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D. J. POWERS AND PROF. J. W. HOYT, Editors.

PREPARATION OF THE SOIL FOR THE SEED.

NUMBER VII.

Harrowing and Rolling.

The object in *harrowing* is to thoroughly pulverize the soil, for the better germination and growth of the seed, and the easier cultivation and harvesting of the crop. If, therefore, the soil should be so light and friable as to be reduced to a fine tilth by plowing merely, and the crop to be grown be such as not to require the smoothing of the surface in order to a convenient gathering, then, the harrow may be dispensed with. Or, again, should it happen—as it doubtless will—in the progress of inventions, that a *digger* should be substituted for the plow, in that event, also, the harrow would lose something of its present importance. But in all other cases, and until such digger make its appearance, we insist that the harrow should be universally and thoroughly used.

If we knew how to enforce the economy of complete pulverization preparatory to seeding, in such manner, that no farmer could hereafter persuade himself to neglect it, we might rationally hope, thereby, to increase the aggregate grain crop of the country at least twenty per cent. The mere turning over of the furrow is rarely sufficient; a minute subdivision of the lumps into fine particles is requisite, and, after thorough plowing, no part of the work of "preparation" pays a larger per cent. on the labor invested.

THE TIME WHEN HARROWING SHOULD BE DONE is a matter of a good deal importance, for the object sought can only be accomplished when the soil is neither too wet nor too dry,—in one case it would necessarily be packed down and rendered too heavy for cultivation, and in the other, twice the labor would be required with almost no result. It is true that the weather sometimes arbitrarily controls these conditions in spite of the husbandman, but it is probably oftener the case, that the advantage is lost through his neglect.

The farmer, then, should carefully look to this matter, and when the right time comes—when the soil most easily crumbles—set the harrows at work, though everything else be left undone.

It is quite common to not harrow at all until the seed is sown, with the idea that thereby a great saving is made—two birds being killed with one stone. This practice is not supported, however, by either theory or facts. For, in the first place, it must be apparent that grain sown upon an uneven and lumpy surface can neither be evenly distributed nor uniformly covered; and secondly, observation has shown that those farmers who harrow their land *before* sowing, as well as after, other things being equal, get crops enough larger and better to more than warrant the extra labor.

THE MANNER,

will, of course, depend upon the condition of the soil and the nature of the crop to be grown. Thus, if the land be sod, fresh and rather

tough, and the proposed crop be corn, then, it would be better to harrow lengthwise of the furrow, since the sod would only be dragged out of its place and tilted on its edge or turned grass side up by harrowing at right angles.—But ordinarily—and particularly for broad cast sowing—the cross method is the best, as the lumps are thus more likely to be broken in pieces, and the surface is better leveled.

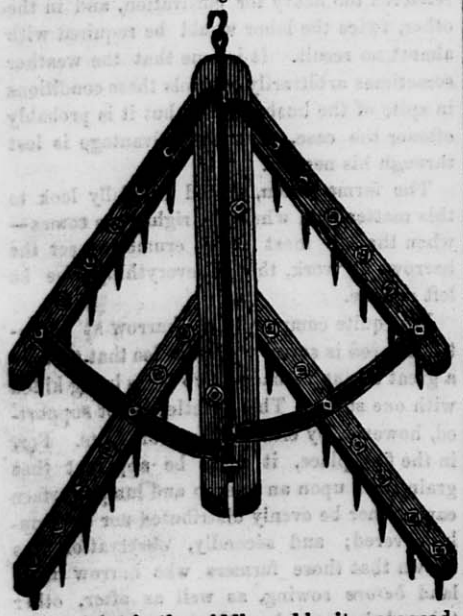
THE STYLE OF THE HARROW ITSELF

must vary with the work to be done and the fancy of the farmer. The principles of construction are more simple than those of the plow, and accordingly, the harrow of the ancients, as evidenced by Egyptian sculptures, was a very respectable instrument, hardly inferior to the majority in use at the present day.

Of the principal forms—triangular, quadrangular and circular—some prefer one and some the other.

The *triangular* harrow has the advantage of more easily passing obstructions and of a more steady draft. Of all the patterns with which we are acquainted, the Geddes Harrow, as seen at Fig. 1, is the best.*

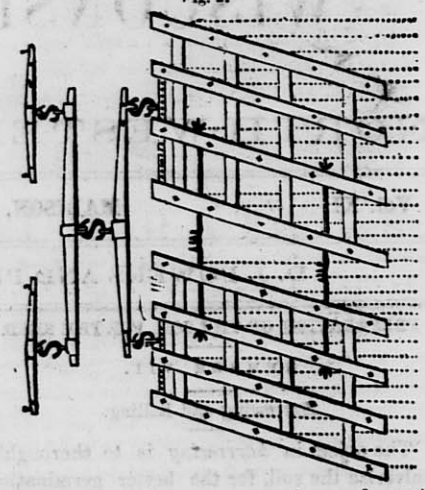
Fig. 1.



The joint in the middle enables it more readily to adapt itself to irregularities in the surface, and allows it to be folded up on one side when passing any obstruction or transporting from place to place. It is strong, durable, convenient, and thorough in its working.

Fig. 2 represents a *quadrangular* harrow involving the same principles as the one above. It contains nearly twice as many teeth, however, and is designed for heavier work and requires a stronger team.

Fig. 2.



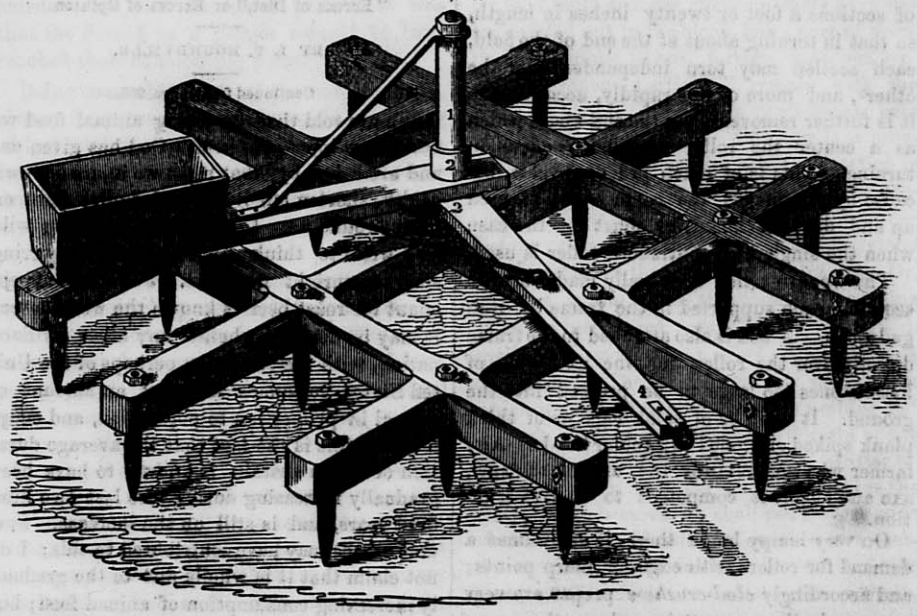
Of the *rotary* harrows several popular patterns are now in use—some single and others double. Among the most popular of these is the "Buckeye," seen at Fig. 3. It was patented by De Witt & Barrett, of Cleveland, O., and looks as though it might do good service. The rotation is effected by loading the box with stones or iron, by reason of which the teeth on that side are forced into the earth more deeply than the others, so that when the team starts the draft is on one side of the point of greatest resistance. We have never used this pattern ourself, but those who have, claim that it does more thorough work than any non-rotating harrow possibly can, and that it is easier for the team—owing to its facility for escaping the various impediments, such as stumps, stones, &c., with which it may come in contact, so that it cannot possibly be clogged.

THE MATERIAL OF WHICH THE HARROW SHOULD BE MADE,

will naturally be determined by the circumces of use and cost. Where good oak and ash are abundant, wood will be found cheaper than iron, and at the same time quite durable, if well painted and kept under cover when not in use. Indeed, with a few tools, such as he ought to have, any ingenious farmer can make

* Some of our readers will recognize these cuts as having appeared in a former Vol.; but since there are others who have not seen them, and inasmuch as they properly belong to this article, we have thought best to re publish them in this connection.

Fig. 8.



the frame-work himself. The teeth should be either square or triangular, (the latter form is better,) so arranged that the lines they make in the soil shall be equi-distant, and so set as that the corner or edge shall point directly forward. Sometimes—and for a tough, clay soil, or unrotted turf this shape is best—the teeth are coulter-shaped, so as to cut their way with the least possible resistance.

THE HARROWING TEAM

should be strong and fast, for two important reasons: first, because, if the harrow be heavy enough to stir the soil beneath the surface, as it ought, it makes very hard work; and, secondly, the successful breaking of the clods requires a sudden *blow* rather than a heavy dragging movement of the harrow. Oxen, therefore, should invariably give place to horses, if the latter can be had, and to those of the best speed, at that.

In conclusion, we say again, the minute subdivision of the soil is essential to a good crop. *Pulverize!* PULVERIZE!!

ROLLING

is another very important though much neglected operation in the preparation of the soil. Perhaps not one in ten of ordinary farmers have ever practiced it or appreciate its value. Yet, the use of no farming implement is more philosophical or more economical.

As an instrument of *preparation* its uses are three: First, it crushes such lumps as may have escaped the harrow and forces into the earth such small stones as would otherwise lie on the surface for the dulling of reapers and mowers. Secondly, it smooths and levels the surface of the field for the more uniform distribution of the seed to be sown, as well as for the more convenient and pleasant work of harvesting. And thirdly, it is valuable in the case of light, porous soils, as a means of giving them the requisite compactness for the better growth of the plant, and its firmer hold in the soil.

It is also proper to mention, in this connection, that the roller is often of great use after the seed has been sown—pressing the soil closely around the seed and thereby promoting its germination. It is likewise beneficial to fields of grain and grass in the earlier stages of growth, particularly in early spring, after the usual upheaval by the frost.

MATERIAL AND CONSTRUCTION.

Rollers are made of wood, iron, or stone, according to the fancy or convenience of the farmer. If expense may be left out of the question, iron is best, since it will last indefinitely, and since it possesses, moreover, this advantage, viz: that it may be made of the most convenient size and yet have the desired weight. But the majority of farmers will regard *wood* as the most economical.

The length varies from six to eight feet and the diameter from one foot to three. When

constructed of iron, they are usually made up of sections a foot or twenty inches in length, so that in turning about at the end of the field, each section may turn independently of the other, and more or less rapidly, according as it is further removed from the end about which as a center the roller describes a curve in turning. This is of much practical value, because by this means the earth is not scraped up and dragged about, as must be the case when the single and continuous roller is used.

The wooden roller is usually made of two sections, each supported in the frame by iron gudgeons. A box is also attached to the frame directly over the roller, for the gathering of loose stones too large to be pressed into the ground. It may be of solid logs or of thick plank spiked or pinned to circular heads. Any farmer who understands the use of the saw, axe and auger, is competent to its construction.

On very lumpy lands there is sometimes a demand for rollers with edges or sharp points; and accordingly *clod-crushers* proper are very common in those countries where the use of the roller, in some form is quite universal.—This class of rollers are sometimes plain but octangular, so as to alternately press with an edge and fall with a flat surface; sometimes fluted—which form is objectionable, however, because of their clogging so easily—and sometimes made with spinous projections at short intervals, so that no clod of objectionable size may escape them.

But of whatever form, and of whatever material, they may be made to perform a very important part in the tillage of the soil and cannot fail to come rapidly into use—certainly not, when our farmers shall have learned, as they surely will, that grass and grain crops may often be thereby increased two-fold. H.

CHUFAS FOR FOWLS.—A correspondent of the Alabama Cotton Planter says of chufas, "they are the best food in the world for fowls, especially those designed for the table. They give a sweet and delicate flavor to the flesh which no other food imparts. I made this discovery by accident. Our chickens having been in the habit of stealing chufas from a neighboring field, I noticed a very great improvement in their flavor. After a while they became so fond of the chufas that it was impossible to keep them out of the field; they lived on them entirely, not taking any other food which we threw to them; and the flesh became absolutely delicious. I do not believe any game in the world can be better than a chufa-fed chicken."

Correspondence of the Farmer.

"Errors of Diet," or Errors of Opinion.

BY I. T. MOUNDVILLE.

Continued from page 258.

We are told that by eating animal food we destroy or injure the health God has given us; and are asked by what right we injure our own health, shorten our lives, and inflict pain on those around us. I cannot help feeling wild as I write to think I am seriously answering such downright nonsense. John Bull's penchant for roast beef is known the world over; it may be doubted whether any other civilized nation, with the exception perhaps of the United States, consumes so great an amount of animal in proportion to population, and coupled with this is the fact that the average duration of life in Britain is known to have been gradually increasing during the last two hundred years, and is still on the increase. Several causes may have contributed to this; I do not claim that it is wholly due to the gradually increasing consumption of animal food; but there is another fact considered in connection with the observations of Knight and Dutrochet which would seem to indicate pretty clearly that it has contributed in no small degree to render that people more healthy and longer lived. "It is very astonishing," says Mr. Grey, "to look at the statistics of France and of England, and to see the wonderful difference between the amount that is produced of butchers meat in the two countries. Now if the position were really true that man was never intended by nature to eat animal food, that it is a law of life that he should be restricted to a purely vegetable diet, and that by disobeying this law, he should feel pain, destroy or injure his health, and shorten his life, then it is surely far more astonishing and wonderful to look at the census returns of the two countries, and to find the flesh eating people of Britain should be increasing at the rate of 300,000 a year, while their more abstemious neighbors, the French, with their finer and dryer climate, more temperate habits, and greater command of fruits, should not have increased at all but actually diminished. The figures I give on the authority of Mr. Grey, the result of the last French census I quote from memory. I am not certain that the statement is perfectly correct but believe it is. This I know, however, that there was something so unsatisfactory in the result of the last census of France, that it

gave rise to considerable discussion in English journals, and the conclusion arrived at was that the French as a people seemed to have reached their culminating point.

Being somewhat tired of the never-ending, always forthcoming pork, I was, the beginning of last winter, accessory to the murder of a four year old steer. Sundry choice cuts of its prime fat, juicy beef were hung up in my granary, and constituted the chief animal food of my morning and noonday meals during four of the cold weather months—an amply sufficient time, I should suppose, for the poisonous action of this food to manifest itself. The world is governed by laws. There are moral laws and physical laws. They cannot be violated with impunity. Man's happiness and temporal prosperity depend mainly on his knowledge of and obedience to these laws. And if it was really a law of our nature that we should not eat animal food, that it is absolutely injurious, even poisonous, punishment in some shape or other would surely have followed my disobedience, but so far from this being the case, the results of this experiment were such —the answer returned by nature to this question fairly put was so decisive and unequivocal, that if all the doctors in creation were to tell me that I had been doing violence to my nature, that the food I had been eating was poisonous and injurious, it would be utterly impossible for me to believe them. I should tell them that during this four months I enjoyed the most perfect health; my step was firm and elastic, my hand steady, my sleep quiet and sound, my appetite good, and the functions of the stomach performed with the regularity of clock-work, and that this is owing to no idyosyncracy of constitution. What I have experienced has been experienced by others, not in twos or threes or hundreds, but by millions. Rest assured, gentlemen, there is something more in this matter than is dreamt of in your philosophy. Go back to your studies. Consult nature more and imagination less. Endeavor to draw legitimate conclusions from well established facts, and thereby prove yourselves capable of science, and your theories worthy of credit.

The conclusion that animal food is poisonous is based on the fact that the body of an animal is constantly undergoing certain changes in its constituent particles, exercise causing a waste of the body, nutritious food supplying matters to make all right again. And it is admitted that when an animal is killed for food most of these offensive waste particles are carried out in the blood, but a part of these "minute, effete, fecant, foreign, worn-out, putrid, poisonous particles," remain with the meat, and these outrageous particles are said to cause all the mischief. But how is it proved? Food that stimulates during digestion is poisonous. If the premises are true the conclusion is inevitable. But are they true?—Before we proceed further let us understand clearly what is the precise meaning the Dr. attaches to the word stimulate. "Anything offensive introduced into the stomach which excites the system to an effort at expulsion is stimulant. The excitement in the system which we call stimulant action is nothing but nature's effort to expel from the domain of life an offending, irritating, uncongenial matter.—If we set down anything which stimulates the system as poisonous, we shall not be very wide of the mark." If this be so, then strawberries are poison. It is well known that the seeds of this fruit do irritate the stomach, they do excite the system to an effort at expulsion, and strawberries are on that account considered luxuries. Yet in the whole catalogue of fruits there is not one so generally liked, which agrees so well with so many people, or is believed to be so healthy. Graham flour must also be considered a poison. Men of sedentary and studious habits, who persist in violating the laws of their nature, by making little use of their legs and great use of their brains, are punished by indigestion and its train of evils. Bread made of graham flour proves highly beneficial to them. The specks of bran contained in this flour irritate like the seeds of strawberries and thereby "stimulate the system to expel from the domain of life" these irritating particles.

