with one or two side shoots.) Immediately remove the leaves, and cut it on one side in a sloping direction, to a point, then cut from one to two inches long; then with a sharp knife I began at the point and cut just within the bark, up about half an inch above the commencement of the incision on the opposite side; then select a thrifty, upright shoot, on a healthy tree, cutting well back, making a short stump; cut this stump in the same manner as the scion, reversed, and carefully but firmly push one within the other; secure with bass or Russia matting, and cover with clay; or, I prefer to mix equal parts of bees wax and Burgundy pitch (a less quantity of rosin will answer in room of pitch;) soften to a proper consistency with hogs lard, melt together, and spread on coarse cotton shirting; then cut in stripes of one half to three quarters of an inch wide, and after uniting graft and stock, bind with this the cotton side next the bark. The composition ought not to come in contact with the bark as the bandage should be left on through the winter. If the grafts are carried any distance before uniting to the stock, it will be very important, that the leaves are all cut off under the tree, and the ends, as soon as possible, dipped in wax or something adhesive.

Very respectfully, your obedient servant,
JOSIAH LEAVITT, 21.

Beverly, March 5, 1744.

N B.—The mode of grafting above described is very similar to what is called whip-grafting by some, though I take much less wood with the bark than I have seen gentlemen do who graft by that mode.

The Bite of a Rattlesnake.—The most simple and convenient remedy, says a correspondent of the Macon Messenger, I ever heard of, was alum. A piece the size of a hickory nut, dissolved in water and drank or chewed and swallowed, is sufficient. I have a good authority for saying it has been tried many times on men and dogs, and that they have invariably recovered. I know of some planters whose hands are exposed to be bitten by rattlesnakes, who always have them provided with it, in their pockets, and they have several times found use for it.

HEMP CULTURE.

[Concluded from the Third Page]

eastern men I invite you west, to establish your ingenuity and enterprise in machinery, for the manufacture of Linnæus. Your interests, farmers, your prosperity, and your duty as patriots, and as an example to the rising generation, demand your prompt and undivided attention to this important subject; in so doing, it acquires all, and will also be a blow struck at the foot of the throne of that Avogadro, which may produce events that will in time give liberty to millions of souls who are suffering under the most degraded bondage of slavery. The question no doubt will arise in your mind, How is all this to be accomplished? I will answer briefly. Let every farmer take four acres of his best land, sow it down in hemp, follow my instructions laid before you, to the letter. If you have not water convenient, build plank vats, 25 feet by 14, and 24 deep, pump the water into them when the hemp is laid in. They require but a small quantity of water; two men can pump sufficient water in a day, and the same water, with a small portion of additional fresh added to it, if necessary, will answer for two or three rottings. This size of vat will answer for a crop of 25 or 30 acres, which is more than one farmer should undertake the first year. Four acres of good ordinary hemp, judiciously rotted, properly cleaned, scutched, hatched, and well prepared, will yield to the farmers a clear gain of all expense, \$150, or more. What can be a greater encouragement in an agricultural pursuit than this? In addition to this, a steady market, with the assurance, that if you produce a prime article, the highest cash price is ready for you according to its quality, delivered at the various points of Accession. Those persons wishing to see me, can address me at St. Louis post paid, (no letters will be taken out of the office, unless post paid.) I will either wait upon them personally, or answer them from my State that feels a desire to embark in this enterprise. I am enabled to inform those that have never water-rotted, that there is more labor attending this operation than they imagine. But do not be discouraged; experience and time will overcome it, in a very great degree. With perseverance and industrious attention, not resting on the care and attention of your negroes and laborers, but by your own close attention, you will see great advantages to be gained in the prosecution of this business. I can with confidence and in truth say, that with practical experience and perseverance, they will be found worth more than all the theory and negroes in existence, in the saving of labor, expense, and the quality of the article produced. They will overcome difficulties and objections which first present themselves to you in its inception, which finally become obstacles of minor consideration. Therefore be not deterred when they are met. But persevere, and acquaint yourselves of the most practical and economical manner to exercise in the water-rotting process. My plans are laid before you; practice them, and you will improve on them; practice makes perfect, and opens to you advantages that can be applied to great improvements and economy. But throw aside all ideas of humbuggery, such as steam chemical process.

Hemp for the Navy, must not be less than four feet and a half in length, a clear staple of proper and natural strength, preserved by judicious treatment, and of a light color; dark hemp will not be received for that purpose. It will be received and appropriated for commercial enterprise, at a reduced price.

It is the desire, that the farmer will practice the mode of scutching to relieve the hemp of the seeds, in the place of applying it so often to the break. It straightens out the staple, and produces much less tow, when applied to this hatchel. Also that they should become familiar with hatching of hemp generally. It adds greatly to the character of the hemp, east and abroad. And to those that wish to purchase hatchels they can be obtained at St. Louis for \$5

to \$6, or any ordinary blacksmith can make them, provided they understand setting the teeth, (it greatly depends on this.) If the teeth are not properly set, it will split and damage the staple, and produce much tow. All hemp delivered unlatched, will be received and paid for according to quantity. It has been the practice to use great deception in the preparation of this article, by secreting the drawings and sheaves in the centre of the hands. But it will be useless to attempt this, as they are sure of being detected.

There are four classes of Russia Hemp:—Rog-Rhine, Clean St. Petersburg, Hatched, and Out-shot. It is the intention of the said assigned, it employed by the government, to classify out hemp in like manner, and in that event the price paid will range up to eight dollars per 112 lbs., delivered at St. Louis, for that quality of hemp that will stand the test that the government requires. And that can be collected and produced by judicious rotting, scutching, hatching, and of a proper length. That the hemp may be inspected and selected without prejudice to either party, there will be honest, competent men from the east, who are fully acquainted with the qualities of Russia Hemp, and more particularly that article the government requires, whose hands it is to pass through before it will be paid for.

I conclude this subject with a conviction that this appeal will not be in vain, and that in three years the foreign article will be entirely excluded from our ports, and heavy exports made to Europe.

And I will impress upon your minds the importance of adhering to these instructions; and when your hemp is ready for market, by calling upon Messrs. W. W. THOMSON & CO., of St. Louis, or the subscriber, you can obtain any information in regard to the final disposition.

DAVID MYERLE,
St. Louis, Missouri.

BUTTER-MAKING.

The following communication was addressed to Frederick J. Betts, Esq., President of the Orange County Agricultural Society, and politely tendered us for publication, and as Mr. McWilliams' dairy enjoys a high reputation, we do so with great pleasure, notwithstanding other articles on this subject have already appeared in both our last and present volumes. Mr. McW., we see, differs slightly in his process of making butter from those before described, by adding cold water to the milk when poured into the churn, and commencing churning it at a lower temperature than usual. This must certainly increase the labor of turning the butter, and we should like to know of him, whether it is compensated by superior quality, or an additional quantity. The richer milk is the sooner butter comes, and we have often thought in butter-dairy districts, more attention should be paid to the quality of the milk than the quantity, for it is something of a consideration to the dairy man to have his butter come with as little labor as possible, and if a good quality and as much quantity can be had in ten minutes' churning as in two hours, it will amount in the aggregate to a great saving of labor. We wish, sincerely, that a series of experiments might be made between the better and poorer qualities of milk, for certain it is, if a cow which gives 10 to 12 quarts per day makes as many pounds of butter as another that gives 16 to 18 quarts, both consuming the same quantity of food, so much as the milk of the former would churn to butter sooner than that of the latter, she should be preferred as a butter-cow, unless the extra quantity of butter-milk from the latter made up the difference in value of the labor in churning and milking.

Scotchtown Jan. 3rd, 1814.

Dear Sir,—Having received your note of October 20th, wishing me to give a minute description of the process of my way of making butter, I cheerfully comply with your request. Willing to give what little information

I am in the possession of, and hoping to get more information from the statements of several of our best butter makers which you propose publishing. My farm consists of 1034 acres of land, 85 of which is under cultivation. In my dairy I keep from eighteen to twenty cows. The farm is elevated land suitable for grazing; the north end is the principal meadow. The buildings are placed near the centre of the farm, and from the end the land gradually descends to the south. The southern part is watered with springs, the middle with well and springs. The north with springs and a never-failing stream of water.

Our practice is not to churn the milk until it becomes thick or lapped, the milk and cream is then churned together. The temperature of the milk is about 50 degrees. In warm weather about a quart of cold water is put in each pail before the milk is strained, so as to keep it sweet as long as possible. The cellar floor is brick. This in warm weather is daily cleaned with cold water. A drain from the cellar carries off the water thus applied. The churn is filled about half full with milk, with the addition of two pails of cold water before starting the churn. In cold weather the same quantity of warm water is applied. When the churn is finished, which usually occupies about two hours of time, there are then two more pails of cold water applied to raise the butter and cool it. The butter is then taken out of the churn and put in a large tray, this is immediately filled with cold water and the butter carefully washed; after which the water is thrown off. The butter now undergoes the process of salting, it is then placed in a cool situation where it stands about an hour, and worked carefully over. This finished it is placed in the same situation as before, where it stands three or four hours, and is again worked over; again replaced for five or six hours, when it is worked over for the third time. It is now replaced, where it stands till the next morning and worked over the fourth time. A small quantity of salt is then put in the butter. Thus finished it is placed in firkins holding about 85 lbs. Previous to packing, the firkin is scalded with hot water, rinsed and cooled with cold water, then rubbed all around with fine salt; this prevents the butter from adhering to the sides of the firkin. When the firkin is full a linen cloth is placed over the top of the butter, on this cloth a covering of salt is put one inch deep, and cold water enough added to it to form a brine. It then stands till it is to be sent to market, when the cloth and salt are removed, the firkin turned down, the top of the butter in the sea, washed with cold water and the pickle drained off. The firkin is now neatly headed up, and sent to market.

George S. McWilliams.

From the Southern Planter.

RECIPES.

C. T. Bolls, Esq.—Dear Sir,—Believing it to be a conceded point that the most simple remedies are generally the most efficacious, and that short, practical recipes on the curative art will add to the value of the Planter, (of which I am a great admirer,) and that by this means a fund of useful information will be disseminated amongst your readers, which otherwise might remain unknown, I feel disposed to contribute something to your pages in this way. Wishing to further your laudable project of making the Southern Planter the most popular agricultural work in the Union.

Piles.—Having suffered as much from this disease as a man living, I feel disposed to communicate through your pages the remedy which gave me relief. Take about one gallon of Jamestown leave, (Stramonium) boil them till the strength is obtained, strain the liquor and add thereto six large table spoonfuls of lard and one of bees-wax, boil slowly until nothing remains but the lard and wax, it is then fit for use. Anoint the part affected with this ointment until relief is obtained. In very

obstinate cases when there is a continued and painful protuberance of the intestine, it will be necessary to spread the ointment on a soft rag and keep it in place by a T bandage. When the protruded part can be easily returned to its proper position, the ointment should be applied previous to this being done, as it facilitates the operation and acts better. The patient should live on the lightest diet, keep as quiet as possible, and if necessary, take an occasional purge of the mildest kind. Whenever there are symptoms of a return of the complaint, apply the ointment and it will check its farther progress. I have no hesitation in stating, and that from experience, that this remedy has no superior, and it needs only to be generally known to be duly appreciated. This ointment is also valuable for painful sores, wounds, &c.,—or rheumatism, affecting the joints, rub it in well before the fire, and cover with flannel. For scalds and burns it will relieve the pain sooner than any thing that I have ever seen applied. In all cases above mentioned I use the ointment plentifully. I generally prepare the ointment in my yard, as the stramonium has a very offensive smell, and the vessel in which it is made, if used for cooking purposes, should be thoroughly cleansed by burning, to avoid any deleterious effects that might otherwise ensue.

Witlowe.—The application of a plaster made of soft soap and lime, is a sovereign remedy, relieving the pain in a few moments. I have tried this prescription to my satisfaction, and I Dr. Ewell observes, that "perhaps this remedy might be useful in cases of the piles."

Corns—One thickness of flannel confined over the corn, mounted twice a day with spirits of turpentine, will effect a cure.

Fistula on a Horse—Take a large double chan lull or more of wild ratsbane, boil it in chamber ley, and foment the tumor two or three times a day, as hot as the horse can bear without giving pain. If timely applied, it will soon effect a cure, and out of many cases, I have yet to witness its failure in the first instance. This application will also cure the poll evil.

Distemper—Having lost some valuable horses with the distemper, (strangles) I should like to see some efficient remedy for this disease in some future number of the *Planter*. I will observe that in a recent case I was advised to infuse red pepper in a pint of melted lard, and drench; I did so, and the issue was unusually favorable; but I am not yet prepared to say whether this favorable result was owing to the action of the medicine, or that it was a mild type of the disease.

I remain yours very respectfully,

W. R. II.

Charlotte, Va., June 1, 1844.

From the *Boston Cultivator*.

THINGS WHICH I LIKE TO SEE.

Messrs. Editors,—I like to see farmers located in a fertile region and salubrious climate, surrounded with trees and flowers, earth's noblest garniture, and watered by mighty streams and bubbling rills. Notwithstanding the beauty of such regions, even when nature runs wild, yet I like to see her aided by art; and, he who possesses the requisite taste and other qualifications, may dwell in an earthly paradise at least.

I linger with delight to see the farmer's home of peace, plenty and beauty, though I have no other participation in it. I look with pleasure upon his spacious mansion, shaded by gigantic elm trees, or his neat little cottage, half hidden by trees and shrubs proportioned to its size. I contemplate with pleasure his spacious barns and convenient out buildings, all in complete repair; his neatly faced stone-walls by the roadside, and their rows of thriving trees; his smooth, fertile and clean fields of grass, grain, and vegetables; his rich swelling pasture-grounds, stocked with smoothbodied, sleek, rapidly thriving young animals, luxuriating on the bosom, or reposing in the lap of nature; the noble ox, the lustre of whose eye was typical of beauty in the lovely

June; the well fed dams with their distended udders, grazing leisurely on the hill-side, or reposing quietly in the shade; the gentle lambs, emblem of innocence and peace, skipping or nibbling or with soft bosoms pressing "the herb as soft." These are delights which the good farmer can possess and enjoy.

"When Boreas hurls his withering blast," the flocks of such a farmer heed him not, but repairing to well stored barns live out his withering reign in quietness and plenty.

Again I like to see the farmer's dwelling surrounded with the choicest fruits and flowers; his garden tastefully arranged, and neatly dressed, and bearing its appropriate fruits and flowers, his thirly orchard, clad in the gay attire of spring, or bending to the earth beneath its ripened fruits of autumn. I like to see the farmer's granary well stored with grain of all kinds, his cellar with meats and vegetables, and trunks for winter use; his pantry, with butter, cheese, and all the other palatables which the good farmer always provides. I like to see his library well stored with books, and himself and household possessed of a taste for reading, and improving their minds, but the farmer's horary is incomplete until it is provided with at least one good agricultural and family newspaper, such as the *Boston Cultivator*. But I like, above all, to see a well regulated family; children sent to school, regularly and constantly, instructed at home in politeness, and in habits of sobriety, industry, punctuality, frugality, cleanliness, temperance in all things, benevolence and the whole train of christian virtues. I like, Oh! I admire, too, to see children love their parents and one another, honour and obey their parents and teachers; but, more than all, to love and honour their God.

I like to see a farmer have "a place for every thing and every thing in its place;" his harrows, the ploughs and chisels, all whole, in order, and in their places. I like to see a farmer improving his farm by draining and reclaiming meadows and waste lands, and making two spears of grass grow where only one grew before. He should be improving his breeds of cattle, sheep, swine, &c.

One thing more, Messrs. Editors: it gives me great pleasure to see farmers protect the birds on his premises; even the crows, for they do more good than harm. The birds, certainly, are one of nature's most splendid ornaments, and the farmers' invaluable friends. Who knows how often they have protected his crop of grain and fruits from the ravages of destructive insects? and who knows how much oftener they would have protected his crops, had he protected them?

AGRICOLA.

Salem, July, 1844.

How Discoveries have been made.

Many of the most important discoveries in the field of science have been the result of accident. Two little boys of a spectacle maker in Holland, while their father was at dinner, chanced to look at a distant steep through two eye-glasses placed one before another. They found the steep brought much nearer the shop window. They told their father on his return, and the circum stance led to the course of experiments which ended in the telescope. Some shipwrecked sailors once collected some sea-weeds on the sand, and made a fire to warm their shivering fingers and cook their scanty meal. When the fire went out, they found that the alkali of the sea-weed had combined with the sand, and formed glass—the basis of all our discoveries in astronomy, and absolutely necessary to our enjoyment. In the days when every astrologer and every chemist was seeking after the philosopher's stone, some monks carelessly making up their materials, by accident invented gunpowder, which has done so much to diminish the barbarities of war. Sir Isaac Newton's most important discoveries, concerning light and gravitation, were the result of accident. His theory and experiments on light were suggested by the soap bubbles of a child, and on gravitation by the fall of an apple as he sat in the orchard, and it was hastily scratching on a stone a memorandum of some articles brought him by a wash-woman, that the idea of lithography first presented itself to the mind of Stenclfelder.