Now here are two precisely analagous cases to the one assumed to prove the poisonous character of animal food—the presence of irritating particles in food otherwise nutritious. But if a man were to say, Food that stimulates during digestion is poisonous; strawberries stimulate, therefore strawberries are poisonous, —the conclusion would be so directly opposed to our experience, so manifestly preposterous and absurd, that it would be considered high time for the friends of the man who held such views to be taking special care of him. If anything taken as food which excites or stimulates the system is to be considered poisonous, it will

be no difficult matter to show that many other vegetable substances used as food besides graham flour and strawberries, exercise a more marked influence than any animal food in common use. With many corn meal and oat meal act on the system like graham flour. I have known a supper of oat meal porridge so disturb the digestive organs as to produce nettle rash. What is the action of white beans on the system compared with roast beef? How many people are there who dare scarcely taste a musk melon, to say nothing of cucumbers? What is the action of figs, and what the reputation of stone fruits generally? Is it not a notorious fact that indulgence in these fruits very frequently leads to an attack of diarrhea so violent as to be almost mistaken for the Asiatic cholera? It is said, when animal food is introduced into the stomach, nature makes an effort to expel the poisonous offending matter it contains, and then goes on to appropriate the nutritious portions to sustain life.—Does a statement like this coincide with our every day experience? If the Dr. is so constituted that immediately after eating animal food he receives a peremptory intimation that he must jump and run if he wishes to retain his inexpressibles in a state of unsullied purity, surely he must be a very singular exception to the general rule. That a dinner of fresh beef may act unfavorably on the system of one long unused to that diet, I can well believe. A feed of corn given to a horse long used to oats, we also know, will be likely to produce colic and violent pain, but are we then to conclude that corn is not a suitable food for the horse in spite of our experience to the contrary?

As further proof of the injurious effect of animal food, we are told to ask an educated physician if he allows his patients meat during a fever? and he will answer, no! In Inflammation? no! Why? Because meat stimulates during digestion and increases fever and inflammation. But why does it stimulate?—The physician says straight out he does not know; he only knows by experience that the fact is so. But our more learned Dr. of course knows all about it. "The reason," says he, "is obvious, when we consider the constituents and conditions of meat," and the changes are then rung again on the poor, mischievous, worn-out particles. But to show the fallacy of this conclusion let an educated farmer be asked if he gives his horses corn during a fever? and he will answer, no! In inflammation? no! Why? Because experience teaches that however useful corn may be to a horse when well and having heavy work to perform, it is hurtful when attacked by fever or inflammation. Does corn contain any of these fetid, poisonous particles assumed to exist in animal food, and if not, then to what is the injurious action of corn fed to a sick horse to be attributed? I am no Dr., but a plain, plodding farmer, and it appears to me, taking a common sense view of these cases, that owing to funchoral derangement and depressed vitality, the system is probably not equal to the task of digesting much or strong food. The waste of the body in fever and inflammation shows that the nutritious constituents of ordinary food cannot be assimilated, is not therefore wanted, and its presence in the stomach may thus add to the irritation and disturbance already existing in the system. But if animal food is injurious in sickness, because the poisonous particles it is supposed to contain stimulate the system to an effort at expulsion, may we not ask does not the farmer give bran mashes to his sick horse, and the physician prescribe laxative medicines for his sick patient? Things which do in reality irritate and stimulate the system to make an effort to expel the offending matters.

TO BE CONTINUED.

CLEAN YOUR GRAIN.—We have often presented this subject to our grain growers, and urged a better attention to it, for their own pecuniary good. We can name many of our best millers, with whom we have conversed, who have shown us where the raisers of grain have lost from four to ten per cent. by their careless way of cleaning their grain. They do not reflect sufficiently upon the importance of having their wheat thoroughly clean. A man raising two or three thousand bags of wheat, if perfectly cleaned from straw and broken or loose heads, would require from 100 to 200 less bags for his grain; then, the time of his men in filling, loading, hauling, storing, and freight; and if the cleaning is not well done, this amount is deducted at the mill when the wheat is sold, for dirty wheat never brings as much as clean wheat; and again, the very waste at the mill is often purchased back again by the grower, for hog or chicken feed; thus, first losing the value, then paying for it. If our grain-growers will make some inquiry of the millers, they will find their loss from this neglect far greater than we have stated it.—May we not hope a better attention this year to this subject?—*California Farmer.*

Does Farmig Pay?

AN EVENING CHAT BETWEEN TIM THOROUGHGOING AND SOLOMON SLACK.

Sol.—Good evening Timothy. What is the news?

Tim.—Nothing especial, Solomon, only I just posted and balanced up my farm accounts for last year, which I should have done before only I had not sold all of my wheat until last week.

Sol.—Well, well, I posted and balanced up mine some time ago, and by the way it was but a small job to figure up how much I had lost in the year's operations, and as to gains I had none to figure, neither for last year nor never since I have been farming in the West. Of all the *suck ins* this western farming beats them all, no matter how you fix it.

Tim.—Ah, indeed, I had not deemed it so bad a business. I was raised a farmer in stony New England, and even found it a tolerable business there, but have found it much better in the West, where the land is both cheaper and easier tilled, and withal much more productive.

Sol.—Just the reverse has been my experience. True the land is cheap enough, and the soil rich enough, but somehow another it costs all one can raise and often a good deal more to make the year fetch around. I confess I do not fully understand it, but I grow poorer and poorer every year the best way I can fix it.

Tim.—Indeed, I am sorry to hear it; but surely there must be a cause for it, as we are situated upon farms of very similar quality, and I am sure I am saving something yearly, while you claim that you are losing. Let us see if we can sift out the difficulty. How much land have you in your farm altogether, Solomon?

Sol.—Two hundred and forty acres, Tim, and as good land as can be found in the country.

Tim.—How much of it have you under cultivation, and into what crops?

Sol.—Let me see—60 acres of wheat, 30 of oats, 20 of corn, and perhaps 10 in other small crops.

Tim.—How much clover and tame grass, how much in pasture and is it also stocked down to tame grass?

Sol.—Well, as to that, I have no tame grass, have always understood that it did not do well in this country, and as to pasture I have nothing but wild grass—of course it would not pay to seed down pastures, it would take a power of seed and labor.

Tim.—Let us see, you have 240 acres in all, and 120 of it under the plow, the other 120 is into wild grass and bushes, not yielding any more if as much feed as 20 acres of good timothy and clover, so that your farm of 240 acres is only equivalent to 140 under good cultivation, leaving 100 acres of unproductive land upon your hands, that you have to lose the interest upon the value of, to pay the taxes on and keep fenced, no small item, by the way. What do you value it at per acre?

Sol.—Well I guess about $30 per acre for the pasture part.

Tim.—$30 per acre on 100 acres amounts to $3000 just. The interest on this sum at Western rates, 12 per cent., is $360 per annum.—The taxes on this at ordinary rates, road tax and all included, will not be less, one year with another, than $40. Then the repair and decay of fences will be at least $50 more per annum, making altogether the snug sum of $450 lost on the 100 acres of land not in proper cultivation. This is certainly one considerable item discovered. Let us see what more we can find. If you have no cultivated grass lands how do you plan to properly rotate your crops, and how to keep any considerable stock?

Sol.—Well, as to rotation as you call it, I never have bothered my head about it at all. I plant a field this year and sow it next, and so on from year to year.

Tim.—But I see you have much more sowed than planted crops, how do you manage that?

Sol.—Well, as to that, I sow the same land twice or thrice in succession sometimes, in order to make it come right. I am not very particular about it.

Tim.—But what kind of crops do you get in such cases?

Sol.—Oh, tolerable, usually, although not much to brag of; the *infarnal* bugs and blight raise hob with the wheat about half the time.

Tim.—No doubt of it when you sow wheat to wheat, upon old and foul land; it is mere accident if over half a crop is raised in this way, besides what is grown is quite sure to be inferior and shrunken. What do your crops average per acre generally?

Sol.—Well, I don't know exactly, never measure nor weigh, but should guess about 15 bushels of wheat, 35 of corn and the same of oats. Now as you are so particular let me know what yours average?

Tim.—That I can tell you to a dot for every year that I have farmed it in the West by referring to my books.

Sol.—Thunder! What a job it must be to keep all *sich* things down in a book; much as ever that I can get time to set down what I sell on credit, and that I do with chalk upon the side of the house.

Tim.—Not so bad as you imagine, Sol. I never spend a moment's time that I need for anything else in keeping these books. Ten minutes any evening is sufficient to record every important transaction of the day past.—Here you will find a record of everything in relation to my business for the last ten years; not only accounts of what I have raised, and sold and bought, but of the weather daily, and every other incident of any note, large or small, and all so simply and plainly arranged, that you can read and understand it as easily as your weekly newspaper.

Sol.—*By gauly*, that's a fact; who would a thought it? Why you must have nearly or quite as much *larnin* as a school master, no mistake. But I never had much *edication* and can't do them things; run away trout fishing and to play when a boy instead of going to school.

Tim.—But about my crops; here they are for years back all down in black and white, and not guessed at either, for everything grown upon my farm is weighed and measured, even what we use daily, as accurately as the grocer weighs or measures his goods. Let us see, wheat last year on 40 acres 24¾ bushels to the acre, and that is about what I have averaged, a little less if anything, for years past. Corn 15 acres, 67 bushels and a fraction per acre, and by these back figures you will see I have never had under 60. Oats about 55 bushels last year, usually over 60. Clover 1¾ tons to the acre in June, and a crop of 3½ bushels of seed to the acre in August. Timothy 1½ tons per acre, and ¾ ton of rowin. Carrots, two acres, 1450 bushels. One of turnips 900 bushels. Potatoes 250 bushels per acre, &c., &c.

Sol.—Well, by gauly, them's good crops; don't see how you have such confounded luck in everything. Its most *allers* t'other way with me.

Tim.—But about your stock, how much do you keep and what? I inquired some time ago. Let us know that before we get further on, as that may unravel another important secret.

Sol.—Don't see how; I don't set any great store by stock any way; don't think it pays. Critters are *allers* getting into mischief or dieing, straying away or *sothin* another to make trouble. I don't go into 'em much anyway. Let's see, *Ise* got nine cows counting in the *mooly*, a yoke of oxen, six steers and heifers, a pair of horses pretty old, and lots more of squealing pigs than I have anything to feed, and that I think makes up the list.

Tim.—But have you not any calves, colts nor sheep?

Sol.—No sir, not a one; I have found out that keeping calves don't pay, so I gives mine away at three days old or sells them to the butchers when fat. As to colts, my old hosses don't raise any, and of course I do not buy them. As to sheep, I had some, but the dogs made such *tarnal* work with them, that there was no *funint*, so I sold 'em out.

Tim.—But did you not get pay for those the dogs killed?

Sol.—No, by gauly, for they were mostly killed by our own dogs, that is the boys and mine.

Tim.—But did you not kill the dogs?

Sol.—No sir, couldn't do that, they were too good dogs, besides the family thought everything of them, and would not have them killed on any account; rather let the sheep go, of course, than our regular dogs.

Tim.—But how many *regular* dogs do you keep?

Sol.—Five, I reckon, at present, besides old Sue, the slut, that now has pups.

Tim.—Well, that is certainly *valuable* stock, and no doubt highly profitable, especially when compared with a good flock of sheep.—Taking your stock altogether you certainly have not a very good assortment. I aim to keep a very different lot, and imagine I realize a very different income from it. Let us see what differences we can figure out. But you must bear in mind that my farm only consists of 120 acres instead of 240 as in yours; just one-half the amount. But to the point. My stock consists as follows: A span of good breeding mares, 1 three year old, 2 two year old, 2 yearling and 2 sucking colts, all raised on the farm, and of the very first quality of stock. I have refused $200 for the three year old. Then of cows, I have 12 all raised on the place without exception, and uniformly good, a few of them excellent. Then of young stock, I have 2 well matched pairs of two year old steers, and 5 fine heifers of the same age,

8 good yearlings, and 9 calves, together with a good yoke of oxen six years old. Then of sheep, I have 60 that sheared 4½ lbs. of fine Spanish merino wool, well washed, on an average, the present season, besides raising 40 very choice lambs. Of dogs I have not one, having no use for them whatever, and believing them a nuisance on general principles.—Now let us figure up our comparative profits on both grain and stock growing for the last year. The results may be instructive. We will take yours first. Please state again as specifically as you can the amount of each.

Sol.—Well, I don't exactly know, but we'll say 60 acres of wheat at 14 bushels per acre, 840 bushels; had to sell when wheat was low, must have money to pay off old debts, and hired help, and only got 60 cts., $504. No oats or corn to sell, light crops and the cattle got into them more or less. Sold ten calves for an average of $2.50 per head, $25.

Tim.—Well what else? No pork or butter, poultry or what not? What for growth and increase of stock?

Sol.—Don't think of anything else; had to buy pork and butter both, to get through harvest. Had pork enough, but some of it spoiled, on account of leaking brine; the old woman nor me didn't notice it till it *spilt*. As to growth and increase in the value of stock, &c., I can't say much; raised no colts nor calves, and most of the critters already too old to grow more valuable; think they about held their own. As to chickens and eggs, the old woman sold a few, but hardly enough to buy our tobacco and pipes.

Tim.—So then your whole gross cash income from your 240 acre farm was but $529. How much did you pay out for help?

Sol.—Well, we paid Patrick Scroggs, the Irish boy, $10 per month for the year, and Bill Wilkins $26 for a month in harvest, and a dollar a week, which I like to have forgot, for a hired gal.

Tim.—This makes altogether $198, which deducted from your income of $529 leaves but $331 to meet all your other cash outlays for the year, and from this must be deducted at least $100 for seed, which in our calculations we did not deduct before, leaving your real income only $231. How do you live on such a sum with your big family?

Sol.—Well, we don't live, we only stay; hence I call farming a hard business anyhow; it don't begin to pay nohow, and I am bound to sell.

Tim.—Yes, that you are, said Tim, mentally. You must be eating and drinking up your farm at the tune of at least $500 a year. Now for my figures. Say 30 acres of wheat at 24½ bushels per acre, 755 bushels. Sold this spring 700 bushels at $1.10, $770. Sold 200 bushels of seed oats at 75c per bushel, $150. Sold 55 bushels of clover seed at $7.50 per bushel, amounting to $412.50.

Sol.—(Incidentally.) By gaul, that counts up, don't it?

Tim.—Sold 40 bushels of apples from my young orchard at $1.50, amounting to $60.—Sold $110 worth of potatoes, and $70 worth of carrots and turnips. Then my wife sold of butter, cheese, eggs and poultry, $140 during the year. We sold 856 lbs. of pork at 5 cts., $50.80. Then of wool I sold 250 lbs., besides saving for our own use, at 38c per lb., $35.—Lambs and sheep I sold altogether, let me see, $56.50. I sold a four year old colt for $140, two dry cows at $30 each, other young stock to the amount of $90. To these might be added sundry other small article which I will not enumerate. The foregoing make altogether, say—

Wheat,	$770 00
Oats,	150 00
Clover seed,	412 50
Apples,	60 00
Potatoes,	110 00
Carrots and Turnips,	70 00
Butter, Eggs, Poultry, &c.,	140 00
Pork,	50 80
Wool,	35 00
Lambs and Sheep,	56 50
Colt and Stock,	230 00
Amounting altogether to	$1,985 30
Out of this I paid for hired help altogther	230 00
Which deducted leaves us	$1.755 50

as the gross nett proceeds of my little farm of 120 acres, against your $231 from yours just twice as large. Now I think farming pays, as shown by my figures. And if you will look sharp, I think you can readily discover a number of reasons why yours is so far behind.

Sol.—Ah! it is all luck, Tim, and you certainly are the luckiest man I know of, but how in the name of common sense you contrive to keep so much stock upon so little land, is the mystery to me, as well as how you raise such crops.

Tim.—No, *Solomon Slack*, luck has little or nothing to do with it, I assure you, *but getting up in the morning has a great deal more in it than luck.* How I keep so much stock upon so small a farm, and raise such crops is all a very simple matter, and one that I will gladly explain to you the first convenient opportunity, if you wish, and that you may be

pondering upon it in the interim, I will simply say that the MANURE HEAP is at the bottom of the whole matter; that and the proper mode of feeding stock to make the manure, is the entire witchcraft of the whole thing, as I will ere long explain. Good night.

Sol.—Hope you will, or I am a lost man sure.

MORAL.—Tim Thoroughgoing drives his business snug and steadily before him, while Solomon Slack is driven by his, and falls in the rear of course, and with the firm conclusion that farming won't pay.