VALUABLE TABLES.

Mr. Elsworth, the Commissioner of Patents, has been collecting Agricultural Statistics, which are valuable and interesting.

CHARACTERISTICS OF STATES.

Ohio raised most wheat, viz:—18,786,705 bushels.
New York the most barley—1,802,982 do.
New York the most oats—24,907,553 do.
Penn. the most rye—9,429,763 do.
Pennsylvania the most buckwheat—2,403,503 bushels.
Tennessee the most Indian corn—67,838,477 bushels.
New York the most potatoes—26,553,612.
New York also the most hay—4,295,537 tons.
Virginia the most flax and hemp—31,728 lbs.
Kentucky the most tobacco—52,322,543 lbs.
Georgia the most cotton—185,738,128 lbs.
South Carolina the most rice—66,892,807 lbs.
Connecticut the most silk—140,971 lbs.
Louisiana the most sugar—37, 173,590 lbs.
North Carolina the most wine—17,246 gallons.

The following statements shows the quantity of each kind of grain produced in the United States in the year of 1839:—

Wheat,	84,823,272
Barley,	4,161,514
Oats,	123,071,314
Rye,	18,645,567
Buckwheat,	7,291,143
Indian Corn,	377,581,875

Total,

The number of bushels of Potatoes raised the same year was 103,293,060.

If the increase of grain in five years has been 22 per cent, the quantity in 1844 should be 756,906,617 bushels; and of potatoes 153,372,695 bushels. Twenty-five per cent is a low estimate in the increase.

Mildew on Grapes.—One of the great obstacles in our climate, in cultivating the Sweetwater, and some other varieties of foreign grapes, is the *mildew*. As the season is now approaching when the young fruit will begin to set, we would recommend the following remedy to those who have been troubled with this difficulty in past years. The recipe was published in the *New England Farmer* about twelve years since, and as we have frequent inquiries as to what course to pursue in such cases, we republish it for the benefit of all interested in it. We know of no better remedy:—

"Take a pint and a half of sulphur and a lump of the best unslacked lime of the size of the fist"—(a good sized fist, we suppose)—"put these in a vessel of about seven gallons' measurement; let the sulphur be thrown in first, and the lime over it; then pour in a pail of boiling water, stir it well, and let it stand half an hour; then fill the vessel with cold water, and after stirring well, allow the whole to settle. After it has become settled, dip out the clear liquor into a barrel, and fill the barrel with cold water, and it is fit for use. You next proceed with a syringe, holding about a pint and a half, and throw the liquid with it on the vines in every direction, so as completely to cover foliage, fruit, and wood. This should be particularly done when the fruit is just forming, and about one-third the size of a pea, and may be continued twice or thrice a week, for two or three weeks. The whole process for 260 grape vines, need not exceed half an hour."—*New England Farmer*.

Bad Air in Wells.—Never go down into a well which has been at any time out of use; or if it be deep, without trying the air in it. This may be done by lowering a lighted candle—if it burn, there is no danger; but if it goes out, the air is bad, and death would be the consequence of venturing into it. It is said that the air may be speedily corrected by putting into the well say from half a bushel to a bushel of quicklime, which will absorb the carbonic acid gas—the agent alike deleterious to comfort and respiration.

From the New York Mechanic and Farmer.

EXTRACT OF A LETTER FROM ALEXANDER WALSH, Esq.

Of all civil occupations, that of agriculture should be regarded as foremost; it is the most indispensable, the best preserver of health, of morality, of virtue, and of religion: It was the occupation of our first parent, and has been that of a majority of his descendants in all past ages, and must necessarily so continue to time's end. How largely are we interested in its improvement and success! It is, however, a painful truth, that its progress in our country is far from being exhibiting. Habits, venerated only for antiquity, are obstinately adhered to, to the exclusion of "book-farming," and this without any investigation into relative merits; numerous are the deformities growing out of this error; slovenly managed farms not arising from idleness, for idleness is not the besetting sin of the tillers of our soil; tithes disproportionate to the means of proper cultivation; fields rendered unproductive by a succession of wasting crops, and then left to be reconstituted by the slow operation of nature. To these might be added many other equally obvious defects, too numerous for present detail.

It is passing strange, that while the aid of the press is consulted in support of every design, even those of minor importance, or of doubtful policy, agriculture, the most important of all, seems alone to reject its influence; this unhappy prejudice is gradually yielding to better judgment, and we may hope the day is not distant when the farmer will be no more without his agricultural magazine, than he would be without his almanac.

There are certain primary principles so evident as to be within the unaided observation of every tiller of the soil, yet even these often require a friendly monitor to keep them present to the mind; others there are dependent on scientific research, and seldom to be discovered except by the studious reader. The press, in these cases, is the best monitor, and the truest instructor. In truth, the few shillings annually charged for an agricultural journal, if properly attended to, are the most productive outlay of the farmer.

The proper selection of seed grain is an important consideration. The best if possible should alone be used. Grain is liable to degenerate by long succession of unchangeable seed. An occasional change of seed for that of other farmers, will often be found beneficial, inasmuch that even that received in exchange, will, although of an inferior quality, frequently yield a produce superior to that given in exchange, especially if the latter has exhibited any symptom of degeneracy. The potatoe is a very necessary and valuable element; there is perhaps no vegetable more liable to degenerate by a continued succession of the same stock in the same soil: were it not for the friendly agency of nature, which annually scatters its seed on the ground, and thus gives birth to a new generation, this necessary article of food in our climate, would be entirely lost. This effort of nature never fails in mild climates, but should not be relied on where the rigorous cold of our northern winter seldom fails to destroy delicate seeds when exposed to its action. An exchange of seed potatoes with a neighbouring farmer, will generally check the menceed evil, but the true mode is to imitate nature; the farmer should every two or three years preserve a small quantity of the seed, which is contained in the balls growing on the green tops or stalks of the potatoes, and sow the same in a bed in his garden, the plants when they appear over ground, should be transplanted, and placed at the usual proper distance. The produce of the first year's growth, generally of a size too small for use, may be reserved for the next year's planting. This is deemed an infallible remedy against degeneracy, and gives the best security for good and wholesome crops in regard to abundance and quantity.

The improvement of his breed of cattle, is an object of the greatest solicitude to every farmer. He does not always know how much is directly in his power, in regard to this object. This secret, if it be one, consists, in no small degree, in

a plentiful supply of food to the young animal; the full grown beast will eat less and fatten sooner, than were he neglected while young. An early attention to abundant feeding, will improve the humblest stock of cattle, while the best breed, if neglected, or not sufficiently fed while young, will degenerate and become in their maturity unsightly and profitless.

Irrigation of land is a practice of great antiquity. History does not, I believe, any where notice it as a modern invention. Virgil, the son of an Italian farmer, who wrote before the Christian era, states that it was practised in his country. Irrigation, when not attended with too much expense, is a valuable fertilizer of the soil. All kinds of vegetation are benefited by a skilful application of it. Meadows subjected to its action, will yield double the usual quantity of grass, and may be mowed twice in a year. Grass thus nurtured will not, although artificial, wear out, but may, by this treatment, be preserved permanently.

The overflow of the river Nile is a display of irrigation on a magnificent scale; on the subsiding of its waters, the agriculturist almost without an effort, raises an abundant crop. Egyptian grain has, by reason of its quality and abundance, become proverbial. Land-adjointing rivers, or streams of water, where the overflows are periodical or occasional and not too frequent, produce results proportionally similar to those of the Nile. I have seen no calculation made with a view to ascertain the utmost amount of money, or of labor as the equivalent of money, which a farmer may safely expend in the irrigation of his lands. I incline to the opinion that the outlay may probably exceed the general apprehension. The watering of the kitchen garden is deemed by the horticulturist indispensable; the labor is generally very perfunctory and watering pot, the most expensive of all modes in use; yet, I believe that, on a minute calculation, it would appear that no equal extent of the farm yields so large, or, all matters considered, returns so large, a percentage on the capital employed. It is, if true goes far to prove, that small farms, well cultivated, and irrigued, even at considerable expense, are more productive of profit, than large farms without the means of a through cultivation, and depending on casual falls of rain for the necessary moisture.

All lands at all worthy of cultivation, contain the means of retaining them perpetually in a state of continual productiveness. Ignorance or prejudice alone would permit any part of the farm to be fallow. Compost is the common produce of every farm, and is not the least valuable resuscitator of exhausted soils; it is usually applicable to every soil, increasing in every instance the quantity of the crop. How strange that this valuable auxiliary to agriculture should be derided and left scattered about the farm yard to be trodden by man and beast, and thus rendered almost useless.

FOR MOTHERS.

Draw your children to you by real kindness: let them see that you study their best interest and happiness, rather than your own comfort or convenience. Take especial pains to make home the most pleasant place on earth to them. It may, perhaps, sometimes be a tax upon your ingenuity to do so, but you will reap a blessing from it which will more than repay you. This will effectually keep them from bad company. The memory of home sweet home, happy early associations, and a mother's love, watchfulness and prayers, have been the talisman which has enabled many a soul to bear up and buffet in after years against the winds of adversity and the temptations which have assailed them through a long life, and who shall limit the extent of a mother's influence?

Cucumbers.—A writer in the London Gardener's Chronicle, says he has entirely discarded the old mode of allowing cucumbers to run on the surface of the ground. He trains them to trellises, and finds that he has not half the trouble with them that is required by the old plan, and that the plants continue much longer in bearing, when so treated.

JAUFFRET'S MODE OF MANUFACTURING MANURE.

We promised, a week or two ago, to give Jauffret's mode of manufacturing manure from straw, weeds, and other vegetable matters. He is a Frenchman, and has taken out a patent for his mode in France and England, but that cannot hinder the publishing his mode in this country, provided he has not also obtained a patent from the U. States. The following is a condensed statement of his mode:—

The first thing to be done, is to prepare a quantity of what he calls saturated water, which is done by having a vat made of any convenient size, which is half filled with water, and into which is thrown weeds, and almost any kind of vegetable matter that will ferment readily, so as to fill it, with the water, three fourths full. He then adds, to a vat 12 feet long, six feet wide, and six feet deep, ten pounds of quick lime, and five ounces of salammoneac. Then you may add sink water, refuse from the kitchen, dead animals and such like matters. Stir it up occasionally, and if it becomes too offensive in odor, add more unslacked lime occasionally.

The next step is to have another vat, smaller than the other, into which sufficient of the above made liquor is to be put to dissolve, or mix with the following materials, which last prepared water he calls *Lessive*:—

Take 200 lbs. of fecal matter and urine (from vaults or privies)
50 lbs. chimney soot,
400 lbs. gypsum, (plaster of Paris,)
60 lbs. unslacked lime,
20 lbs. unbleached wood ashes,
1 lb. sea salt,
10 ounces of saltpetre,
50 lbs. of what he calls *Leaven of manure*.

Mix all these with the saturating water till it makes a thick porridge. The leaven of manure is the drainings of a former operation, if there has been one. The above ingredients should be mixed as follows. Stir the first vat up till it is thick, and then pour a portion of it into the lessive vat, in a thin stream, then the soot, then the ashes, then the fecal matters, the salt, and saltpetre. The plaster of Paris is to be thrown in little by little, stirring the mixture to prevent caking. When the whole is well mixed, stir in the leaven.

When the above substances cannot be obtained but at too great expense, Jauffret substitutes other things, for instance, instead of fecal matter and urine, take 25 lbs. of horse, cow, or pig dung. For the gypsum, 100 lbs. of baked or burnt earth or clay loam, for the soot, 100 lbs. sheep manure and the same weight of rich mud: for the unbleached ashes, 50 lbs. of bleached ashes or 2 lbs. of potash, 1 lb. sea salt, 100 lbs. of a water. If you come short of *Lessive*, make it up with the saturating water, always using the most impure and putrid that you can obtain.

Having got the above materials ready, clear away a spot of ground and beat it hard so that water will not soak in readily, and make little pits around the plant into which the liquor which drains from the heap may run. Then take your straw, weeds &c., or whatever you wish to convert into manure, and put them into the vat of lessive, wet and pack them into a heap, treading them down so as to make them compact. At every layer, of a foot, pour on a quantity of the lessive and tread it in so that the whole shall be well mixed together. The heap may be six or seven feet high, and when all is packed spread the bottom of the lessive vat on the top so as to slime it all over, beating and pressing all about so as to make it as snug and compact as possible. At the end of 48 hours a fermentation commences. On the third day the top of the heap is to be opened six inches, and the sediment which was thrown on the top is turned over, and another drenching is given with the *lessive*, and again covered up as before. On the seventh day make holes near each other with a fork, say three feet deep, and another drenching given and again covered up. About the ninth day give it another drenching through holes somewhat deeper. In 12 or 15 days the manure will be fit to spread.

It will at once be perceived that it will not do to work upon this in freezing weather. Our readers will perceive that the principal difficulty in manufacturing manure in this way depends on mixing matters in a putrifying and liquid state, to those which are dry and inert, so as to bring about fermentation among the whole and reduce them to a soluble state, or, as we before expressed it, using a *rotten liquor* to assist in the decomposition of vegetable matters.

FOOD FOR COWS.

We would commend the following article to the careful perusal of our readers, as it embraces a topic of great practical importance. With those familiar with the writings of M. Chabert, and his exalted character as a scholar, any commendation on our part, would of course appear superfluous:—

M. Chabert, the director of the veterinary school, Alford, England, had a number of cows which yielded twelve gallons of milk every day. His publication on the subject, he observes that cows fed in the winter on dry substances give less milk than those which are kept on a green diet, and also that their milk loses much of its quality. He published the following recipe, by the use of which his cows afforded him an equal quantity and quality of milk during the winter as during the summer: Take a bushel of potatoes, break them whilst raw, place them in a barrel standing up, putting in successively a layer of bran, and a small quantity of yeast in the middle of the mass, which is to be left thus to ferment during a whole week, and when the vinous taste has pervaded the whole mixture, it is then given to the cows, who eat it greedily.—*Maine Cultivator.*

Treatment of Sick Animals.—There are many erroneous notions prevalent in the community, respecting injured or diseased domestic animals, and such unnatural or injurious practices as a consequence of the incorrect views, that no apology is necessary for an attempt to subvert the cause and interest of these useful creatures, when if they had tongues to speak, would tell sad tales of the wrongs to which they have been, and still are, too often subjected.

We do not propose to give an essay on the particular cases that require attention—our object is rather, very briefly to ask the owners of domestic animals to be guided by a few correct principles, which are applicable to nearly all cases, and which will at least prevent us from doing harm, and be the means, probably, of doing much good.

In the first place, then, we would insist that when an animal is well he never requires any medicine; and when he is sick, we would protest against his being dosed with articles that are said to be "good" for a particular disease, without any reference to its violence or the symptoms, as common sense would dictate, that remedies the most opposite in their character and effects, may be equally advantageous in different periods of the case.

Always distrust a man and the remedy, when your friend declares that an article is *always good*, or a *certain cure* for a disease, without reference to its symptoms—prescribing for the name of the disease itself—this is the very essence of quackery, in man or beast.

A large portion of the diseases of animals closely resemble those of the human family, and require a treatment conducted upon the same general principles—with some variations and some peculiarities, it is true: but none of these outrageous departures from common sense, which are too frequently witnessed.

A horse with pleurisy, or inflammation in the lungs, or apoplexy, requires a widely different treatment from one with colic or worms. There is no more mystery about the disease of a horse or an ox than about those of a man, and a violation of natural laws is as productive of pain and injury in one as in the other.

There is too great propensity, everywhere, to resort to active treatment in all cases.—A feeling that is encouraged by the ignorant or designing for selfish purposes. An adviser in weakness is often most useful, and shows most skill, where

he only tells us what is to be avoided, and waits for indications for more active measure.—Doing little more than preventing ignorant but well meaning persons from interfering with the salutary and useful changes that may be going on.

Remember that there is a restorative power in nature, to which it is always better to trust, than to direct active remedies without knowing for what particular purpose they are given.