If farming in Wisconsin will not pay, we should like to know what will, and also what will in that case become of us, as it is the only business in the country of the least comparative account. When farming ceases to pay, what pray will become of all the fine feathered gentry who live out of it, upon one professional pretence or another, and without ever soiling their hands with labor? Echo answers what. P.

Chinese and African Sugar Cane.—No. 4.

BY J. G. KNAPP, FOR THE STATE AGRICULTURAL SOCIETY.

Of the Clarification of the Juice.

In giving the analysis of the juice it was mentioned that it produced a slightly acid reaction on litmus paper. This acid action arises either from the carbonic, or some other acid, formed by the vegetable action of the living plant, or from acetic acid formed by fermentation. But whatever the acid may be, it is deemed necessary to remove it from the juice or the cane sugar will be destroyed. For this purpose the sugar manufacturers have used some of the common alkalies—potash, soda and lime. All the compounds of soda and potash with vegetable acids are soluble in water; and if these alkalies are used as neutralizers, they will remain in the syrup, and become injurious to the crystalization of the sugar.

Lime on the other hand forms insoluble compounds, and is removed by the filter from the syrup. It has been usually applied in the form of quick lime, or milk of lime. In this form, however, it will act in some measure upon the basis of cane sugar and convert it into grape sugar, and finally into melassic acid by the aid of heat. Quick lime by its action upon the bases of fibrine, casein, and albumen, converts them and a portion of the cane sugar into glusic acid, which uniting with another portion of the sugar, forms uncrystalizable and fermenting grape sugar, thus giving rise to the large quantities of molasses produced at the sugar houses of the sugar makers.

Cane sugar is no more the sap of the plant, than the juice of the ripe apple is the sap of the apple tree; but it is the natural product of the plant we are considering; and is found in them only in a mature state.

If the cane be cut in two and examined with a magnifying glass, the crystals will be seen as distinct and white as double refined sugar. The object of the operator should be to separate these crystals, without altering their color. They should be separated with as few impurities as possible. To accomplish this last process many inventions and plans have been proposed, but all have more or less failed.

Failing in perfection, the next object has been to clarify the juice from the impurities, as far as practicable, because their presence will produce almost instantaneous fermentation. Most of them can be coagulated by heat and removed by the skimmer and filter, but not all. Some will burn at 120° Far., giving rise to coloring matter in the boilers, and a decomposition of sugar, during the process of evaporation, or the formation of other materials highly injurious to crystalization.

Among other impurities found in the juice, in the process of manufacture, acetic acid is no inconsiderable one. With it lime forms an exceedingly soluble salt, very offensive to the taste, and removed from the syrup with great difficulty. Lime also unites with fibrine, casein, albumen and gum, and renders them permanently soluble, while it precipitates starch alone.

Nature has shown us that we can convert fibrine, starch, cane sugar, gum, grape sugar and alcohol into acetic acid, or into each other in the order named, yet the order cannot be reversed. The change requires but an almost imperceptible decrease of carbon. They all act upon lime in the nature of an acid, and with it form different salts. There is another quality of quick lime which must not be forgotten, and which injures sugar. It is never found in nature, but is always combined with an acid. If that acid be driven off, it will supply itself with the same, or seek another. If we examine this action of lime on sugar, we shall be startled at the result.

The formula of sugar was C 11, H 11, O 11, or more exactly, carbon 42.47, and the elements

of water 57.53 ; and of gum it is carbon 42.23, water 57.77; so that if there be extracted from 100 grains of sugar 24-100ths of a grain of carbon, and 14-100ths of a grain of water be added, the result will be the 100 grains of sugar will be converted into gum. Now suppose 1000 grains of lime remain in the solution of cane juice, after boiling and filteration; those 1000 grains of lime will require 761 grains of carbonic acid to convert them into carbonate of lime, or chalk. This carbonic acid consists of 210 grains of carbon, and 552 grains of oxygen. The carbon must be extracted from the sugar, as there is no other body from which it can come. But if 100 grains of sugar cannot part with 24-100ths of a grain of carbon before it is converted into gum, the abstraction of the 210 grains of carbon will be sufficient to change 87,500 grains, or 15 pounds of sugar into gum. This result will not happen, as the lime will change a portion of the sugar into glusic and melassic acids, and then unite with them, and thus destroy a less quantity. Here in one considerable cause of the formation of molasses.

The use of quick lime not only produces a loss of sugar as we have just shown, but the greater the quantity of lime in the juice, the longer it must be boiled, and the greater the heat required, and therefore the darker and finer the grains of sugar.

Acetic acid, we have shown, cannot be removed by lime. On the contrary it will evaporate like alcohol, with the water in boiling. Any one may test this experiment by adding distilled vinegar to a solution of sugar and evaporating the mixture at boiling heat. The sugar will remain nearly intact.

To repeat: lime should not be used merely to neutralize the vegetable acids; 2d, if acetic acid be present, quick lime should not be used at all, as its action is highly injurious; 3d, its action on the impurities in the juice is equally so; 4th, by acting on the sugar in the formation of gum and glucose, it increases the quantity of molasses, and injures the quality of the sugar; and lastly, it is unfit as a clarifier except to separate the starch.

Such are the deductions made by Simmonds, in a long series of experiments, and they are confirmed by Wray, Scroffern, and Benjamin. So great are these objections that some planters are making up their crops in the vacuum pans without the use of lime. These last find other obstacles equally difficult to overcome, by which their loss of sugar is about as great as where lime is used.

To obviate these difficulties, many other substances have been resorted to, only a few of which will be noticed.

A few years ago a patent was applied for at Washington, to use acetate of lead as a defecator. The rationale of this patent was, that acetate of lead would be decomposed by the heat of the boiler, when the acetic acid would escape, and the lead base would unite with the fibrine and other impurities and precipitate them in the filter. But the patent was refused by the Department, on the ground of the danger attendant upon the use of so virulent a poison as sugar of lead, or even lead oxyd, in the manufacture of sugar.

Another substitute was supposed to have been found in the sulphate of aluminum. To the use of this salt there were two objections, which must preclude its use. 1st. The difficulty of procuring the salt will always make it command about one-half its weight in silver. 2d. The salt will decompose by heat and the free sulphuric acid will then produce its peculiar injurious effects upon the sugar. It was proposed to overcome the first of these by the use of the alum of commerce; but while this did not overcome the last difficulty, it even produced a new one. The decomposition of the salt of alum produced free potash to act upon the sugar, as well as sulphuric acid.

A few years ago at Valenciennes, in France, a manufacturer had a process of extracting the sugar from beet molasses, or treacle, by caustic barytes. Forty-six parts of barytes was used for 100 parts of sugar in the treacle. This formed an insoluble saccharate of barytes, and which after being washed, was again decomposed by the action of carbonic acid gas, leaving the sugar in a pure form dissolved in water, and ready for evaporation. It was said to be economical, but the plan was new, and I am not aware that others have practiced it.

Various mills and presses have been suggested, but all have been attended with difficulties and objections. In the Patent Office Report of 1858, will be found a long essay upon the extraction of sugar, by first drying the cane and beet, and then extracting the sugar by the use of warm water. Machinery for that purpose have been patented in England and in this country. Experience, that best of all schoolmasters, has taught the inutility of this last, and it is now abandoned by the sugar manufacturer.

After giving one more recipe which has been so little tried that its value cannot be determined, and although it is highly spoken of by some manufacturers it is not difficult to detect its defects, I shall close this number to give in my next and last what in my opinion is the best of all agents for the perfect clarification and crystalization of sugar.

Take of subcarbonate of potash 2 ounces, sulphur 2½ ounces, best slaked lime 1½ pounds, mix them into a paste in an earthen pan or wooden tub, with one quart of water, and when thoroughly mixed, pour in ten gallons of warm water, stir from time to time until it is cooled, when it may be drawn off from the sediment and kept for use.

This is the celebrated Ramas' prepared Plantain juice, and has been very extensively used in the West India Islands, and especially in Trinidad. It must contain free alkalies, lime and potash, and be injurious to the sugar.

Correspondence of the Farmer.

Review of the Decision of the Executive Committee of the Wisconsin State Agricultural Society and remarks of the Editor of the Farmer in relation to the Essays on Farm Buildings, &c.

MESSRS. EDITORS:—I was somewhat surprised and disappointed at the decision of the Executive committee, and at your remarks on the Essays on Farm Buildings, &c. I do not complain that the Essay presented by myself did not get the premium, but for all I have yet seen or heard, I do think one of the three Essays should have had the premium. The objections urged against giving the premium are the following: "The plans all lacked a detailed and complete estimate of the cost of each in items." Further, "They fell considerable short of what the Committee deemed good and suitable models for farm buildings." These are the only objections, and may be found in the March number of the *Farmer*, pages 99 and 105. Neither of these things were required by the premium list, and it does seem strange that the Committee of the State Agricultural Society should go outside the bounds of their own proposal for objections against giving the premium which they offered.

Look at the Committee's offer in the last July number of the *Farmer*, page 279. Is there anything in that proposal that requires a detailed cost of each in items, or that requires a model? There is no such thing.—The Committee did require complete estimates of cost throughout, and that was given, as the editor admits, when he says, "It was assumed in gross that they could be built for about so much." I understood it to mean, we want the total cost of each building by itself. Any one can see there is nothing in detail about it, and to get the complete estimates, the detailed estimates must be added up. It would not have been a difficult matter to give the cost in detail if it had been required. The idea of writing an essay to be submitted to a few men to say whether it is a model or not, is absurd; no person of common sense would make such an offer, and no person of common sense would write under such circumstances.

The editor in his editorial says, "The third plan was as far to the other extreme of plainness and old-fashioned down-east style resembling in its outward appearance a small warehouse or country meeting-house without a steeple." I beg leave to inform the editor that he is much mistaken, to say the least. I have no fears in saying to him, you may go the United States through, examine all the warehouses, and country meeting houses, and farm-buildings, and with but one exception, you cannot find a building of any description whose outside appearance or inside arrangement generally resembles it. So far as old-fashioned is concerned, it is none the worse for that, if it is good. Only think, "A country meeting-house," 30 by 48 is not properly proportioned. And then again a basement end, a piazza, two chimneys, sharp roof, full lighted (not with meeting-house windows,) even the gable ends, 11½ feet posts with a tasteful border around the gable ends and piazza, and then the trimmings painted white and the remainder a straw color. All this resembles a country meeting-house or warehouse does it? The editor seemed to think 11½ feet posts not high enough. Why, Mr. Editor, if you would just add a few feet more to the hight you would make it look more like a meeting-house. You admit the internal arrangement of the rooms is tolerably convenient. That is saying considerable under existing circumstances, but as a drawback to that, you again say, "Although cut up by irregular and oblique angles almost equal to an octagon. Here you are a long ways from the facts. "Almost equal to an octagon." The rooms are almost eight-square, are they? It does seem almost impossible to make the rooms eight-square in a house 30x48. In the whole plan there were but three oblique partitions; one was 14 feet

in length, one 7 and the other 5 feet—and yet you would make people believe that three oblique angles would make the rooms in a large house almost eight-square. Probably one twenty-fifth eight-square would be nearer the facts.

Again you say, "The author of this last plan evidently has a goodly amount of sound ideas as a farmer, but very few as an architect." I did not suppose you had a very favorable opinion of my farming ideas, for since I have been in this State, 3½ years, I have written and forwarded three communications for the *Farmer*, only one of which has been published. Of this I do not complain, supposing neither of them was worth publishing.

On page 279, already alluded to, you gave a very pretty invitation to the writers "in the common walks of life" to write upon the essays —now to fling out the following expressions I think is ungenerous. You say the second plan "showed plainly enough that their author was not probably more familiar with farm buildings than with a man-of-war." In regard to my "but few ideas as an architect," I know about as much about architect as I desire, for you know, and I know, that no system of architect can give a good plan for farm buildings. I know that the plan I presented was not architectural, but where architect was wanted, I endeavored to supply its lack with practical common sense.

Lastly you seem to think my barn floor (11 feet) was not wide enough. I answer, I once owned a barn 36x40 feet, 11 feet floor, and then built another barn 40x70, 11 feet floor, passing endwise of the barn, and used to fill both barns, and think 11 feet floor wide enough. My opinion in regard to the floor is "Practice against theory." Eleven feet may seem narrow in Wisconsin, for the barns here are generally as large as all creation and floors to correspond.

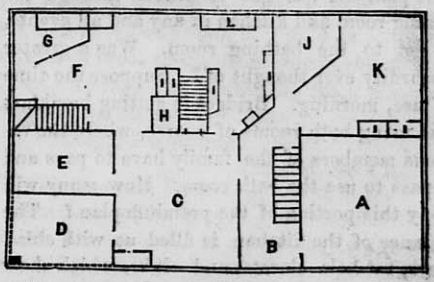
It seems by perusing the *Farmer*, especially the April number, page 141, that farmers need "the offer of quite liberal premiums, and considerable urging to boot," in order to induce them to enter the lists for premiums. I am not surprised at this. No liberal offers henceforth will be likely to induce me to compete for a premium, and what little writing talent I may possess, will probably be hid in a napkin, or will find a channel in some other direction. What I have written has been with no ill-feeling, but purely in self-defence, and I have hitherto had a favorable opinion of the editor.

DAVID SEARS,
Author of the 3d Plan.

April 7, 1859.

Remarks.—Our Green county friend seems to have got somewhat excited upon the subject of premiums, plans, and communications, and inasmuch as he was very anxious that the public should know how badly he, and may be other competitors, had been used, we consented to publish the foregoing communication on condition that we might have his plans engraved and published in connection with it.—We have gone to this trouble and expense simply to enable the public to form a more correct estimate in relation to the subject than they would have been able to have done from simply reading the so-called review.

We finally only had the ground plan engraved, which we present herewith, and will point out a few of what we consider its faults. The author of it in trying to get up a remarkably good plan, has done what is often done, to-wit: spoiled it, in our estimation at least.



Description.—A, Parlor; B, Hall; C, Dining room; D, Piazza; E, Bed room; F, Kitchen; G, Bath room; H, Chimney; I I I, Closets; J. Bed room; K, Nursery.

1st. His parlor, dining room and hall are well enough; but next comes a corner knocked in for a piazza, 8 feet deep and 12 feet long, one story high, with the chamber projecting over it, making, to say the least, a hideous looking feature, repugnant to all true proportion and correct taste, and at the same time crowding with its eight feet width the adjoining (we suppose intended to be genteel bed-room) up to 7 feet in width. Now we will submit to the judgment of the reader if it would not have been much better to have had the bed-room 9 to 10 feet wide and the piazza only 5 to 6. A 7 feet wide bed-room and an 8 feet jog-in piazza in a model plan! What an idea.

Next let us explore the various features of

the adjoining kitchen, originally 15x24 or thereabouts, a very good size by the way, if not filled up by so many other contrivances. First in order then is two pairs of stairs out of it, besides another pair of front hall do., making three flights in a medium sized house, one more for certain than there can be any possible need of, and consequently just so much waste of room. Those two pair of back stairs could of course have been thrown together by a little ingenuity, just as well. Suppose they had been in the central position, going down cellar from the pantry end and up stairs from the other, then one corner of the kitchen would have been relieved from a material deformity and incumbrance.

Next comes the *bath room*, in the other corner of the kitchen, with an angular partition, making as hideous a looking feature as possible, besides being wholly out of place. A bath room for general use in a house should of course be approachable from the sleeping apartments, at least the family bed room. In this plan one has got to travel through the dining room and kitchen in any and all events, to get to the bathing room. Was a greater absurdity ever thought of? Suppose the time of use, morning. Bridget is getting breakfast and using both rooms of course, where the various members of the family have to pass and repass to use the bath room. How many will copy this portion of the premium plan? The balance of the kitchen is filled up with chimneys, rat-hole closets and sinks, which show for themselves. Next comes the pantry, rat-holed in the same way, until both kitchen and pantry resemble in their shape and outline, a potato that grew in a stone heap, more than neat and tasty rooms. Perhaps some will say it is only a kitchen, hence no odds. To such we will reply that the kitchen is a very important room in a farm house, being where most of the work is to be done, hence it should be good sized, airy and pleasant if possible.

Next and last comes the nursery and of course family bed room in connection, with another of those angular partitions so thrown in as to spoil the looks and convenience of both rooms. Without the partition it would make one good family sleeping and nursery room; not a whit too large. The bath room might properly have been cut off from the left end of it, and been approachable not only from the nursery, but also from another door at the foot of the main hall, and in that way accessible from the whole household without passing through any principal room. But it has required more space to get over these details than we had intended, and we will close with a few general remarks.

No doubt almost all, both men and women, deem themselves pretty competent, not only to plan houses for themselves, but for others also. Such appears to be the opinion of our Green county friend, beyond doubt. Perhaps he is correct; upon that point we simply submit his plan, with our brief comments, as simply our opinions, nothing more, and leave the public to judge for themselves upon the whole matter. We would gladly have also published the perspective or elevation of his plan, but could not conveniently get it engraved. In our opinion it just about corresponds with the ground plan, and would find but few imitators or admirers.