There is never occasion for the administration of the disgusting combinations which the poor animal is made to swallow, from the mere whim of an ignorant horse or cow doctor. Many a fine beast has been lost by his owner trusting to such prescriptions,

When your animal has fever, nature would dictate that all stimulating articles of diet or medicines should be avoided.—Bleeding may be necessary to reduce the force of the circulation—purgung, to remove irritating substances from the bowels—moist, light easily digested food, that his weakened digestion may not be oppressed—cool drinks, to allay his thirst, and to some extent, compensate for diminished secretions—rest and quiet, to prevent undue excitement in his system, and so on through the whole catalogue of diseases—but nothing to be done without a reason. Carry out this principle and you will, probably, do much good—hardly great harm—on any other, and your measures are more likely to be productive of injury than benefit. But, as we have before said our object now is not to speak of diseases in detail—it is rather to encourage our agricultural friends to think before they act: to have a reason that will bear examination for every step in the management of a sick or injured animal: to remember they have a powerful assistant in nature (being fairly used) and that specifics, as they are called, are much fewer and less to be trusted, than their proprietors would have us believe. We might, indeed almost sum up what we would desire, in one general direction, of five words:—**TRUST YOUR BROTHERS LIKE MEN.**—*Lawyer's Cabinet.*

Extract from Col. Bonner.

CURE FOR BARREN SOWS.

"While writing, I thought it not amiss to give you the favourable results of an experiment of mine upon a fine Berkshire sow, purchased last fall of Mr. C. N. Bennett, near your city. She was over two years old when I bought her, and although she ran regularly with his boars she had never produced a litter of pigs, or had even been in pig. to his knowledge. With a full knowledge of these facts, I purchased her. On the first of November last, I found her in season for the boar, and turned her in the pen to one of mine: he served her repeatedly for two days. In about twenty days I found her again in season for the boar, and was persuaded by many friends that she was to fat to breed. I put her again to the boar, and turned her out in the woods without any food, to reduce her. She continued to reduce daily, and got quite poor, but was in season for the boar every eighteen to twenty one days, and was as regularly served by different boars, until about the 10th of June. I then concluded to half-pay her: or, in other words, to take out one of her ovaries, or prides, as the Georgians call them. I did so by making or cutting an incision in her right side, and took from her as large a pride as I ever saw. In the latter part of July, thereafter, I discovered her again in heat for the boar, and turned her into a pen to my imported boar, Ontario, and I am pleased to tell, that she not only proved in pig, but that on the 13th instant, she produced me six fine pigs—five sows, and one boar pig. I would further remark, that she had on previous occasions been served by Ontario, and that her condition as to flesh, &c., was about the same it had been for several months, and the treatment precisely the same. It is the first and only instance of the kind I ever heard of, and thinking it possible that some of your many readers might have a sow similarly constituted, concluded to give you the above fact."

We know of several instances where great disappointment and loss has been caused by the failure of sows to breed. Although, so far as we know, this remedy is perfectly novel, it is based on strict physiological principles. Excuse

ardor, or frequently repeated sexual connection, is usually a hindrance to impregnation, and the removal of an ovary, by lessening the first, had a direct tendency to produce the result desired. It is more than possible that the reduction of flesh might have been also useful, as the pressure of fat usually closes the fallopian tubes and effectually prevents impregnation.—*Albany Cultivator.*

BLACKING.

We received a letter from a friend in Kentucky enclosing us a list of subscribers, for which he says all he asks is, that we will publish in the *Planter* a good recipe for making blacking. Ever since, we have been watching the gentlemen's feet as they pass our office, and having observed one whose boots cut a great shine, we begged him for the sake of our Kentucky friend to inform us where he got his blacking. To our great surprise, he told us that he was his own blacking maker—he said that the composition was a profound secret, and hinted that it was supposed by some philosophers that it was to this identical preparation that his Santanic majesty was indebted for his well known shining qualities. Under the circumstances, he could not refuse to communicate it to our Kentucky correspondent, but he does so, of course, under the seal of confidence. The recipe is as follows:—

- 2 oz. ivory black.
- 2 oz. coarse brown sugar.
- ½ oil of vitriol.
- ½ oz. muriatic acid.
- 1 table spoonful of sweet oil.
- 1 pint of vinegar.

Mix the ivory black, oil, sugar, and vinegar, and then add the oil of vitriol and muriatic acid mixed together.—*Southern Planter.*

Sore Backs, or Galls on Horses.

Rub white lead in sweet oil until a good paint is made, and apply a coating of this to the injured place. Milk will do, where no oil is to be had. It is one of the best applications. Some for the same difficulty use a solution of vitriol in water, for a wash; but in most cases, the white lead is to be preferred.

Substitute for Ringing Swine.

A Mr. Tubb, an English breeder of stock, has recommended a mode of dealing with these mischievous animals, which it is said may supercede the necessity of putting rings into their nose. It consists simply of shaving off, with a razor or sharp knife, the gristle or the top of the noses of young pigs. The place known as the hen's over, and the pigs are thus rendered incapable of rooting.—*N. E. Farmer.*

Ginger Beer.

One pint of molasses, and two spoonfuls of ginger put into a pail to be half filled with boiling water; when well stirred together, fill the pail with cold water, leaving room for one pint of yeast, which must not be put in until lukewarm. Place it on a warm hearth over the night, and bottle it in the morning.

Borers.

Mr. Wm. Salisbury of Medfield, tells us he destroys borers in his apple trees by igniting the common brimstone matches and putting them into the hole bored by the worm so as to fumigate him in his burrow. He first clears out the hole as well as he can, and when he has lighted his match he inserts it while the brimstone is burning.

We should think this a better plan than the one which has been so often recommended, to use a wire or gouge to cut out the worm. He says he finds, on a trial, that this will kill the borer in the tree.

Our plan is to kill the young worms before they enter the bark; yet as some trees may have so many worms in them that they die before the worms comes out, in their natural course, it may be proper to try brimstone fumigation, and the little brimstone matches may be tried at small expense.—*Mass. Ploughman.*

Lice on Cattle.

A writer in the Michigan farmer, recommends buttermilk for the destruction of lice on cattle.

TOO MUCH LAND.

During a recent excursion in this, and some of the New England States, I was struck with the comparative sterility of land which might, by proper cultivation, become "the garden of the world." Instead of seeing fields of wheat bearing thirty bushels to the acre, we find scarcely twelve to fifteen is the yield; where two tons of hay should be cut, hardly one is the product; where thriving fruit-trees might be expected, bending beneath the weight of their delicious fruit, our eyes are pained by the sight of gnarled, stunted, and half-dead trees, scarcely able to sustain the life of the few curled up leaves that come forth as if to reproach their owners by the sight of their consumptive appearance. If they had tongues to speak, how latterly would they complain of their treatment. Is it because nature is so miserly that she does not reward man for the labor he bestows on her? or because man will not let her yield a bountiful supply in reward for his labor? What is the cause of this sterility, and the complaints of the farmers that they cannot make a living, though they have hundreds of acres at their command? It is evident the fault is with them selves. They attempt the cultivation of *too much land*.

Our farmers have from 50 to 500 acres under what they call cultivation. Still they are in debt, and in many cases the more they possess the worse they are off. Their land is scattered far and near. Two are here and ten there, instead of being compact together. In this manner, more time is often lost in going from one lot to another, in building the fences of other people, and keeping out their cattle, than the whole income of the land amounts to. I have myself lost more time in this way in a single year, than it would take to keep ten acres in the finest condition.

What is the remedy? Sell half of your land and spend the proceeds of it on the remainder, and thus make what you have yield a liberal income. This may appear to those who have always "followed in the footsteps of their forefathers," of adding field to field to the ruin, as the height of folly, but I am confident it will be their salvation. There is a good old adage, one that should be remembered by farmers as well as others, "Never attempt too much."—Depend upon it, there is no course so successful as that of owning and attempting to cultivate 200 acres, when you can hardly do justice to 100. Suppose, for instance, a man has 50 acres of naturally good land, and he has but a certain amount of manure, time, &c., to use in his cultivation, which is not enough to keep it in heart, or pay that attention to rotation of crops which it requires, is it not evident that the land, the owner, or whoever is connected with it, must suffer? would not all intelligent persons condemn such a course? yet how many such instances are to be seen all around us! I believe it would be for the interest of many farmers, even to give away a portion of their land, rather than to have so much in their own. Self interest tells us, it is the true policy of such a man to sell what he cannot properly use, for he would gain time to devote to the remainder, money to purchase all that it required, his crops would yield in double ratio, his land increase in value as it increased in fertility, and thus he would be in every way benefited.

I have seen acres of the best land, overrun with daisies, burdocks, tithels, mulleins, and other noxious plants, that root out the grass, and eat up the life of the soil, without affording nourishment to man or beast, which might by a little attention yield a rich harvest. But the farmer has no time to attend to it, and the land becomes worse than useless: for it is self evident that land must either increase in fertility, or decrease in value—there is no middle way—it must afford a profit or be an expense.

Look again at the swamp and meadow lands, with which our country abounds, that are now worthless, and causing sickness and death in their vicinity. All these might be reclaimed, and made the most productive land, by a small outlay of time and capital: the owners have neither because they have too much land already calling for their attention. The muck contained in

these places, can be made to pay better interest than bank stock. Yea, if properly used, it may be the farmer's mine of wealth.

This leads me to inquire how are our lands really to be cultivated? I reply, by using the experience and directions of those who have studied the chemical formation of soils, and the effect different manures have on different soils. Man's time is his, and land injured, by the farmer not knowing the relative value of his manure, and the theory of rotation of crops, which might be saved by the expenditure of a little time and money in procuring and reading agricultural papers and books. There is too much of the saving a cent, and losing a dollar economy in this age. When the time shall have arrived that men will be willing to study the theory and practice of farming in all its details, then shall we see agricultural pursuits elevated to a proper standing, and yielding a profit that shall rejoice the hearts of all.

C. CASSE.

Orange County New York.

From the Southern Planter.

PAIN.

In the last number of the *Planter* we expressed the opinion that the cheapest and best pigment for the farmer's use, was white lead, and we promised to give some directions for its use. To say nothing of the preservation of the wood to which it is applied, the gratification the painter's brush affords the eye, is worth ten times more than its cost. Can any thing present a stronger contrast than the dingy, gloomy, and sombre appearance of a mass of unpainted weather-boarding, and the lively, cheerful, animated scene presented by a neatly painted homestead? Nature with her refreshing green of spring, hardly does more for her works, than man with a little bit of white lead, may do for his. We were formerly struck with this lack of paint in a visit we lately made to one of the most splendid estates in Virginia. The situation was high and dry, the dwelling house large, commodious and handsome, the out-houses comfortable and properly disposed, and the fencing capital. But with the exception of the dwelling, there it stood in its original gloom, ignorant of paint; and buildings that probably cost ten thousand dollars, for want of a hundred dollars worth of paint, were suffered to decay and offend the eye. A Northern man, on approaching the house would naturally have exclaimed, Alas! for the proprietor, how long has he been dead. He would have no idea that any thing less than sudden death could have caused him to leave his premises in such an unfinished state. A *roofless* house would be as familiar to his eye as an unpainted one. We saw enough of elegant taste displayed by the lady of the mansion to infer that she is constantly at the gentleman to have the buildings and palings painted, and we saw enough of his deference to her wishes, to infer that he is constantly promising to do so.

The main reason of the nakedness of our buildings is an exaggerated estimate of the difficulty of mixing and applying paint. This operation is, in fact, extremely simple, and for all plain purposes may be performed by any smart boy on the plantation. The white lead comes ground in oil, and may be had of any of the painters or apothecaries. (Our friend Du Val across the way will furnish it as good and as cheap as any body.) This lead is of two qualities, the No. 1, and *Extra*. The first can be purchased for about eight, and the latter, which from its superior quality is actually the cheapest, can be had for nine dollars the hundred weight. To every twenty-five pounds of lead about a gallon of linseed oil (which can be had for a dollar a gallon by the quantity), should be added. The whole should be strained through a wire sifter, or piece of coarse muslin, to free it from the particles of dry skin that have formed in the keg. Incorporate intimately into this mixture about a table-spoonful of yellow litharge. For every gallon and a half of paint, and you have *white paint*, ready for use. All kinds of work should be three cents—the first, or *priming* as it is called, should perhaps be made a little thinner by the addition of a little more oil

than here directed, and care should be taken that it is applied to every part of the wood. When this is perfectly dry, the second coat of a little thicker consistence, may be applied. This should be laid on smoothly, with long, even strokes of the brush, and the third coat should be applied about as thin as the first, with a light hand, and with particular attention to eaves and smoothness.

For colored paints, a flag and stone, worth about three dollars, are necessary, to rub down the pigment used. For a lead color, admirably adapted to house tops, ploughs, and other implements, dissolve lampblack in a little spirits of turpentine, and add to your white paint until you shade it to your fancy. A beautiful blue may be obtained by mixing the Prussian blue of commerce with oil and rubbing it down on the stone until you reduce it to an impalpable powder. Other colors may be obtained in a similar manner, by a resort to other pigments.

Paint brushes should be cleaned with spirits of turpentine when the job is finished, and between the intervals of using them they should be kept immersed in water, to prevent the paint on them from becoming dry and stiff.

Midsummer is considered an unpropitious time for painting, as it is supposed that the heat of the sun has a tendency to evaporate the oil before it sinks into the wood. In this climate, painted work will require a new coat at least once in three years. But if the pores of the wood are well filled at first, this renewal is a small matter, requiring comparatively little labor or material.

SCARLET FEVER.

In the *Gazette* page 267, we gave from the *Baltimore American* a communication over the signature "Medicus" recommending the extract of Bullardonna as a preventive where this fearful epidemic is apprehended. If that preventive and the following remedy are what the writers claim for them, by proper attention the disease may be easily overcome:—

To the Editor of the Democratic Gazette.

SIR,—I wish to call the attention of my professional brethren, and of the public generally to the following mode of treating the scarlet fever, a disease that has so severely afflicted several families in our city, and about which there exists so many fearful apprehensions.

In every case in which I have used it, I have found the disease yield readily to the *Colchicum Autumnale*, no matter what may be the degree of malignity. I believe this to be the best remedy that has been found. I have used this alone in several cases, and always with the happiest effect. The disease, in any stage of its progress, yields under its influence in a very few days.

Mode of administering the *Colchicum* is the following:—1. To a child one year old five drops of the *Uinum Colchici* every three hours, increasing the dose one drop for every additional year of the patient's age.

JAMES GUILD, M.D.

Early Rising.—A correspondent of the *Exeter News Letter* gives the following reasons for early rising, which are conclusive. It is to be regretted, however, that with many, fashion and idleness are of superior influence to sound reason. The writer says:—

The practice of early rising should be adopted—1st. Because nature does not require but a few hours sleep. 2d. The morning air is the most healthy and invigorating to the system of any in the course of the day. 3d. The body and mind are better prepared for the necessary business of the in the early part of the day than any other. 4th. By avoiding the habit of sleeping in the morning, there are more hours of consciousness and activity, so that life is made to appear longer than it otherwise would.

Sick Headache.—Two tea-spoons full of finely powdered charcoal, drunk in a half tumbler of water, will in less than fifteen minutes give relief to the sick headache, when caused, as in most cases it is, by superabundance of acid on the stomach.—*N. Y. Herald.*

CULTURE OF THE APPLE.

From Mr. Ellsworth's Report.

Sir,—At your request I send you herewith my mode of cultivating the apple tree.

For some years I have been experimenting upon the apple trees, having an orchard of 20,000 bearing Newtown pippin trees. I have found it unprofitable to wait for what is termed the bearing year; and consequently it has been my study to assist nature so as to enable the tree to bear every year.

I have noticed that it produces more profusely than any other tree, and consequently requires the intermediate year to recover itself, by extracting from the atmosphere an earthy requisite to enable it to produce.

One year is too short a time for so elaborate a process, and it unassisted by art, the intervening year must necessarily be lost. If, however, it is supplied with the necessary substances, it will bear every year—at least, such has been the result of the following experiments:

Three years ago, in April, I scraped all the rough bark off several thousand trees in my orchard, and washed the trunk and limbs within reach with soft soap, trimmed out all the branches that crossed each other early in June, and painted the wounded part with white lead, to keep out the moisture; then split open the bark, by running a sharp pointed knife from the ground to the first set of limbs in the bitter part of the same month, which prevents the tree from becoming bark bound, and gives the inner wood an opportunity of expanding.

In July, I placed one peck of oyster-shell lime around each tree, and left it piled about the trunk until November, during which three months the drought was excessive. In November, the lime was dug in thoroughly. The following year (1842) I collected from those trees 1,700 barrels of fruit, some of which was sold in New York for \$4 per barrel, and others, in London, for \$9; the cider made from the refuse, delivered at the mill two days after its manufacture, I sold for \$3.75 per barrel of 32 gallons, not including the barrel. In making cider, I never wet the straw. After gathering the fruit in October, I manured the same trees with stable manure, having secured to it the ammonia, and covered it immediately with earth.