Like some others we also may be conceited and in clouds of error in our notions about country houses and plans, probably we are more or less, but it is a business we have given a good deal of study for twenty years, and in that time have planned and built at least a hundred houses and other buildings; hence we think that we either do or ought to know something about the business if we ever expect to, but on that we are willing the public shall judge.

In inviting farmers and others in the common walks of life to write for the *Farmer* or compete for premiums, does not appear to us to have been anything wrong, nor do we think that it precludes us from properly criticising any plans or essays that may be presented.—A little well-directed criticism never yet hurt any person or thing of real merit. We never do such things invidiously.

Whether our friend S. concludes to compete further for premiums, or to write further for the *Farmer*, is a matter that we cannot and do not wish to control; that is purely his business not ours. We can only say that we intend to use him just as well personally as we do any one else, and that is as well as we know how, and if that does not suffice and we thereby lose his friendship and patronage, why then we must try to live some way without it, that's all. Still we do not imagine that there are any serious grounds of difference between us, and that some time when convenient we shall call and take tea with him in his model house, and have a good laugh over this whole matter. Hope so.

P.

STOCK REGISTER.

Correspondence of the Farmer.

A Choice Flock of Sheep in Wisconsin.

MESSRS. EDITORS:—Enclosed I send you several samples of wool from fleeces that I have lately shorn from my small flock of sheep, together with the respective weights of fleeces, also the average weight per head of my entire flock and the manner I have managed them the two years past. I purchased ten Spanish ewes and one buck lamb of Eben Porter, of Vermont; kept them through the summer and fall in a pasture of tame feed. I used H. Hemenway's stock buck, young Matchless, commencing the 26th of Oct.; kept them on good tame hay, provided them good shelter with water conveniently near, never forgetting to give them a light sprinkling of grain daily, and as the lambing time approacned, to feed them well with bran mash. I raised nine lambs from them the first year. The ten ewes sheared me six pounds per head, of well cleansed wool, and the buck lamb eleven pounds. He was bred by E. Porter, from Matchless.

I was so well pleased with my success that I purchased ten ewes and eleven ewe lambs of A. F. Knox, which increased my flock to twenty ewes and twenty lambs. Their keeping the past year was much the same as it was the first year. I took several ewes to Mr. H.'s buck and for the rest I used my yearling buck.

I have raised nineteen lambs this year, from my twenty ewes, which I think are good ones.

I must acknowledge that when I commenced with the ten ewes I knew but little about sheep and their right management, and although I have much yet to learn, still one point is sure—that a superior stock-buck in a neighborhood is worth a mint of gold to such as use him, and I think the only correct way of breeding sheep is to get good ewes and then use the best stock-buck that can be got. I am as well pleased this year as I was last with my success in sheep, together with the stock that I have from Mr. H.'s buck. I have 14 ewes of Matchless' getting now, for which I intend to use Mr. Hemenway's stock-buck, Roberson Rich, that he has lately purchased in Vermont, and which he intends to keep in connection with Matchless.

I am taking up too much space, but I am not much used to writing, consequently it takes a great deal of space for me to say a little. I will now report to you the weight of several fleeces, also an average per head of my flock, which consists of 20 ewes past three years old, 14 ewes one year old, one buck two years old, and 5 bucks over one year old. All except the 20 breeding ewes are sired by Matchless. You will notice my two year old buck beat the old buck that sired him one pound and two ounces. I consider that a good recommend for the old buck to beat himself. They were shorn on the 18th of June, nine days after washing.

Report on the several fleeces of Breeding Ewes past three years old.—No. 9, 6 lb. 14 oz; No. 15, 6 lb. 8 oz.; No. 17, 6 lb. 6 oz.; No. 14, 5 lb. 12 oz. The lightest fleece among the 20 is 4 lb. 10 oz.; whole amount is 108 lb. 8 oz.; average per head, a trifle over 5 lb. 6 oz.

Yearling Ewes are No. 11, 7 lb. 10 oz.; No. 10, 7 lb. 10 oz.; No. 8, 7 lb. 2 oz.; No. 5, 8 lb. 12 oz.; No. 3, 11 lb. 8 oz.; No. 14, 8 lb.; lightest fleece is 5 lb. 12 oz.; the average a trifle over 7 lb. 5 oz.

Bucks.—One buck over 2 years old, unwashed, 17 lb. 14 oz. Yearling bucks, No. 2, 10 lb. 6 oz.; No. 3, 10 lb. 9 oz.; No. 4, 10 lb. 2 oz.; No. 5, 9 lb. 12 oz.; No. 6, 9 lb. 4 oz.; whole amount of wool shorn from the bucks, 67 lb. 10 oz.; average a trifle over 11¼ lbs. The average of the 40 is over 7 lbs.

Yours, Respectfully,

ASAPH PRATT.

LIMA CENTRE, Rock Co., July 8, 1859.

REMARKS.—The foregoing shows what Wisconsin farmers can do when they try in the way of getting flocks of sheep. Mr. Pratt has begun right exactly, and it will be a miracle if he don't succeed. His average of over 7 lbs. of the very finest of Spanish Merino wool per head, worth at least $3, and a lamb worth as much more, making $6 per head, looks as if sheep keeping might be made to pay in Wisconsin, if farmers only had brains enough to go into it, and would thin off their miserable dogs. Mr. Pratt's samples of wool are splendid. P.

MESSRS. EDITORS:—I will report through your journal if you please, my annual clip of wool, by sending you a few samples, the weight of several fleeces, and an average of my flock. My flock collectively have not done as well as last year, owing I think to the wet season.—Wet seasons, generally, are injurious to sheep. Many times diseases become seated in a sheep during a wet season, that often linger about them, tending to enfeeble their constitution

and lessen the quantity of wool. The sample No. 1 is from my old stock buck Matchless, yielding 16¾ lbs.; he was stinted to 220 ewes last fall; his first fleece was 12 lbs., the last four 16 lbs. and upwards. No. 2, is from Roberson Rich, yielding 16½ lbs.; he was stinted to over 200 ewes in Vermont last fall. He was bred by Mr. John T. Rich, of Shoreham, Addison Co., Vt., who is well known as one of the most successful breeders of fine sheep in Vermont. He was sired by the very celebrated stock buck known as the Roberson buck, owned by Mr. Stickney of the same place. His dam was a descendant from Andrew Cox's flock of fine sheep of Long Island. Mr. Rich has used him as his principal stock buck the four past years. He was purchased for me by Mr. A. F. Knox of this place. I intend to keep him, in connection with Matchless, for the improvement of fine sheep in the West. No. 3 is from a buck sired by Roberson Rich; fleece weighed 12¾ lbs. No. 4 is from an ewe 3 years old, fleece weighing 9 lb. 11 oz. No. 5, 8 lb. 5 oz. No. 6, 8 lbs. My entire flock of 110 averages 5 lb. 14 oz. per head, all well washed, except the two old bucks.

I have made sale of my clip for 44½ cts. per pound, being less than what it is actually worth, owing to the fact that it must pass through the hands of a series of speculators, before it reaches the consumers.

Yours, Respectfully,

H. HEMENWAY.

Whitewater, July 12, 1859.

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Messrs. Editors:—I am requested by my friends to report to you the weight of wool from 33 yearling sheep, sired by Hermon Hemenway's buck Matchless. I wintered 54 in this flock, and 21 older sheep—fed them on timothy hay and four quarts of corn and eight quarts of oats daily, giving them access to water. My lambs began to drop about the first of April, 1858. Sheared the 23d and 24th of June, 1859. They were all well washed in a vat of pure water under a spout. Fourteen wethers sheared as follows: No. 1, 8 lb. 4 oz.; No. 2, 5 lb. 11 oz.; No. 3, 6 lb. 13 oz.; No. 4, 8 lb. 3 oz.; No. 5, 6 lb.; No. 6, 7 lb.; No. 7, 8 lb. 2 oz.; No. 8, 6 lb. 10 oz.; No. 9, 6 lb. 4 oz.; No. 10, 6 lb. 8 oz.; No. 11, 6 lb.; No. 12, 6 lb. 3 oz.; No. 13, 6 lb. 1 oz.; No. 14, 6 lb. 12 oz. Two bucks, one 7 lb. 13 oz., the other 9 lb. 12 oz. Amount of wool 112 lbs.; average per head 7 lbs. Ewes, No. 1, 6 lb. 5 oz.; No. 2, 7 lb. 12 oz.; No. 3, 6 lb. 14 oz.; No. 4, 7 lb. 14 oz.; No. 5, 6 lb. 14 oz.; No. 6, 7 lb. 8 oz.; No. 7, 5 lb. 13 oz.; No. 8, 6 lb. 6 oz.; No. 9, 6 lb. 3 oz.; No. 10, 6 lb. 4 oz.; No. 11, 6 lb. 6 oz.; No. 12, 6 lb. 6 oz.; No. 13, 7 lb. 7 oz.; No. 14, 8 lb. 5 oz.; No. 15, 6 lb. 4 oz.; No. 16, 7 lb. 8 oz.; No. 17, 5 lb. 15.—Amount of wool 116 lbs.; average per head, a little over 6 lb. 13 oz.

My sheep that I have raised previous to those described above, of the same age, have not averaged over five pounds.

Respectfully, Yours,

A. S. EDGERTON.

Lima, July 11, 1859.

Grub in the Head of Sheep.

About these days sheep will be seen to huddle together with their noses to the ground, and also to run from place to place in the same position, to escape the teasing fly that seeks to lay its eggs in their nostrils. When once the eggs are deposited they soon hatch, and the worms find their way up the air passages of the nose until they arrive at the frontal sinus, or cavity in the forehead, where they remain until the next spring, when they quit their hold, become winged insects, and go through the same course as before. If many of these grubs get access to the head of the sheep at one time, they occasion much distress, and should be dislodged. This can be effected in various ways: One way is, to blow tobacco smoke in the nostrils, by inserting the stem of a pipe filled with lighted tobacco, and blowing through the bowl; another method is, to throw in the nostrils, from a syringe, a slush of yellow snuff and water; another is, to hold up the nose of the sheep, and drop or inject a little spirits of turpentine and water. To know when the sheep are affected by grub in the head, watch for a leaking from the nose of a thin mucus, sometimes tinged with blood, drooping of the head, loss of appetite, snorting, etc.

As a preventive, smear the nose in train oil, or thin tar, or tar, linseed oil and sulphur powder. It is also well to let the sheep run on a fresh plowed field. In any case, the sheep should be changed from one pasture to another often during the warm season.—*Ohio Cultivator.*

Sure Cure for Hog Cholera.—Pulverize and mix well: sulphur, 4 lbs., madder, 4 do., saltpetre, 2 do., black antimony, 2 do. If your hogs are sick, give to each one tablespoonful twice a day, night and morning, until cured. As a preventive, give to each hog one tablespoonful twice a week.

This remedy has been used extensively in our neighborhood, and in nearly every case has effected a cure. As a preventive we think it infallible.—*Louisville Journal.*

Correspondence of the Farmer.

Curing Lameness in Horses.

MESSRS. EDITORS:—I have a horse which I esteem highly; of a beautiful color, high spirited, but so gentle that a child can drive him, a handsome stepper and possessing considerable speed. Upon taking him from his stall some weeks since, he showed a very bad lameness forward. He had before been troubled with corns, but I was confident that this sudden and alarming lameness could not result from that cause. I applied, as people usually do in such cases, to experienced "horse men," and got some of them to look at him. Each accounted for the lameness in a different way. One said it was from corns, and I had his hoof cut down to the quick. Another said bad feet generally, and advised fresh cow manure. Another said sweeney, and tortured him with nostrums for that, which took off the hair, raised a scalding blister and made a running sore. Some said it was a shoulder jam, and I had him treated accordingly. In the mean time the horse grew worse; he scarcely used the leg at all. From disease the muscles began to fall away and the hoof to contract. I then applied, as I should have done in the first place, to Dr. George Kilbride, of this city.—He immediately took the horse in care. He did not express an opinion at first, even as to the location of the trouble, whether in the foot or shoulder, a fact about which nearly all I consulted differed in opinion. A horse cannot tell, like a man, where his pains are, and from the sympathy of all parts of a limb with each other, the best judges may often mistake in arriving at where it is. The fact can only be ascertained by one well acquainted with the physiology of the horse, which Dr. Kilbride is, upon scientific principles, and by close and careful observation. All these the Dr. brought to bear. He satisfied himself, and after preparing his remedy, he applied to the entire shoulder of the horse, from half way down to the knee, up to his wethers, back to the first rib, and forward beyond the front point of the shoulder. He gave it as his opinion that the lameness was in a place nobody else had thought of, and that it was caused by a strain of the broad inner muscle of the shoulder. A few days attentive application of the liniment over the whole broad surface described, developed the exact seat of the disease. From the front point of the shoulder commenced oozing out through the pores, a dirty mixture of clotted blood and matter, that brought instant relief to the limb, while on no other part where this powerful medicine was applied was even a hair turned in color. With this relief the horse recommenced the use of his limb, and by use the muscle which had fallen away, (giving him the appearance of a sweeney,) at once filled up, and only a slight contraction of the hoof now remains to show that the horse was ever lame. From that his recovery is gradual, of course, but perceptible and certain.

I write this account of a singular cure to show that scientific skill is as necessary in treating horses as human beings. Many of the most valuable horses are actually ruined—as mine would have been—by quack treatment. I am satisfied that almost any lameness may be cured if taken in hand in time, by a man like Kilbride, but which, by applications of nostrums, run into spavins, stifles, sweeneys and other incurable diseases. Other cases of remarkable cures performed by him have come under my observation, all of which have satisfied me that when a horse is sick he needs a doctor as much as a man does, and that scientific treatment would often cure in their first, or even later stages, diseases that have rendered many of the best horses worthless.

MADISON, July 10. E. A. C.

Correspondence of the Farmer.

Carrots for Stock.

MESSRS. EDITORS:—We very much doubt whether a farmer can raise any crop for his animals, which, considering its cost, will prove as valuable as the carrot crop. If the ground is properly prepared before sowing, the amount of labor is light. The land should be in cultivation with some clearing crop the year previous, and if there is any danger from weeds, it should be plowed with a light furrow early in spring, to give them a chance to vegetate, and plowed deeply at sowing time. Manure free from seeds should be used. The best we know of is muck composted with lime, ashes, or both of them. Let it be dug and lie mixed one winter, and spread on the ground after plowing. It is a beautiful fertilizer and very free from weed seeds, so it will be but little labor to tend them. From four to eight hundred bushels are easily raised on an acre, which will equal in value to several tons of hay, besides giving a healthful change to animals.—Their effect on cows is to increase the quantity and quality of milk, and they give a summer-like freshness to the coats and feelings of all animals. Try at least a bed four rods square, and satisfy yourselves.

Yours truly, WM. BACON.

The Short Hay Crop.—How to piece it out.—Cutting and Grinding Feed.

While almost all other crops have turned out, or promise bountifully throughout the West, the grass crop is uniformly reported light, especially the cultivated grasses upon the uplands and prairies, probably not generally more than from one-third to one-half a crop.

Though not so serious a loss as would have been our wheat or corn crop, still with our almost certainty of a long, hard and cold winter, it is a serious matter, and one that should be provided against in all practicable ways, as effectually and fully as possible. And to do this, every farmer should save his straw as bright and good as possible, and be sure and stack it so effectually as to keep it so, beyond all peradventure. Good oat, or even wheat straw, properly kept, and cut and fed as it can and should be, to a stock, is absolutely worth more than ordinary marsh hay, fed without cutting. Of the truth of this there can be no more doubt than of any other proven fact.

Then another great and highly valuable item that is too often wasted, is the corn stalks and fodder. Properly saved, they are even superior to any other forage raised, except it be good clover. They contain a large amount of saccharine and starchy matter, and when run through a good feed cutter, with the *new patent crushing rollers*, constructed not unlike animal teeth, as they roll together, reducing the previously hard corn stalks, to a broken, soft and sweet mass, that is eaten with great avidity, and is highly nutritious. Prepared in this manner, the very corn fodder of many large prairie farmers, would more than half winter their stock. Cut stalks, straw and hay, with a proper sprinkling of Indian or any other coarse meal or bran, will cause a stock and teams to thrive, in a way that none but those who have tried it understand or appreciate. With the best machines of the present day for the purpose, the feed can not only be cheaply and readily cut, but the grain can also be ground at every good farmer's barn, without material loss of time or much expense.—We shall publish well authenticated articles, between now and winter, to show that such cutting and grinding is an absolute saving of from one-fourth to one-third of all fodder and feed, and that over and above all expenses of cutting and grinding. Meantime we would say to all good and economical farmers, save carefully all your straw and coarse fodder. P.