Strange as it may appear, this year (1843) the same trees literally bent to the ground with the finest fruit I ever saw. The other trees in my orchard, not treated as above, were barren.

Yours very respectfully,

R. PELL.

Hon. H. L. Ellsworth.

From the Mass. Ploughman.

Mr. Editor.—What a strange itching there is, one in a while, among our young men, to live in the city! To *live* do I say? In fact it is no living at all, compared with the healthy freedom of a country life. Has a farmer a pair of boys in their teens, say from fifteen to twenty, just becoming of use in carrying on business, and in whose care and attention he has all confidence, ten to one if some flippant twit of the city does not come out on a convincing trip, and set them agog for the town. In such a case of what avail is a parent's advice or authority? Go they must, and go they will, and go they do. So the crow-bar is given up for the goose quill, and the plough-handle for the yard-suck. The poor disappointed father, now hns to shift and turn as he can, and manage his husbandry by hook or by crook; getting help, as he can find it. But he moves heavily and sad over his fields, and often lets fall a tear whenever he reflects that his once fond anticipations of seeing his sons settled near him, and participating with him in the pleasures and profits of an agricultural life, are now never to be realized! After a month or two the boys come home on a visit; and how do they appear? Not by any means in their former habit, glowing in robust health, with a new arm, bone and muscle of two young Samsons, with step brisk and energetic, but sallow and nerveless,—victims of dandyism,—mere city goslings!

In the days of my youth, *old* people were the smokers; but now every youngster has a cigar in

his mouth, and cocking it up about forty-five degrees, as he stands braced against some post or pillar with folded arms, he puffs away, looking amazingly wise, and talks largely about business, the price of stock, &c., as if, forsooth, he were a thing of some consequence in the world! O, gracious! Did you ever encounter one of these bits of fustian, when journeying in a stage, reader, with his goat's beard hanging from his chin, his pinch back watch safe around his neck, and sporting his shepherd's crook? What a fog he keeps up to the annoyance of the company! Save me from ever coming in contact with the like nuisance again! And yet, I wish I in truth could say, that such a bit of furniture was never manufactured out of a farmer's boy.

My readers are aware, that occasionally I give them my thoughts in measure. I hope apology will not be necessary, if I descend a little in the present case. Not long ago, I heard with much pleasure, from one of the Boston Enterprise Band, the well known song of "Life on the Ocean Wave" &c., and I thought it might by a sort of parody be well metamorphosed into a pleasant farmer's song; and here it is; sing it if you please.

THE FARMER'S SONG.

A life on my native soil;—

A home in a farmer's cot,—

I'll never at labor recoil,

And ask for no happier lot.

The city has not a charm,

With its turmoil, and noise, and strife;

O, give me a snug little farm,

With a kind and notable wife.

A life on my native soil;—

A home in a farmer's cot;—

With my three cattle team will I toil,

And ask for no happier lot.

Gee up!—Gee up!

Gee up, gee up, and gee O!

On my own native soil here I stand,

Midst blossoming fields around;

While the air is pleasant and bland,

And the hills with cattle abound!

The river is flowing by;

The boatmen singing we hear;

And the laborers, how they ply,

While echo sends round their cheer!

A life on my native soil;—&c.

How cheerful it is to view

Whole valleys of waving grain,

And the husbandman's jovial crew,

With sickles prostrating the plain!

O, the song of my heart shall be,

While earth her sweet products shall yield,

The life of a farmer for me,

A home in the forest and field.

A life on my native soil;—&c.

Now, my kind reader, if you are a musical farmer, just run over the above, while your wife or daughter accompany you on the piano forte, a la mode de Russell. But if to this proposal you demur, as the lawyers say, then call in, and we will give it in our poor, plough jigger style.

Bedsteads.—Those who wish for neat bedsteads for the ensuing year, should wash them well with boiling water, and then put quicksilver beaten with the white of eggs, in every crack and corner. One white is enough for a bedstead, with as much quicksilver as it will receive. It is the only thing that will keep bugs away when the bedsteads cannot often be attended to. It is a certain poison to bugs.

Fruit Stains.—The fumes of brimstone will remove fruit stains and iron mould from linen and cotton. Moisten with cold water, then hold it over the smoke of the burning brimstone.

DURHAM BULL CALF.—For Sale, by the Subscriber, a very fine Bull Calf. Colour Red, with White Spots; out of a very fine Cow, imported direct from England. Pedigree perfect. Price £25.

ADAM FERGUSON, Woodhill.

Waterdown P. O., August, 1844.

NEWS FROM ENGLAND!

BY EXPRESS TO TORONTO

WILLMER & SMITH'S EUROPEAN

TIMES.—Arrangements have been made, by which the EUROPEAN TIMES, published in England, expressly for

CANADA AND THE UNITED STATES,

Will, on the Arrival of all the Steam-Ships from England at Boston and New York, reach

TORONTO BY EXPRESS,

And be delivered to Subscribers in advance of the Mails from England. It has already obtained a very high character, and may, with great propriety, be said to contain

THE BEST PRICES CURRENT, THE BEST SHIPPING LIST, and the best FOREIGN EUROPEAN NEWSPAPER

Which reaches this County from England,—for it comprises, in a condensed form of 24 columns, every description of news of interest to America, which has transpired in England and other Foreign Parts, from the sailing of the previous up to the hour of departure of the Steam-Ship which conveys the forthcoming number.

Among other numerous and flattering Testimonials, the BOSTON MORNING POST says,—“We are greatly indebted to this Newspaper for our Foreign, Miscellaneous, and Commercial News: one number of WILLMER & SMITH'S EUROPEAN TIMES is worth a whole File of any other English Paper.”

Price 16s. Sixpence per Annum; and may be ordered at any of WILLMER & SMITH'S EUROPEAN TIMES' Offices:—BOSTON, 9 Court Street; NEW YORK, 7, Wall Street; PHILADELPHIA, 65, Chesnut Street; BALTIMORE, 7, Light Street; and LIVERPOOL, 32, Church Street.

WILLMER AND SMITH'S EUROPEAN TIMES.—For some time past, a newspaper, called “Willmer and Smith's European Times,” has been published at Liverpool, expressly for Canada and the United States, which has obtained a large and most respectable circulation in both countries. It is to be further enlarged and improved, and matters relating to English agriculture are, in future, to hold a place in its columns; and, moreover, it is to reach Toronto and other parts of Canada by express, so as to have precedence in the delivery of any other European paper.

THOMPSONIAN HERBS AND

ROOTS.—The Subscriber informs his Country Friends that he is now receiving a large Supply of these celebrated and useful Medicines; and for their Satisfaction enumerates the following, viz.:—White Pond Lily, Root, which Hazel Leaves, Squaw Weed, Bitter Herb, Poplar Bark, Bayberry Bark, Golden Seal, Burdock Leaves and Roots, Skunk Cabbage, Elm Bark, Solomon's Seal, Danielin, Wake Robin Root, Gold Thread, Prickly Ash Bark, Coltsfoot, Comfrey Root, &c. &c. &c.

Likewise a constant supply of all the SHAKERS' Herbs and Extracts, which hitherto have been so difficult to procure in this market; with a general Assortment of Drugs, Medicines, &c.

ROBERT LOVE, Druggist,
Yonge Street.

Toronto, June, 1844.

THOROUGH-BRED DURHAM BULL

FOR SALE.—The Subscriber offers for Sale a thorough-bred DURHAM BULL, five years old, which will be disposed of on reasonable terms. His Dam and Sire were imported from England, in 1833, by Mr. George Simpson, of Newmarket Grange. The herd from which Mr. Simpson made his selection were among the very best improved Durham Stock in Yorkshire. Any farmer or breeder who is desirous of purchasing a very superior animal, of this unrivalled breed, would do well to call upon the subscriber before buying elsewhere, as the Bull in question has been pronounced, by competent judges, to be one of the very best in the country.

H. THOMPSON.

Township of Toronto, May 30, 1844.

N.B. Application by Letter to be directed to the Etobicoke Post-office.

EASTWOOD & CO.,
PAPER MANUFACTURERS,
STATIONERS, and SCHOOL BOOK
PUBLISHERS, YONGE STREET, TORONTO,
 have constantly on hand an Assortment of
SCHOOL BOOKS, such as are in general
 use throughout the Province.

Also Writing, Wrapping, and Printing
 Paper, Blank Books, Stationery, &c. &c.
 N.B. Publication Office of "THE BRITISH
 AMERICAN CULTIVATOR."
 Toronto, July 23, 1844.