HORTICULTURAL.

Correspondence of the Farmer.

Cultivation of Pie Plant.

Messrs. Editors:—Will you, or some of your readers who know how, please give the best mode of cultivating Pie Plant to prevent its forming too many stems. I counted yesterday upwards of seventy stalks from a single root. They were of good length, but some of them quite small. Some of the plants have few stems and quite large, but very short.—They are in good soil, grow finely, and look well. They are the Linnæus and Mygatt's Victoria.

The general advice here is, "to cover with an old barrel," which is doubtless very good, but the trouble is to get forty or fifty barrels not needed for other purposes. A friend told me to pull all the leaves out, leaving only the crown in each hill, and cover with five or six inches of earth, and that next fall I should have plenty of nice pie plant. I tried the experiment with several roots two weeks since, and they are already large enough for use and very tender; probably would grow larger but for the dry weather.

Please give your readers the results of observation and experience on this subject, as pie plant seems to be a stand-by in the fruit line, especially on the new prairie farms, for we use it through spring and summer, and dry it for winter. It is probably just as easy to raise it with long, large, thrifty stalks, as with a multitude of stems no larger than one's little finger, if we only know how. Do tell us, please. E. M. DUNNING.

Prairie Home, June 23.

The Vineyard Crop.—We hardly dare to hope for a good grape crop—remembering, as we do, how many failures we have met with for several years past. But, judging from present appearances, we are really going to have a magnificent crop again. We never saw better prospects. Still we have one month more during which we are not entirely out of danger. If our grapes continue to escape the "rot" till August, then we may count upon a glorious crop in earnest.—*Ohio Val. Farmer.*

Seedling Pie Plant.—We are indebted to Samuel Hawley, Esq., of Berry, in this County, for some as fine specimens of the above article as we have often seen. One of the specimens was nearly as large as the Cahoon Mammoth, tender and fine flavored. With proper cultivation it may prove a valuable variety.

Strawberries—Wilson's Albany.

Each year as the strawberry season comes, bringing its profusion of crimson, luscious fruit, for those who by proper effort and care have made themselves worthy, we re-resolve

to agitate the subject of its cultivation until every farmer and every occupant of a little garden patch shall have been provoked into making a trial. To say that every one who owns or has the use of a few square yards of earth may just as well have strawberries as not, is not a sufficiently strong statement of the case: he may have them *better than not*, inasmuch as they cost but a mere trifle either in money or labor, and are so largely conducive to the health and happiness of himself and family. Children who have never eaten a handful of strawberries—only think of it!—how many there are in the country, living on farms that comprise their tens and hundreds of acres! What dismal recollections they must have, in after life, of that home which furnished them nothing but severe discipline, hard work, fat pork and sour bread, a spelling-book education, and sent them forth into the world with a positive distaste if not aversion, for everything connected with country life.—There is nothing of a material character so essential in the formation of character for our farming youth as a tidy home, nice fruits in abundance, and beautiful flowers. But we are digressing. To come back to the subject in hand, we say again, plant strawberries. If you neglected it last spring, do not fail to attend to it this fall.

The method of cultivation has already been discussed again and again in the *Farmer*, but that you may have reliable data for making a judicious selection, we publish, this month, the report of a committee whose experience with the different varieties entitles their opinion to confidence.

It will be seen that *Wilson's Albany* ranks first, and although we have not personally tested its relative value, yet the concurrent testimony of those who have, is such as to induce us to publish not only a cut of this variety, but also the following communication from a correspondent of the *Country Gentleman:*

"The strawberry season, so much wished for by many, is again with us, and I have been so successful, so highly gratified with the Wilson, that I cannot refrain from giving a little of my experience in its culture.

Having seen and heard many glowing accounts of its excellence, I last summer procured and set some plants, increasing the size of my bed in September to 400 plants. My soil being hard and gravelly, I covered it liberally with dry swamp muck, spading deep and mixing thoroughly. I have now had an opportunity to decide upon its merits. My berries are ripe, and I have been astonished at their uniform great size and abundance. I do not pretend to be a critical judge of the flavor of strawberries. I know the Wilson, if a little more acid than loaf sugar, suits me. Upon my plants set in July, I have measured many berries 3¾ to 4 inches in circumference, and upon one plant I counted 168 berries; upon another 153, and open blossoms upon each.—In one quart, by heaped measure, of fruit of this variety I counted but 54 berries. I have never seen its equal, and my experience has not been limited in the culture of this most delicious fruit.

I plant mine in rows 3 feet by 12 inches—a horse and cultivator does the main work, a hoe the rest. I do not find the care or trouble very great, and now when I can pick berries

two bites large—almost large enough to hold in one's hand and eat like an apple—I estimate my little care and trouble amply remunerated. Who thinks different? Do you reader? Let me advise every person whose eye falls upon this, if they have not already one, to plant a bed of Wilson's Albany Seedling. When a fruit of the great excellence of this is introduced, Messrs. Editors, I think it the duty of those that can speak from personal experience in its cultivation, to give their opinion for the benefit of others who know nothing of its value. It is for this reason that I write."

The *Country Gent.* says:—At a late meeting of the New York Farmers' Club, the strawberry question was again introduced, and the following report of the committee appointed at a previous meeting to report the best six varieties, was read, and, after a long discussion, was adopted almost unanimously. The committee consisted of five, of which G. W. Huntsman was chairman:

1. Wilson's Albany—Its primary good qualities are: productiveness, size, and firm, juicy flesh. It is, however, too acid for the taste of many.

2. Longworth's Prolific—Early, large, and of excellent flavor; only moderately productive; sometimes running too much to leaf.

3. Hooker's Seedling—Good size; of a rich, sweet flavor; moderately productive (some say very productive.)

4. McAvoy's Superior—Productive, large, and of excellent flavor; berries often defective in form.

5. Hovey's Seedling—This variety is too well known to need any description. Its only defect is dryness and want of high flavor.

6. Burr's New Pine—Of exquisite flavor; medium size; only moderately productive; plants want vigor and hardiness.

These are certainly strong endorsments and when added to many others equally so, leave but little room to doubt that it is at least worth trying. H.

Lawton Blackberry.

OFFSHOOTS from my Bearing Plants—the original variety—hardy and productive in all climates. Small or large packages for sale at reduced rates. Circulars with ample directions will be forwarded by mail free to applicants. Address—

WM. LAWTON,
New Rochelle, N. Y.

XI VIII 3

Messrs. Editors:—I send you my autumn advertisement. Every farmer can have a beautiful supply for his table and free use of his family, with less trouble than any other valuable product of the garden. The juice, with two parts water and sugar without admixture of alcohol, made like currant wine, will furnish a cooling medicinal drink for summer and comfortable restorative in winter, of much delicious favor, and could no doubt be sold in any quantities at fully remunerating prices. It will yield more per acre than grapes, and a certain crop.

I hope you will not come on this year without visiting my grounds at the fruiting season, and all your friends are invited.

Truly yours, WM. LAWTON.

To Keep Apples.—If apples are carefully packed in hard wood sawdust, they will keep through our coldest winters. This we have tried, and know it for a certainty. But in packing, care must be taken that none of the apples touch the barrel, nor each other. We have had them open in fine order, when thus packed, long after those in the cellar were rotten or so withered as to be useless.—*U. S. Journal.*

Rhubarb Wine.—I wish to inquire through the "Country Gentleman," how the juice of rhubarb may be extracted to make wine.

We find in the N. Y. Tribune a receipt for making "pie plant wine," as furnished by Mr. R. P. Cahoon, of Kenosha, Wis., the originator of the system.

The juice of the rhubarb is extracted by the same process that currant, elderberry, or any other juice, and mixing with the juice an equal quantity of water. To each gallon add three and a half pounds of fair quality of New Orleans sugar. Put in barrels or casks, filled full, and fined with isinglass; being allowed to remain in the casks until spring, and then bottled. By adding or diminishing the quantity of sugar, it will vary the strength of the wine in the same proportion.

Rhubarb is said to afford a greater quantity of juice than any other plant, and it is also considered a better quality than any other but grape juice to make domestic wine. The process is simple and has this to recommend it; moreover, it is said by those who have tested the merits of rhubarb wine, that it is equal to American sherry.

One of our acquaintances informs us that one quart of water to two of the juice is better, as the wine ferments more readily and has more body after fermentation. In wet seasons, no water need be added. One pound of sugar should be used to one quart of the juice.—Eds.

Millions of Locusts.—The western slope of the Blue Ridge, in Virginia, is now covered with millions of locusts. They appeared first near the top of the mountain, about two weeks ago, and seem to be moving in a westerly direction. Dr. Smith, of Baltimore, predicted the appearance of these insects in that quarter during this month.

MECHANICAL.

Where and How the Axes are Made.

About thirty-three years ago, the present village of Collinsville was composed of about half a dozen straggling houses, and a grist-mill, with a splendid water-power. It was then purchased by the Collins Company, whose business had previously been carried on at Hartford, the stamp of which is still retained on their axes. In 1826 new buildings were erected and the tool business inaugurated, and from that period, the village has borne the name of the company. The amount of business then transacted was very limited, but the tools manufactured soon acquired a high reputation, and the demand for them has gone on with a steady increase until Collinsville has attained to a population of twelve hundred inhabitants, all connected more or less with the company, under whose employ there are about three hundred and fifty mechanics and other operatives. A large capital is invested in the operations, twelve hundred tons of the best wrought iron, three hundred tons of fine cast steel, and two thousand tons of coal are annually worked up in conducting the manufactures. Over two thousand tools are finished daily, and these are of such a variety, that Mr. Collins, in passing over the list, hit them all off at one sweep by stating "we make almost every kind of tool which has a handle to it." We saw chopping axes, broad-axes, hatchets, adzes, picks, sledge-hammers, hoes, cane-knives, Spanish matchets, and a whole host of other tools passing through the different processes, from the rough-bars of iron and steel, until they were polished like glass, finished and packed ready for transportation to the sale office in New York.

On this occasion Mr. Osgood, the gentlemanly superintendent accompanied us and explained all the operations. The main building in which the axes are manufactured is a large stone structure, fifty-five feet deep, by one hundred and thirty in length, and three stories high; and to this, an addition of about one hundred feet is about to be added—thus indicating continued progress in the business.—On the ground-floor are sixteen very curious and ingenious machines, for forging axes and hatchets, eight of which are generally devoted to the former operation. These were invented by Mr. Root, a most skillful and ingenious mechanic, now superintendent of Colt's fire-arm manufactory, at Hartford. One of these machines somewhat resembles a semi-rotative octagon box, "rough and ready" for work, and capable of performing wonders in its way. It cuts off a blank for an ax from a bar of iron, punches out its eye, forges it on the face, end and sides, into the proper shape, and completes it ready for being trimmed, to receive its steel edge, and all this in a few minutes. Adjacent to each machine is a furnace, in which the bar of wrought-iron is heated, and from thence it is taken and laid on a proper bearing at one side; the attendant places his foot in a stirrup and makes the machine clutch with its driver, when it makes a semi-rotation, a punch comes down and cuts off the heated skelp designed for an ax. This is now set on edge, when another touch of the operative's foot brings the machine into action again, a punch descends from above and another from below, approaching and pushing through the solid metal, as easily as if it were a piece of cheese. Their motion, however, is arrested before they meet, and the hole which they have made forms the eye of the ax with a small piece of metal left in the centre. An iron handle made for the purpose is now inserted in this eye, and the machine comes right down upon it, forcing out the small piece of iron left in the hole, thus forming an eye as superior to that of the common welded axes as can well be imagined. On the machine itself and anvil on which it strikes, are several dies of the exact size and form for the ax to be made, and by a very few blows, and two heats, it is forged into the required shape. Each machine is under the perfect control of the attendant, and by a touch of his foot he makes it execute every motion—one man being capable of turning out three hundred and fifty axes per day. After the axes are thus forged in one of these machines, they are heated in a small furnace, their edges then trimmed and cut to the proper curve, ready to be split for receiving their tips of fine cast steel, which operation is executed in another building by blacksmiths. The cast steel for the edges is first cut into pieces of the required size for each tool, and then forged under the trip-hammer, into the exact form. Each ax is now raised to the welding heat in a convenient furnace, its edge is split open with a wedge and sledge, and the steel tip at a white heat inserted in the split, after which a perfect weld is received under the trip hammer. After the steel edges are thus welded on, each ax is hammered off and formed as accurately as possibly can be done under the hammer, when it is fit for plaining or shaving operation. This is executed by an ingenious power shaving-knife, which is under the perfect control of the attendant and is especially adapted for reducing rolling surfaces—not tools with flat sides. There are twenty-six of these shaving machines in the second story of the stone building, and any one of these iron barbers can shave down a rough axe to a pretty smooth face, in less time than the smartest disciple of Monsieur Tonson can scrape the countenance of a city gent. These machines are also the product of Mr. Root's busy brain, and are peculiar to this establishment. Prior to their application the axes are all ground, by which tedious, unhealthy, and disagreeable operation, the surplus metal was all washed away with the grit, but the shavings are now all saved and sold for scrap-iron. For some

kinds of work, we think one of these machines would be found very useful in every machine shop in our country.

After planing the axes, the next process through which they pass, in another apartment, is that of hardening. For this purpose, they are placed in a suitable furnace, in which there is a rotating iron wheel to receive them; and here they are heated uniformly, and raised to the proper degree of temperature required. Convenient to each furnace, for this purpose, there is a large bath, containing salt brine, to which a continuous fresh supply is furnished, and in it there is a circular revolving rack, with catches placed around it close to the surface of the pickle. The heated axes are now taken out of the furnace, and set, one by one, on the catches, with their edges left trailing in the hardening liquid. The next process which they pass through is that of tempering. This consists in placing them in an oven (on a rotating wheel, also), the temperature of which is regulated by thermometer, and here they are kept for several hours, or until the metal is *toned* to that degree of elasticity and hardness which experience has decided to be the best for all practical purposes. These peculiar manipulations, which are exclusive to this establishment, ensure uniformly accurate results.

The next operation which they undergo is that of polishing on emery-wheels, after which their backs are dipped in a solution of asphaltum varnish; then they are hung on revolving frames, in a warm room, until they are perfectly dry, when they are neatly wrapped in a paper and packed for market. A most rigid system of inspecting every tool is pursued in every operation, and each mechanic places his peculiar mark on the article which passes through his hands; so that every defect found can be traced to its cause, whether it be in the metal itself or was effected by the operatives. From the great care exercised to ensure perfect workmanship, no wonder the toools of this company have acquired a very high reputation.

We have thus succinctly described the several processes and operations pursued in fabricating the "Collins axes." We believe this will be of great interest to most of our readers: for where is there a family throughout the length and breath of the land in which there is not either an ax or a hatchet? We had intended to describe the different apartments in which the separate operations are executed; but we found that this rather tended to confuse the narration.

The Collins Company was the first which manufactured axes ground and polished, ready for use. Previously, most of the axes used were made by common blacksmiths, who used blistered steel for their tips, and who pursued no uniform system. The purchase of an ax in those days was like the drawing in the lottery; the temper might be good, but it was just as likely to be either too hard or too soft —there was no uniformity in the quality of the axes sold.—*Scientific American.*

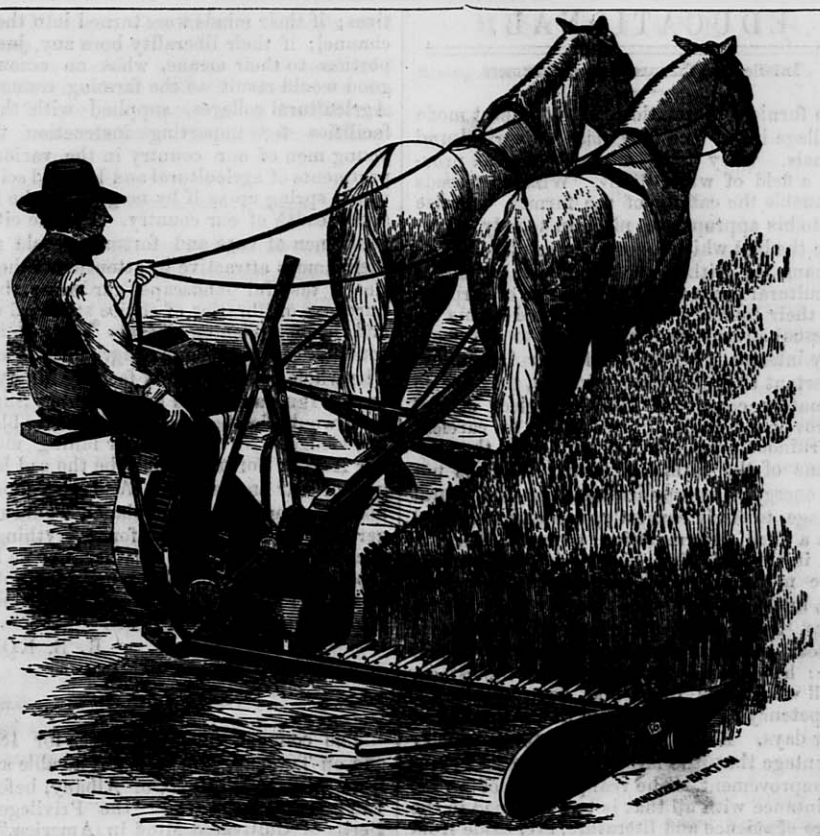
Note.—In our early boyhood, our father's axes were made as above stated, by a bungling cross-roads blacksmith; and, Lord of Mercy! how long we had to turn the old grind-stone, to grind them up, and then what looking, and what miserable things, when finished. They would be a curiosity of the first order, now-a-days; not unlike what we see brought from the old countries, by emigrants, from the primitive districts.

But the modern Collins (Yankee) ax we consider the nearest perfect, perhaps, of anything in the whole world of mechanical production; in fact, it is one of the things in which we see no chance for further improvement, and doubt if it will be made a bit more perfect in the next hundred years, and that is more than we expect of anything else we know mechanical. P.

Improvement in Friction Matches —The common friction matches are not water proof, and are often so affected by even the moisture in the atmosphere that no light can be obtained from them. It is not the sulphur that is thus sensitive to humidity, but the phosphoric composition, and it would be a great boon if all the matches manufactured were water-proof. By the invention of Levi J. Henry, of New York, this can be done without in any way increasing the cost. Instead of dipping them first in sulphur and then in the phosphoric composition, he dips them in the composition first, and then in the sulphur, by which method the phosphorus has a water-proof covering, which breaks off at the first attrition, leaving the phosphorus bare to be ignited.—For better matches he uses resin, or shell lac, or some similar composition; but the simple change in the mode of dipping is the one which will, in our opinion, come into general use.—The inventor has assigned his patent to Daniel Benrimo, of New York. The patent is dated April 5th, 1859.

Query of a Correspondent about Harrows.—Will you please inform me through the *Farmer* what a harrow is; also what a drag is. If a harrow is a harrow why not call it a harrow. If a harrow is a drag, I wish to be informed that I may correct my error.

Reply.—A harrow is a harrow, and also a drag, whichever you happen to like best.—Either term is proper, although perhaps not in all cases exactly synonymous. See Webster for our authority.—Eds.



KIRBY'S AMERICAN HARVESTER, AS MOWER.

This new Harvester is receiving so much attention in the Eastern and Middle States, and has withal, so much to commend it to an examination, at least, on the part of those interested, that we have been induced to publish the above representation of it as a mower.

The gentlemanly General Agent, T. J. Bush, Esq., of Toledo, O., recently exhibited a model in our office, and we must say we were much pleased with its working. As a mower it cuts a swath 4 feet 8 inches wide. We have not space for a minute detail of all the points in which it differs from the machines now in use in the West, and will only refer to those which more particularly distinguish and have acquired for it a popularity in the East, making the Agent solely responsible for all that is claimed on its behalf.

1. It is light of draught, both as a Mower and Reaper, fatiguing the team, much less than most other machines. This statement finds material corroboration in the fact that the manufacturers make a *one horse* machine which works very well. 2. It has a lever which enables the driver—who by the way, occupies a spring seat, in the best possible position for seeing and controlling the operation of the machinery—to readily throw the cutters out and in gear, while the machine is in motion 3. It is provided with a *lifter*, by which the driver can at pleasure elevate either or both ends of the finger bar, so as to pass over obstructions, carry his swath, cut at any required height, and even continue the work of cutting without interruption though the great wheel be obliged to follow in a furrow or gulley a foot deep, the whole length of the field.

But, inasmuch as the agent intends to enter both the Harvester and Mower for the proposed Trial in this State, after which we may speak from personal knowledge rather than from appearances; and as we understand, moreover, that a few machines will be sent into this state during the season, so that some of our farmers may themselves, have the opportunity of proving its relative value, we omit further comment at this time. H.

EDUCATIONAL.

Intellectual Culture among Farmers.

To furnish information as to the best mode of tillage is not the only office of agricultural journals. They have a more extended province, a field of wider limit. Whatever tends to ennoble the calling of the farmer, to raise him to his appropriate place in society, to remove the blot which ignorance has placed upon his name, is within the legitimate sphere of agricultural papers. It is a matter of surprise that their columns are not devoted to his intellectual advancement as well as to his pecuniary interest. Surely the former is not less important than the latter; indeed, they are so intimately connected that, to neglect mental improvement leads, of necessity, to careless and ruinous practices in conducting the operations of the farm. A farmer who has not the energy, the application, nor the moral courage to study earnestly, industriously and with a fixed determination to profit thereby, will, in the end, find himself in the rear of those more progressive spirits around him, who, instead of idly whiling away their leisure hours, have made the most of time as it passed; have laid up a fund of useful knowledge; have gained for themselves the esteem of all who know them, and have acquired a competency to comfort them in the evening of their days. But it is not alone for pecuniary advantage that the farmer ought to seek mental improvement. The real pleasure of an acquaintance with all that is to be learned in the range of science and literature, are, aside from other considerations, inducements sufficient to influence the farmer to apply himself diligently to literary and scientific pursuits. If the lawyer, the physician and the clergyman find it subservient to their interests, usefulness and enjoyment to cultivate an acquaintance with the whole circle of the sciences and polite learning, why may not the farmer, for whom every department of education is effecting so much, derive equal pleasure and profit from the pursuit of learning? But the laboring man pleads a want of time. Sir E. Bulwer Lytton said in a recent speech, that he had gone through a course of general reading as extensive as most men of his time, had written and published about sixty volumes—and how much time had he for the work? Not more, he said, than three hours a day. Most farmers waste more time than that in twenty-four hours. The example of Elihu Burritt, the New England blacksmith, is familiar to all. Working much the greater part of his time in the shop, he managed, by dint of perseverence, to master more than fifty languages. Very few farmers labor more industriously than did Mr. Burritt in his youth. No, it is not a want of time. It is a want of industry, of proper training, and of liberal feeling. If our planters were influenced by proper motives; if their minds were turned into the right channel; if their liberality bore any just proportion to their means, what an amount of good would result to the farming community. Agricultural colleges, supplied with the best facilities for imparting instruction to the young men of our country in the various departments of agricultural and kindred sciences, would spring up as if by magic over the length and breadth of our country. Private citizens, gentlemen of ease and fortune, would render their homes attractive by attention to the beauties of tasteful landscape gardening, by the purchase of libraries of choice standard works, and by establishing private laboratories for conducting experiments in agricultural science. The whole country would feel the kindly influence. Ignorance, and her daughter, Superstition, would flee before the advancing blaze of knowledge. No comets, nor falling meteors, nor Aurora Borealis, would be the sad harbingers of war and famine. And the moon, innocent attendant of our planet, would no longer be held responsible for everything that goes wrong with the weather, nor be looked to as an infallible oracle by her ignorant votaries. Let all labor for "the better time coming."—*Southern Homestead.*

R. B. KOEN.

Antioch College.

The commencement exercises for 1859 began on Tuesday, June 28th, by an able address from Rev. A. D. Mayo, of Albany, before the Literary Societies, on "the Privileges and Perils of Cultivated Mind in America."

On Wednesday the Essays and Orations of the graduating class were given in the College Chapel. The marked characteristic of these addresses was the moral tone which pervaded them all, showing the true appreciation of life and its duties. In breadth and maturity of thought, in careful and accurate expression, these exercises of the graduating class were pronounced by competent judges as superior to any of which they have ever listened in the best institutions of the East.

The admirable Baccalaureate address from Hon. Horace Mann, full of valuable suggestions and judicious counsel for the future of those now to enter upon the work of life, clearly showed by whose thoughts and instructions they had so clearly profited. At the close of the address the academical degree was conferred upon the members of the graduating class, consisting of fourteen gentlemen and four ladies. This is a feature of Antioch which merits our approval; *mind* here can be cultivated irrespective of sex. Woman may here be fitted to take a position in society as a co-worker with man for the highest good of humanity.

Among the distinguished guests present we may mention the names of Rev. Dr. Bellows, Rev. Mr. Mayo, Ex-Governor Bing-

ham, of Michigan, Rev. Messrs. Lincoln and Edmonds, of Boston.

It was an occasion long to be remembered for the fraternal and catholic sentiments expressed by persons representing the different liberal denominations of the West.—*Water-Cure Journal.*

New York Agricultural College.

The New York papers contain interesting accounts of the laying of the corner stone of this Institution on the 7th of July, with appropriate ceremonies. The farm is located at Ovid and extends to the shores of Seneca Lake, a distance of some two miles. The citizens in the immediate vicinity have subscribed $40,000 towards the erection of necessary buildings and the State has appropriated an equal sum. It is intended that the building shall be ready by next spring, for the occupancy and instruction of 150 students.

We have watched the progress of this college with deep interest, from its very incipiency, and shall hope to see it the pride and glory of the Empire State. It is officered by men of the best talent and strong determination to make it instrumental for the advancement of the best interest of the agriculture of the country. God speed them in their noble work.

Agricultural Journals.—The following rational thought from the pen of L. G. Chase, of St. Louis, is eminently worthy of the farmers' consideration:

Not a people on the face of the globe understand the science of government as clearly as do the Americans. This comes of good stock, (a very important item with nations as with stock raisers,) much reading, and thought in that direction, and is commendable. I would by no means have the wisdom of the nation less, in that direction, and while agriculturists should be well informed in political economy, they should also acquaint themselves equally with their own particular profession.

An Endowment in behalf of Agricultural Education has been made by P. St. George Cocke, Esq., who has presented to the Virginia Military Institute $20,000 for the establishment of an Agricultural Department in that Institution.

Farming as a profession will never occupy its true relative position, until farmers as a class become educated men; and this result will only be attained through the persistent efforts of earnest, intelligent men of every class.

MISCELLANEOUS.

Seeing the Elephant; or, A Trip to Pike's Peak, by a Gold Hunter.

Messrs. Editors:—

Who, since the breaking out of the gold fever, in '48 and '49, has not, at some time, dreamed of a rich harvest of the "precious ore," gathered by his own most fortunate hand? Who, that feels the want of gold, has not longed for a sight of the glittering dust? There doubtless are such, but I am not one of that number. Nay, I am free to acknowledge to a decided fancy for the *yellow lustre.* And why should I not have? Is not the *King of Metals* the most powerful and the most respected of all the sovereigns that sway their sceptres over men—and hence the most honorable as well as the most useful ally one can possibly have?

Talk as you will of the beauty and nobility of moral integrity—of the ruling force of intellectual genuis,—but after all there is no influence so potent in society as that which depends upon the adventitious, circumstance of wealth. The Golden Calf has had more worshippers since even long before the days of Nebuchadnezzar than any other god whatever, and the world is just as ready to bow down to it now as in the day when Shadrach, Meshech and Abednego alone of a whole nation refused. Aye, gold is a necessity, and he who ignores it must learn its value by the neglect and even the contempt of his fellow men.

But, to have done with a useless comment on the follies of society, I propose, for the benefit of such as may hereafter fall into a like train of reflection with a sequel such as mine, a brief accouut of the fortunes and misfortunes incident to Pike's Peakers in general, who, during the present season have made their way to the New Eldorado.

My resolution once formed, the 25th day of February found me equipped with knapsack, rifle and revolver, a pair of good legs—the nether extremities thereof being shod with a preparation of cowhide—and a pocket full of "rocks;" to all of which, in due time, were added three fellow travelers.

Nothing worthy of note until we had left Dubuque, when we began to encounter that Iowa mud which certainly "sticketh closer than a brother." The country westward is rolling and, at the time of our crossing, was

certainly admirably *watered*, though deficient in timber and rail roads.

After a tramp of two days, however, we had the fortune to fall upon a conveyance at the price of one hundred dollars per each through ticket, and to add yet other persons to the party; so that then we were twelve in number. Two wagons and nine horses conveyed our *traps*. This seemed like a relief, certainly, and the journey thenceforth looked easy and pleasant in the prospect. And so it might have proven had the weather paid us special respect, but the frost, the rain and snow so long and constantly alternated that a more miserable time could hardly be conceived. A common thing, as in the case of Skunk Bottom, to be obliged to feel our way across boddies of water two miles in breadth, sometimes swimming and sometimes wading, in either case at the risk of life.

After many days, we arrived, weather-worn and jaded, at Council Bluff, where we were able to replenish our stores, and provide ourselves with implements for the diggings; and finally, on the 29th day of March, crossed the Missouri River and found ourselves for the first time in Nebraska—a perfect paradise at that time for crows and buzzards. Elkhorn River, like so many of its predecessors in the line of our journey, had over-run its banks and was making a clean sweep of the whole region, laughing to scorn the multitude of men and teams brought up upon its banks. All were in dismay except our water-cure Doctor, who seemed delighted with the abundant flow of his favorite element—a profitable idiosyncracy for us, since it was to his daily leadership that we owed our safe transit across this valley of waters, three miles in width, one to four feet in depth, and covered, except the in swifter places, with ice.

Here we entered upon a new country—no timber except cotton-wood, and that only on the islands, and the soil covered in places with an alkali resembling flour. Hitherto the travel had seemed severe, but the experiences thenceforward made the retrospect even pleasant. Sticking fast in the mud, unloading, doubling teams, and pulling out, wading sloughs and swimming creeks was the continued order for successive days. The nights were spent upon the wet earth, with our India-rubber coats for bedding and sleet for covering. At North Bend, on the 1st of April we had a a snow storm of thirty hours' continuance, and were obliged to tie up our teams and abide its fury. On resuming our journey we fell in with 800 Pawnee Indians just returning from a buffalo hunt, and succeeded in getting ferried to the middle of South Fork, where we were dumped into the stream and left to make our way out the best we could. Thence to Fort Kearney the jurney was but a repetition of like scenes and adventures,—fatigue, starvation, and constantly recurring dangers from the elements and the Indians, although exciting at first, had now became monotonous.

Some forty miles west of the Fort we came to the buffalo ranges and succeeded in taking a sufficient number to replenish our exhausted stores. Finally, as a fitting climax to all our misfortunes, our horses began to fail us, and at length all gave out, leaving us sixty miles short of the mines,—a little grass, just started, and a pint of flour had been their daily rations for some time. Here were two currents of adventurers—one moving forward, composed of half-doubting, half-hoping adventurers, like ourselves, and the other of disappointed wretches, who had been in the mines and were making their way homeward. *Humbug!* was the watchword of the latter, and we were so disheartened that we came near returning even at that stage of our journey. At last, however, we reached the goal, the long sought Peak.

Of our anxious prospecting, and final digging, at a gain of *ten* to *forty cents* per diem, I will not speak, for fear of self-aggravation. The only redeeming feature was the abundance of game, whereby, taking on the character of sportsmen and forgetting that we were ever gold-hunters, we whiled away a little time and tried to forget the trials that were behind and must soon again lie before us. Mountain sheep, bear, antelope, elk, &c., &c., seem to revel in the mountains, as if it were their Paradise.

Well, we had seen the *elephant!* and so prepared for our return to civilization, cursing our own stupidity and the lying treachery of those who had deceived us. Taking the inventory of our stock—we were now two in number—it yielded the following summary:—one sack of flour, one cut of bacon, one small bag of coffee, and a little salt, one paper of baking powder, two spoons, a coffee-pot, one frying-pan, two rifles, two revolvers, one knife, and *thirteen dollars and one dime!*

The days now began to be hot, though the

nights were cold, and as our packs were too heavy for comfortable travel over the heated plain during the heat of the day, we traveled a part of each night, and slept at mid-day in the glaring sun—our midnight camp being guarded against the wolves and thieves by one while the other dreamed of the happy scenes and dear friends of home.

At last, we reached Fort Kearney again, when we tarried there to recruit, and then pushed on for the States. It was wonderful how all nature had changed since we last journeyed over the same ground, wading through sleet, snow and mud. Nature had doffed her brown and white mantle and put on a beautiful carpet of green. Endless meadows extended as far as the eye could reach. The stately cotton-woods had arrayed themselves in shining leaves, marking with their path of green the course of the streams; the bluffs on either side of which afford at once a splendid and extensive view. For six hundred miles there is scarcely a hill worthy the name, and, in dry weather, one of the best natural roads in the world. The valley commencing at Platte Mouth continues to the foot of the mountains, and is 10 to 30 miles wide, affording pasturage for thousands of cattle. Above the Laramie crossing, however, the soil is poor and sandy, abounding in cacti.