THE BANK OF BRITISH NORTH

AMERICA continue to grant Drafts, in
 Sums of any Amount that may be required,
 on the under-mentioned Towns in Ireland and
 Scotland, viz. :—

<p><i>On the Provincial Bank of Ireland, at</i></p> <p>Cork, Limerick, Clonmel, Londonderry, Sligo, Wexford, Belfast, Waterford, Galway Armagh, Athlone, Coleraine, Kilkenny, Ballina, Trilce, Youghal, Enniskillen, Monaghan, Banbridge, Ballymena, Parsonstown, Downpatrick, Cavan, Lurgan, Omagh, Dungannon, Bandon, Ennis, Ballyshannon, Strabane, Dungarvan, Mallow, Cooteshill, Kilrush, Skibbereen, Ennisceorthy.</p>	<p><i>On the National Bank of Scotland, at</i></p> <p>Aberdeen, Airdrie, Anstruther, Banff, Bathgate, Castle Douglas, Dalkeith, Dingwall, Dumfries, Dundee, Falkirk, Forres, Fort William, Galashiels, Grantown, Hawick, Inverness, Inverary, Islay, Jedburgh, Kelso, Kirkcaldy, Kirkwall, Langholm, Leith, Montrose, Nairn, Oban, Perth, Portree, Stirling, Stornoway, Stranraer, Edinburgh, Glasgow.</p>
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They also draw on the Parent Establishment
 in London, and on their Branches in the British
 North American Provinces.

A. O. MEDLEY, Manager.
 April, 1844.

HENRY E. NICOLLS,
NOTARY PUBLIC, CONVEYANCER AND
LAND AGENT, &c.,

No. 4., Victoria Row, King Street, Toronto.

DEEDS, MEMORIALS, AND PETITIONS
 drawn with neatness and despatch. Titles
 to land searched and proved.

Mr. Nicolls having more good land than the
 Government, requests all Emigrants and others
 who intend buying either Wild Lands or improved
 Farms to give him a call. Lands purchased for
 persons at the Government Sales, located and
 money paid on the Deeds procured at a moderate
 charge.

Lands claimed and prosecuted under the Heir
 and Devisee Act, and Deeds taken out.

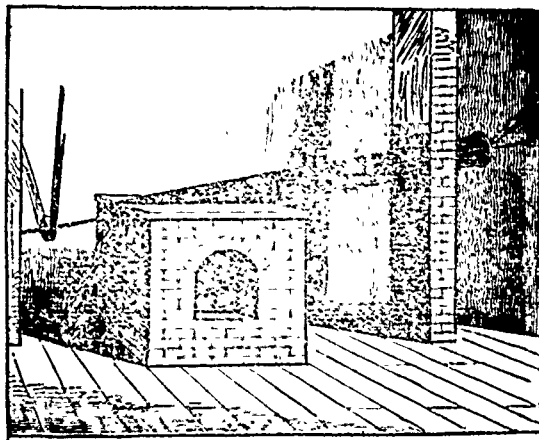
Militia Claims and U. E. Loyalists Rights
 procured and bought. Bank Stock and Govern-
 ment Debentures bought and sold. Petitions
 to the Governor and Council for pensions or
 lands prepared and prosecuted. Money advanced
 on letters of credit upon Great Britain, mortgage
 or personal security.

N. B.—On all Government Land business or
 mortgage, a fee of five shillings will be required
 before the business is taken in hand.

LAND SCRIPT, AND BANK STOCK FOR SALE.

All Letters must be *Post-paid*.

Toronto, March, 1844.



REVOLVING DRYING KILN.

THE Subscriber begs to inform the Millers,
 Merchants, and the Public generally, that he
 has, at considerable labor and expense, invented
 and completed a Machine for DRYING Wheat,
 Oats, Barley, Indian Corn, or any other Grain
 necessary to be dried before being manufac-
 tured: and he assures them, that it is the cheapest
 and most expeditious mode of Kiln Drying Grain
 now in use. This Machine will dry from thirty to
 sixty bushels of grain per hour in a most perfect
 manner. It is so constructed, that the grain passes
 through the machine, from thence to the rolling
 screen, where it is cooled, in a fit state for manu-
 facturing. This machine requires very little power
 to keep it in motion, and may be driven by a small
 strap from any wheel in the mill. A quarter of a
 cord of hardwood will produce heat sufficient for
 drying a thousand bushels of grain.

The Subscriber begs to inform the public, that
 he has obtained a Patent for his Machine, which
 extends through the United Province of Canada,
 and that he is prepared to manufacture the above
 Machines to order, or dispose of the right to per-
 sons desirous of manufacturing or using the same.

Any further information on the subject may be
 had, by addressing the Subscriber. All commu-
 nications (post-paid) will be immediately replied
 to.

HIRAM BIGELOW.

Tecumseth, Bond Head P. O.,
 February 15th, 1844.

DESCRIPTION.

Composed of a Cylinder about ten feet long,
 and ten inches in diameter, made of Cast Iron,
 one-half of an inch in thickness, having an iron
 shaft passing through its centre, on which it
 revolves with a pulley or wheel at one end, by
 which it is put in motion. The Cylinder is
 placed in an oblique position, having about 18
 inches fall, and is enclosed either in another
 metal cylinder, or a brick arch, of thirteen inches
 diameter, leaving a space of one inch and a half
 between the two cylinders, through which space
 the fire is conducted from a fire-place or grate,
 at the lower end, and passes out by a chimney
 at the upper end. The grain is conducted by a
 tube into the upper end of the inner cylinder.

CARDING MACHINES.

THE SUBSCRIBER begs leave to acquaint his
 friends and the public in general, that in ad-
 dition to his Foundry and French Burr Mill Stone
 Factory, he has engaged Archibald Fupper, who
 is an experienced Mechanist, to make all kinds of
 CARDING MACHINES, of the latest and most ap-
 proved construction; he has been engaged for
 twenty years in the United States, and also in
 Canada, and has a thorough knowledge of all
 kinds of Machinery, namely:—Double and Single
 Carding Machines, Pickers, Condensers, Jacks,
 Billeys and Jersey. Also, Broad and Narrow
 Looms, Shearing Machines, and Gigg, Napping
 and Teazling; Stoves for heating Press Plates,
 Press Screws. Also, Grinding Shearing Machine
 Blades; Fulling Mill Cranks, &c., and all kinds
 of Grist and Saw Mill Castings made to order;
 Wrought and Cast Iron Cooking and Plate Stoves,
 Fancy Stoves of all kinds. Also, Ploughs of dif-
 ferent patterns, Mill Screws of all kinds; and
 Damsall Irons; Bolting Cloths, of the best Dutch
 Anker Brand, warranted of the best quality; Mill
 Stones of all sizes, always on hand and to order.
 Also, all the other herein-mentioned articles always
 on hand and for sale by the Subscriber, at his
 Foundry, on Yonge Street, as cheap as they can
 be obtained at any other place.

CHRISTOPHER ELLIOT.

Toronto, August 7, 1843.

BRITISH, FOREIGN, and COLO-
NIAL NEWSPAPER ADVERTISING
AGENCY and COMMISSION OFFICE, 18,
CORNHILL, LONDON, Opposite the Royal Ex-
change.

P. L. SIMMONDS, Commission Merchant,
 Newspaper and General Agent, continues to
 supply to order all the London, Provincial, and

Continental Newspapers and Periodicals, and
 attends to the several branches of agency and
 commission business. Goods and Merchandise
 of every description forwarded to the Colonies,
 upon the most reasonable terms. Orders and
 Advertisements received for insertion in the Lon-
 don Gazette, and every other European publica-
 tion.

Consignments of Colonial Produce entrusted
 to Mr. Simmonds for sale will receive the most
 prompt attention; and, from his extensive know-
 ledge of the Home Markets, will be sure in all
 cases to sell to the best advantage.

Orders for goods of any description, or for
 Newspapers, Stationery, &c., must be accom-
 panied by a remittance, or a reference to some
 London House for payment, or they will not be
 attended to. The postage of letters must also
 be paid.

STURDONS Colonial Magazine, edited and
 published by Mr. Simmonds, monthly, price
 2s. 6d., is especially recommended to the notice
 of Colonists.

Observe the Address—18, Cornhill.

LESLIE BROTHERS beg to inform
 their Friends that they have just received a
 large and elegant Assortment of **PAPER**
HANGINGS, of French and English Manufac-
 ture, with **BORDERING** to match.

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