Recrossing the Platte at Shires' Ferry, we soon found ourselves on the borders of civilization, though still six hundred miles from home. At Council Bluffs, everybody had everything to sell. Eastern people with teams could not take them home, and consequently *sold* at a sacrifice. Sixty dollars for a good yoke of oxen and wagon was considered a good price. Streets filled with wagons, their covers lettered with all sorts of mottoes, and sale advertisements. Men in every place cursing the papers for fooling them—some swearing they were themselves all fools by nature.

But I have already protracted my narration too far, and will close with the (to us) most satisfactory statement yet made, that on the 10th of June, our limbs stiffened with travel and exposure, and our feet blistered, bleeding and swollen, and with three bright dimes in our pockets, we rested under our own blessed roof, well satisfied that we had been on a fool's errand, and that one good farm, with energy and industry to work it, and a quiet little cottage, made glad and happy by a loving wife and laughing children, are of more worth than the whole of Pike's Peak, or even a mountain of gold. Yours, truly,

T. B. Stoner.

Agricultural Societies.—A very interesting sketch is given in the Patent Office Report, just published, of the origin, number, condition, &c., of the various State and County organizations in existence, throughout the United States, for the promotion of Agriculture.

The first agricultural association incorporated in this country, was the "Society for the Promotion of Agriculture," established in South Carolina, in 1785. In 1791, a "Society for the Advancement of Agriculture, Arts and Manufactures," was founded in the city of New York, but it ceased to exist in about ten years. Next in chronological order is the "Massachusetts Society for Promoting Agriculture," which was incorporated in 1792, and contributed largely to the advancement of its objects. Some of its members, residing in the county of Middlesex, afterwards organized the first county agricultural association formed in the United States. Several other societies of the same kind sprung into existence within a few years, and in August, 1810, Elkanah Watson, of Berkshire, Mass., was instrumental in getting up the first agricultural fair ever held in America. From that time, efforts in behalf of agriculture received a new impulse, and associations were soon formed in most of the older States. The "American Institute of the city of New York" was incorporated in 1828, rendering efficient service; and four years after, the New York State Agricultural Society commenced its useful career. At the present time, societies or boards of a similar character have been incorporated in nearly all the most populous States, besides numerous county societies, all having the same objects in view, making an aggregate of about eight hundred distinct organizations.—*N. Y. Journal of Commerce.*

R. S. Lambert, Esq., writes from Vinland, Winnebago County:

"Perhaps a bare word about the crops will do no harm. Corn looks well,—was damaged some in the spring by insects and birds; wheat has a rank growth—color a dark green, in fact approaching a blue, not exactly the lively green of some years; oats good; hay, on the marshes, or low lands, good; on the uplands I think, in some cases, a ton might be mown from six or eight acres; fields that last year had a rank growth of clover, this year have none—all killed last winter or spring."

Wisconsin Institue for the Deaf and Dumb.

A slip from J. S. Officer, the efficient Principal of the above institution, calls attention to the fact that "the law which prohibited deaf mutes from free instruction in the State Institute for the education of the Deaf and Dumb, unless their parents presented a certificate of their inability to pay, was *repealed* by the last Legislature."

We are glad that the advantages of the Institute are again offered to this unfortunate class free of charge, and trust that many who have been denied them heretofore, will rejoice in this new magnanimity of our State.

The term is of ten months duration, commencing on the first Wednesday in September and closing on the last Wednesday in June.

Applicants cannot ordinarily be received at any other time than at the opening of the Term in September.

The Institute is located at Delavan, in Walworth Co., on the line of the Racine and Mississippi R. R.

For further particulars, address the Principal.

BENEFT OF PLASTER.—But we know one field of which no such complaint can be made. In this the grass is found to be so thick at the hottom that it gives an altogether unexpected heavy swath. It is an old field that has been mowed many years without having been plowed, or had a single load of manure, and was pastured last spring late into May. The present owner, who then came into possession of it, did not expect to mow a swath, but thought he might encourage a little growth of grass by a dressing of 100 lbs. of plaster to the acre. It was sown in the fore part of June. The result is that now, July 12, there is beneath the white daisies and scattering timothy heads a thick mat of fine grass and clover, that rolls up a swath full as large as it will make without spreading. Without the plaster the field would not have paid for mowing. The soil is a gravelly, stony loam, in Winchester county, New-York, not over three miles from salt water.—*N. Y. Tribune.*

CHAFING UNDER THE COLLAR.—We clip the following from the Boston *Journal:*

"A gentleman who has tried the plan successfully for five years, communicates the annexed method of preventing horses from chafing under the collar. He says he gets a piece of leather and has what he terms a false collar made, which is simply a piece of leather cut in such a shape as to lie, singly, between the shoulders of the horse and the collar.—This fends off all the friction, as the collar slips and moves on the leather, and not on the shoulders of the horse. Chafing is caused by friction, hence, you see, the thing is entirely plausible. Some persons put pads or sheepskins under the collar; these, they say, do as much hurt as good, for they augment the heat. A single piece of leather, like that composing the outside of a collar, without any lining or stuffing, he assures us, is better than anything else."

WALWORTH CO.—A correspondent writes from Geneva, under date of July 17th:

The weather is excessively warm, over 100° in the shade. On the prairie, corn is making rapid strides. The wheat has a good show yet, on the prairies, but rather thin in the openings; oats are good; potatoes look first-rate, and if this hot weather does not injure the wheat, I think there will be a fair crop in this vicinity. Wish you abundant success.—your paper is highly prized; the last two numbers are worth more than the subscription price. Yours truly, S. B.

TO DRY CURRANTS FOR DESSERT.—Have a basin of water, dissolve in it a sufficient quantity of gum-arabic to make it rather thick; have also a plateful of the best loaf sugar pounded and sifted; dip bunches of ripe, red currants into the gum-arabic solution, and then roll them well in the sugar; lay them separately on a dish to dry in the sun. They are very pretty for dessert, to be eaten immediately; if kept, care should be taken that the bunches do not touch, and the process should be repeated by rolling them in sugar for several days successively.—*Germantown Telegraph.*

MILKING IN SILENCE.—At the Farmers' Club at West Cornwall, Connecticut, one of the members observed that no talking should be allowed while milking was going on. Another said he had discharged a man because he would talk and interrupt the milking in his dairy, and that in three days the increase of milk was equal to the man's wages.

MAGGOTS IN SHEEP.—Copperas dissolved in water as strong as you can make it, is the best thing I have tried to kill maggots about sheep or other animals, and they are not so liable to be assailed again.

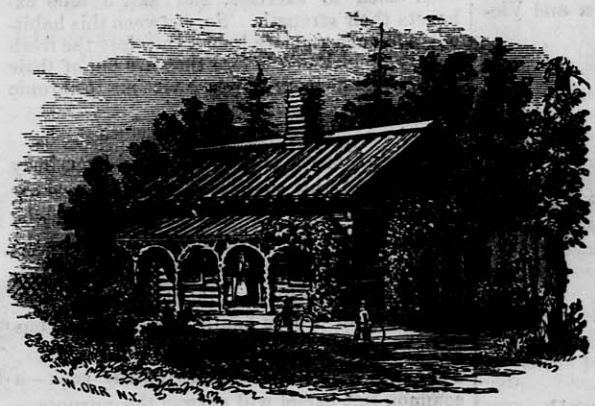
SORE TONGUE IN HORSES.—Take about one tablespoonful of pulverized copperas in one pint of water, and wash the tongue, then take the same quantity of alum and water, wash their mouths with a swab, and in the course of one week they will be well.

HOME CIRCLE.

EDITED BY MRS. E. O. SAMPSON HOYT.

Rural Homes.

Life in the country, in a cottage among the trees, and vines, and buds, and flowers! Of how many hearts is this the dream during the years wherein careful management and industry are gathering the means to secure the rural home which is going to be just the neatest and prettiest in the world. How real it seems, even on paper, as the ideal is sketched and all the details of taste and convenience planned;



and long before they are actually reached, grasses are green upon the lawn, and the refreshment of graceful foliage waving above the rustic porch, where, after the labors of the day, father and mother, children and friends meet to enjoy the evening hours. But delightful as is the contemplation of such a home, there is in its realization a sense of comfort and substantial happiness, known only to those who have made it all their own. The farm, of which it is the central point of interest, both for use and beauty, may be but small, and need the hard labor and skill of every recurring season to ensure to the husbandman the needful harvest. But, as the years go on, that cottage home becomes richer and dearer to those whose hands, never weary of efforts to embody in external forms of loveliness, the conceptions of a beautiful soul. This is the truest, and only permanent wealth.—That which finds in the available and present the means of real enjoyment and a constant growth of those powers through which is secured the elevation of the whole being. And this may be obtained, if made the first object of life, not less, if indeed not more surely, amid such scenes as may surround the humblest and poorest of cottage homes. The little money needed to begin such a home is within the reach of all; the care and taste to carry forward whatever may add to its value in special adornments or that general air of refinement that should characterize everything within doors or without, these are matters far more of individual desire and perseverance than of expense.

There is no mistake about it; we have things pretty much as we *will* have them.

Try it, those of you whose house of rude logs or unpainted boards has blistered in the sun just where you found it convenient to stop long years ago. If the habitation you have called your home cannot be easily removed to a locality for which nature has provided something of the beautiful to begin with, then begin at once where you are. Be sure this is the secret of all success, depending upon time and labor—*beginning now*. If you cannot do more, put out a single tree, or vine, or shrub, or flower. Add the convenience and ornament of whatever is within your reach by the best use of every spare moment. If necessary lie awake a half hour at night to plan, and rise an hour earlier to put in execution something that shall add to the value and beauty of your home. Do this through one entire season just as an experiment; continue it, if for no higher motive than curiosity, to see what will really come of it, and though the dollars expended have been so few you can carry them in your memory, the time never missed from regular duties, many seasons will not have passed, ere, when you look at such a picture of cottage comfort and beauty, as stands at the head of our page, you will find yourself saying, "how much it looks like ours;" while all the children, as they gather around you to see, will exclaim, "only ours is so much prettier!"

A FRENCH writer has said that to dream gloriously, you must act gloriously while you are awake; and to bring angels down to converse with you in your sleep, you must labor in the cause of virtue during the day.

SYSTEMATIC labor accomplishes far more than that without order, and with more ease.

Garden Flowers.

At the meeting of the Farmers' Club of the American Institute, in response to a request, Mr. Pardee handed in the following as a select list of 25 species of flowers, which he had prepared for a lady at her request. It was not intimated that the list was complete, but it was said this list, or even a part of it, well cultivated, will be far preferable to a larger number cultivated in the ordinary way, to-wit:

Best Verbenas.
Best Petunias.
Best Pansies.
Best French Asters.
Peona flora and Chrysanthema flora Aster.
Phlox Drummondi alba, Criterion and Victoria.
Portulaccas, best varieties.
Best Double Balsams.
China Pink, new marbled.
Cypress vine.
Canary bird flower.
Climbing Cobea.
Amaranths, tri-colored, &c.
Best double sweet Williams.
Best perenial Lupins.
Best Digitalis, or Fox Gloves.
Best Delphinium or Larkspur.
Best double Hollyhocks.
Phlox perenial, Roi Leopold.
Dielytra Spectabilis.
Dwarf Chryanthemums.
Peonies.
Yucca Filamentosa—[Bear Grasses!]
Roses.

With the exception of the last named six species and perhaps the Climbing Cobea, it was recommended to raise the plants from seeds, sparing no pains to get the best kinds of seeds, and, if possible, save them yourselves. If a lady can only be induced to learn enough about the superior cultivation of flowers to excel in one variety, she will be likely to acquire a taste that will ever after be sure to have an abundance of fine flowers, with little care or trouble.—*Mass. Ploughman.*

Exercise Out of Doors.—Hon. Erastus Brooks, who has traveled extensively in Europe, and is a close observer of society, in a recent article in the New York *Express*, makes the following remarks upon out-door exercise:

We might look over the world in vain for another people like ours for in-door confinement, not only in our large towns and cities, but in the country. As a consequence the health is impared, and cheerfulness is a stranger to the family hearth, around which the matrons sit and sew. Not only are they self-condemned in this imprisonment, but their innocent children too are debarred from their birthright of air and sunshine. The Germans in the old country, the French peasantry may be gay and happy, with their toil and their crust; they have frequent holidays, and between the hours of work, find their way in crowds to the public gardens, where they gain health and vigor by recreation. The women spend several hours every day out of doors. But American dames, rich and poor, make their walks few and far between, and shivering over fires with a novel, or work in the house with doors and windows shut.

The robust health of English ladies is often spoken of, and their pedestrian achievements; but what American lady would not shriek at the idea of being expected to walk six or eight miles at a stretch! They could not do it! No, they could not do it; because they have never been used to exercise, and half a mile exhausts their strength. So, between this habitual indolence and late hours, they lose the fresh beauty of girlhood before they are out of their teens; and at forty they are victims to chronic disease.

To Preserve Green Corn.—Everybody is so fond of this summer luxury, that we are sure of conferring a great favor upon all who would prolong its enjoyment throughout the year, by publishing the following recipe furnished by a worthy and intelligent citizen of our State, in whose family the method has been practiced for twenty-five years:

Take a barrel or any convenient cask—a common salt barrel will answer the purpose—and spread a layer of dry salt on the bottom to the depth of two inches; strip the ears of their husks and set them upright in the salt, the butt end down, until the bottom is covered.—Now fill the spaces between the ears with salt, until another layer of an inch or two in depth is prepared for a second setting. Repeat the process until the cask is filled; head up tightly and store in a dry place.

This is certainly much more economical than the method of canning, and is said to be altogether more satisfactory in its results. Try it.

Borax for Washing.—Powdered borax, at the rate of a large handful to ten gallons of water, is used in Belgium by nearly all the washerwomen, and by large laundries, who prefer it to soda, as less injurious to the fabrics. In fact, it is said that borax, being a neutral salt, does not injure the texture of linen in the slightest degree; yet it has the effect of softening the hardest water, so that not more than half the soap is required. In washing laces and fine linens, such as proverbially very white in Holland and Belgium, the women are said to use borax in much larger quantity than above indicated.

FOR THE CHILDREN.

LILY'S HOME.

BY MRS. HOYT.

A cottage home, among the trees,
Where chirped the birds, and chased the bees,
When summer time brought back the flowers,
And the long, bright, sunshiny hours;

Where in the soft and clovery grass,
The beetles, gold and green, would pass,
While overhead, the butterfly
On silvery wing went flitting by;

Where children learned to love the Lord,
To read his world, and read his Word,
And every day, and all day long,
Were happy as a little song.

Now little girls, and little boys,
What I am going to say,
Try and remember at your work,
Your study, or your play.

Not every home has trees and flowers,
As little Lily's had,
But with the summer of the heart,
Your homes may be as glad,

If living in the city grand,
Or in the country wild,
You learn as she, from all you see,
To be a better child.

Then if you live in such a place,
As little Lily did,
You'll be yourselves the sweetest flowers,
All lovely things amid.

How the Indians Make Stone Arrow Heads.

The Hon. Caleb Lyon, on a recent visit to California, met with a party of Shasta Indians, and ascertained that they still used these weapons, which in most tribes have been succeeded by rifles, or at least by iron-pointed arrows and spears. He found a man that could manufacture them, and saw him at work at all parts of the process. The description we copy below:

The Shasta Indian seated himself upon the floor, and laying the stone anvil upon his knee, which was of compact slate, with one blow of his agate chisel, he separated the obsidian pebble into two parts, and giving another blow to the fractured side he split off a slab some fourth of an inch in thickness. Holding the piece against the anvil with the thumb and finger of his left hand, he commenced a series of continuous blows, every one of which clipped off fragments of the brittle substance. It gradually assumed the required shape. After finishing the blaze of the arrow head, he began striking gentler blows, every one of which I expected would break it to pieces.—Yet such was their application, his skill and dexterity that in little over an hour, he produced a perfect obsidian arrow head.

I then requested him to carve me one from the remains of a broken porter bottle, which after two failures he succeeded in doing. He gave as a reason of his ill success, he did not understand the grain of the glass. No sculptor ever held a chisel with greater precision, or more carefully measured the weight and effect of every blow, than this ingenious Indian, for even among them arrow making is a distinct trade or profession, which many attempt, but in which few attain excellence.—He understood the capacity of the material he wrought, and before striking the first blow, by surveying the pebble, he could judge of its availability as the sculptor judges of the perfectness of a block of Parian. In a moment, all that I had read upon this subject, written by learned and speculative antiquarians of hardening of copper, for the working of flint axes, spears, chisels, and arrow heads, vanished before the simplest mechanical process. I felt that the world had been better served had they driven the pen less and plough more. —*N. Y. Courier & Enquirer.*

Idle Conversation.—Don't listen to what is bad. If your companions begin to tell an improper story, pass and leave them. There is evil enough in our hearts without paying attention to what others may relate. Give no heed to vicious conversation; be above it. In this way you will preserve yourself uncontaminated from a thousand vices which, otherwise, would degrade your minds and vitiate your thoughts. Idle conversations and obscene allusions are prevalent sins. These degrade our youth. Shun, then, every impure suggestion, every wicked conversation, every corrupt thought, and virtue will give a glory to your character that time can never tarnish.—*Mrs. Socwell.*

Bats and Swallows.—It is curious, by the way, to mark the analogy that exists between the swallows and the bats. Each of these groups love the air, and is mostly seen on the wing. Their food consists of the flying insects, which they chase by their exquisite command of wing; and it will be noticed that, as soon as the swallows retire to rest at dusk, after clearing the air of diurnal insects, the bats issue from their homes and take up the work, performing the same task with the insects of night as the birds with those or day.

Then as the dawn breaks, out come the swallows again, and so they fulfil their alternate duties.—*Routeledge's Illustrated Natural History by Wood.*

A Word for Farmers' Boys.—Boys, improve the moments which you catch for reading something useful. However busy you may be—planting, cultivating, haying, harvesting—find some time during the twenty-four hours for reading some item which will do you good in future life. Ten minutes each day, for the six working days of the week, give you one hour. Sands make the mountain, minutes the year.

EDITOR'S TABLE.

WISCONSIN FARMER.—Our July friend and fellow citizen, the Wisconsin *Farmer*, is at hand, and is a good number. It ought to be in every house. We have but one objection to the *Farmer*—it puffs too indiscriminately—Sewing Machines, Reapers, Windmills, Portable Mills, and hundreds of other implements—without, we fear, due and most thorough examination. We know that some machines, earnestly recommended by the *Farmer*, have failed, that too, after professed use, application and thorough tests by the editors. This is wrong, as the *Farmer's* recommendations ought to pass without reproach. This we will say, however, for the *Farmer* editors, that they are earnest men and mean well, but cannot resist temptations to eulogize whatever comes in their way. We do not believe that, in consideration of receiving a present of a Sewing Machine or a Reaper, they would puff the same. Wishing the *Farmer* to rise to a more dignified, responsible and trusty station than a mere county organ, we are thus plain.

REMARKS.—The foregoing paragraph appeared in the Grant Co. *Herald* of the 16th July, and in reply to it we would say that we are of course much obliged for friend Cover's friendship and solicitude in our behalf, and have no doubt but it is dictated by the best of feelings for our own and our patrons' welfare.

But in relation to his objections, inferences and conclusions, we have a few words to say.

1st, He claims that we *puff* too indiscriminately, and he fears without "due and most thorough examination."

2d, *He knows* that some machines earnestly recommended by the *Farmer*, after a professed thorough test and trial, *have failed.*

3d, That in his opinion, the editors of the *Farmer* are earnest and well meaning men, *but cannot resist temptations to eulogize whatever comes in their way.*

4th, He (very charitably) does not believe, that in consideration of receiving the present of a sewing machine or a reaper, they would puff the same.

5th, He wishes the *Farmer* to rise to a more *dignified, responsible and trusty station*, than a mere county organ.

Now to the first of these objections, we make a full and unreserved denial, and appeal to the pages of the *Farmer* in support of it, for the three and a half years that we have had the charge and control of it. We deny that the instance can be found, where we have assumed to know anything about a machine *that we did not know*, or have puffed one in a single instance beyond its merits. So far as "due and thorough examination" is concerned, that friend C. has fears about, we readily state, what we can prove if desired, and that is, that we have never assumed to have tried a machine of any kind or in any case, except when we had done so. We are farming and gardening over 200 acres of good land, exclusive of all out-lots, and almost daily traversing those various fields, and noticing some new machine that is sent us for trial and use. Yea, at the present moment as we write, we doubt not but our hands show the embrowning and callousing effects of more labor that our assuming critic's have since he was some starvling farm boy, at work for $6 per month, and before he arose to his present *dignified position.* But we are digressing.

We further claim that we *have a right to believe that we actually know something about machinery*, and its comparative merits, and for the following reasons: 1st, We served a regular apprenticeship in our youth to learn the trade of a machinist, and are of the opinion that we graduated from the establishment with as much honor and credit, for a high order of ingenuity and inventive skill, as any boy that has ever since left it at twenty, and it was a large one. 2d, We followed the business for years, before coming West, and always stood at the head mechanically, of every establishment in which we were employed. On coming West, many years ago, we projected and put in operation one of the first turning and machine shops in the then Territory of Wisconsin; and what was more, had the ability to carry it on and make lots of money out of it for years, and until more important business compelled an abandonment of it. We have also built several good mills in the State, for ourself and others, and usually mainly planned and directed their construction.

But discovering a few years since that agricultural machinery and its application, was rapidly becoming the *greatest physical power* of the Mississippi valley, we bought us the best farm we could find in the State, location and all considered—bought out a run down, broken down and rusty looking concern, without much credit or character, called the Wisconsin and Iowa *Farmer*, and at once addressed ourself to building it up to what in our opinion it ought to be, and to improving the aforesaid farm. How well we have succeeded in

the former, we are willing to leave to that portion of the public to determine, editors included, who examine and consider carefully what they are going to say before they speak, and publish assertions broadcast, all over the country, that may be erroneous and prejudicial.—How well we have succeeded in the latter we are willing to show to all who chose to call at '76 and examine; nothing to brag of, nor to be ashamed of, when due allowance is made for the little time that we have been able to bestow, and the further fact, that nearly all the farming so far, has been done by tenantry, and as far as possible of course for their immediate profit. But the one essential point for the present is certain, and that is, that we have had an ample opportunity to try and have tried, all kinds of agricultural machinery.—And now in conclusion upon this point, we would say, that if any one in the State has, on the whole, been through a better school to thoroughly post and qualify them for a competent judge of such articles as we mainly advertise, then we do not know who they are, that's all.

So much for our probable ability and competency to judge. Now for the other essential point—the honesty and independence to tell the truth and nothing else in reference to machinery and the like in the *Farmer*, and the motives *and bribes*, that under the COVER–t insinuation may prompt. Upon this point, we may surprise our very honest Grant County friend, and may be some other of the editorial fraternity, who are usually so charry and conscientious in their puffing. (See notice of a Rat Exterminator advertisement in the same aforesaid number of the critical Grant Co. *Herald*, from which we copy the high-toned and dignified paragraph at the head of this article.) But we are bound to presume that it was inserted by "the boys," and escaped the eye of the worthy editor, who does not believe in indiscriminate puffing, especially if it does not pay. Upon this point we say, openly and boldly, and without fear of any one's gainsaying it, that as yet, we never have asked or received as pay, or as a present, the first article of machinery or the like, for any puffing or notice we have taken of it, in the columns of the *Farmer*. If any one among our numerous readers knows the aforesaid assertion or any part of it to be untrue, they are challenged to publish it, broadcast if they please, and on this point, we have no fears whatever, and for this simple reason, that what has not been done, cannot be honestly charged, except by careless insinuating simpletons, who because they are not only so ready but anxious to be bought by a trifle, that they naturally conclude that such is the fact with all others. If we are proud upon any one feature of our editorial course, more than another, it is that our opinions have never been bought or sold, neither upon machinery nor any other subject. But when we meet with what we know to be a good machine or article, we not only deem it a pleasure but a duty to say it, and so emphatically that those interested may understand it, and believe it too, if they please.

Now upon the second point, wherein the gentleman knows of some machines earnestly recommended by the *Farmer* on their own knowledge that have failed. That there may be instances where individual machines, perhaps in awkward or impatient hands, have failed of giving satisfaction, we do not doubt. But that any kind of machines, that we have recommended *positively and from knowledge of them*, have generally proved a failure, we flatly deny notwithstanding the amount the gentleman *knows*, and we challenge him to show to the contrary if he can. And in all such cases we will engage both to him, and to every individual that has suffered, from thus too implicitly having followed our advice, to make every such loss good to the last penny, and we are able to do it too. So trot out your instances, friend C.

Upon point third, where the gentleman expresses the very charitable opinion that we are honest and well meaning men, &c., "but cannot resist temptation," we have only to say that we presume the gentleman judges us in the last clause by himself, as it is so natural. But in reply to the mean insinuation, we will only repeat what we have already said in substance—that being above the line of poverty, that too often accompanies editorial life, we have probably had less strong motives than many, and have found no trouble in resisting all temptations thus far, of the kind referred to, although frequently offered handsome sums for advertising or puffing, what would probably readily enough have found its way into the columns of the *Herald*, but what we would not publish at all. If any one thinks us cheap to buy to a purpose we do not approve of, they are at perfect liberty to try us, and welcome to all they make; we will risk ourselves.

Upon point fourth we will say, that if he can find any one that has given us any kind of a machine, short of regular and full pay in cash, or advertising at current rates, and nothing charged for editorial notices, we will engage to give the gentleman a farm.

On point fifth, where he wishes so piously that the *Farmer* may rise to a more dignified, responsible and trusty station, &c., we would simply ask the gentleman what paper he would have us copy after, and if he would propose the *Herald*? If there is a journal in the State, or West, that shows less of personalities, bickerings, blackguard or pettifogging than the *Farmer* has for the last three years, name it, Mr. *Herald*, and no doubt we will gladly model and copy after it.

We ask pardon of the reader for the extended notice that we have given the foregoing paragraph, but we felt called upon from the number and peculiar nature of its remarks, to respond in a way, and to an extent not to be mistaken, and to be understood as denying and scouting its entire tenor and assumptions, not from any chafed or wounded feelings, for we have none whatever in relation to it; but to prevent that portion of our readers and patrons, who do not personally know us, from falling into the error of supposing that we were guilty of, acquiesced in, or admitted anything of the kind.

We repeat in conclusion, that we are as careful and particular in our endorsement of machinery and articles advertised, as we are in endorsing notes, and whenever and wherever any one meets with our endorsment of a machine or article as *good, or first rate,* they may pretty safely buy it, and in nine hundred and ninety-nine cases in every thousand, they will find it all right and no mistake. We spend a deal of time and money every year, in attending all the principal Fairs of the nation, to post ourselves thoroughly in all such matters, considering that they pertain to our profession proper, and we calculate they will be pretty well posted parties who get much ahead of us in knowledge upon such subjects. Friend Cover must also excuse the extent of this reply, when we assure him that we have not said more than half we good naturedly felt on the subject. P.

Premium Lists

For the State Fair will be forwarded to all applicants, promptly and with pleasure.

The Mole Drainer.—A New Thing in Wisconsin.

How many of our readers have ever heard of the *Mole Drainer*, or how many of them have ever seen it in operation we know not, but be that as it may, we would say that all who wish to see and know more about it, can be gratified at any time hereafter, during the early autumn, by calling at the '76 farm, where we have one in actual and daily operation.—Messrs. Brittin, Zimmerman & Co., of Illinois, attorneys for the patentees, (Messrs. Cole & Wall,) are sojourning in this city for the present, for the purpose of making our people acquainted with its merits.

For such as are not familiar with the construction or working of this novel machine for ditching, we would explain briefly: That it is simply a stout kind of a plow comparatively, with a huge beam 16 feet long, and a straight perpendicular coulter reaching three feet into the ground, and on the bottom of which is a conical shaped point or foot, about the size and form of an old fashioned sugar loaf, which as the plow is drawn along by a stout windlass turned by two yoke of oxen, makes a smooth hard hole three feet below the surface in the clay subsoil, not unlike the hole in a tile drain. This plow is started in a three foot ditch, and drawn towards the rising and dry ground, once in thirty to forty feet, thus making a complete underdrain without any interruption of the surface, the coulter cut being closed pretty much by a following-wheel upon the rear end of the ditcher.

But, by gauly, says Uncle Josh, I should think that such a hole would fill up. But experience answers not at all, when it is a hardish clay subsoil, and that by the way is almost the only land that badly needs draining.—These ditches have been extensively made in central Illinois and Indiana for the last three years, and are found to continue just as good as new. In fact some few have been proved as long as nine years, and are said to be still good. So much for its construction and modus operandi.

So far as we have seen and used it, it strikes us very favorably, so much so, that we have set one to work and intend to run it until some hundred acres of our marshes are drained, and which by the way will not take long from present appearances. Their price for draining is two shillings per rod. They are also disposing of county and town rights, with or without machines as parties may desire.

Those wishing further information on the subject can address Messrs. Brittin, Zimmerman & Co., Madison, or if not out of their way too much, can see the machine running every fair day as aforesaid, and the marshes as dry within two weeks after being drained as a contribution box. Come and see it. We believe it the greatest institution that has appeared in the State since the advent of the Reaper. It is bound to reclaim our millions of acres of marshes. P.

Crops, Prices, &c.

The long solicitude of the cultivators of the soil as to the maturity and yield of the grain crops of the State and West, is finally and fortunately passed. Probably better crops as a whole have never grown in the great grain-growing States. Here and there an echo is heard of short and partial yields, but almost without exception the reverse is the fact.—Coupled with a good growth has been a highly favorable season for harvest, up to the present moment (July 30) at least.

The consequence of all this fruitfulness and good weather for harvesting will be a great abundance of plump and merchantable grain, especially the great staple, wheat. And as naturally might be expected, the farmers are hardly through with their harvesting and rejoicing at their abundance, ere they begin to grieve at the prospect of low prices. How much final reason they may have for this apprehension, it is as yet hard to tell. The great abundance, with the fading prospect of much if any foreign demand, would certainly seem to indicate rather low figures, in the outset at least. Still nothing is harder to prophesy upon for certainty than the course of the produce market. That the crop is almost universally large comparatively there can be no doubt, but in offset to this it may also be said, that the country was much more destitute than usual of former crops—in fact almost naked. Added to this is the further and by no means unimportant fact, that the quality of wheat is generally good, and such as dealers may handle or hold for a time without as much danger of loss as with an inferior article. The probable return of peace and quiet throughout the world, while it may reduce the call for produce will also restore an equilibrium and ease in money matters, that will undoubtedly materially promote transactions in Western produce.

The market may start off low; we expect it will, and that it will continue rather moderate until the close of navigation, we also rather predict. But that various causes may operate to improve prices before or by another season, we also hope and expect. Still, let prices be as they may, we would not advise those that have absolute debts to meet, during the fall and winter, to hold on too long and until the close of navigation; for, from and after that time, for a while at least, we always look for more depressed prices than at any other season of the year. Those that owe money *that has got to be paid*, always do well to provide for it in season if possible, even at an apparent sacrifice. Greater sacrifices are almost always made by those who wait to be driven, saying nothing about the loss of character, always attendant upon slackness of payment. The uniform good crops of the State must certainly situate the masses of the farmers much better, let prices be as they may, than they were last year with little or no wheat crop at all. Time in its rapid development can only tell what the range of prices will be. P.

The Commencement Exercises of the State University, &c., &c.,

Are now (July 27) in progress at the City Hall, with the usual evidences of interest on the part of the citizens and visiting public, and of a too low educational standard on the part of the Institution. A State University which graduates boys of ordinary capacity at 15, should blush when it looks its imposing title in the face.

The inauguration of Dr. Barnard was an occasion of deep interest to all the friends of education in the State. The installation address by the Hon. Carl Schurz was a beautiful and highly appropriate effort, the welcome by J. T. Clark, Esq., on behalf of the Normal School Board, in excellent taste, and the Inaugural itself characterized by every desirable element, except perhaps that catholicity of sentiment, that perfection of justice which accords to each human soul, without regard to adventitious circumstances of any sort, an equal right with every other to all the facilities for educational development, which it is in the power of society to furnish. But of this at another time.

Touching the necessity for a thorough system of public instruction, the Dr. spoke eloquently and ably. There ought certainly to be a regular gradation of our schools from the

primary to the professional, all connected together and all striving for the same noble end; and Chancellor Barnard is no doubt qualified to render very important service in this great work. While, therefore, we cannot fully agree with him as to certain matters connected with the University, we nevertheless cordially welcome him to this new field of labor in the hope that he will more impartially reconsider those points wherein we feel assured he is in error, and with the conviction that he will accomplish much in the cause of Common Education.

Strawberry Excursion on the Fourth of July.

The account of an interesting visit to the town of Wauwatosa and an inspection of some of its farms, &c., &c., which we had prepared for this number, is crowded out by matter which seems to be more immediately important, and must lie over till our next issue.

Bound Volumes for Premiums.

Those societies which have arranged to use bound volumes of the *Farmer* as premiums at their coming Fairs, will do well to send in their orders in season to obtain the books for delivery on the grounds at the time of making the awards.

State Fair.

We learn from Mr. Daggett, the chairman of the sub-committee for fitting up the Fair Grounds, that the track is already pretty much completed, and all other preparations are being made for the fitting up and completion of the grounds in good order and in due season.

Literary Notices.

PLAIN AND PLEASANT TALK ABOUT FRUITS, FLOWERS AND FARMING. BY HENRY WARD BEECHER.

This, like all other works of Beecher, has a charm for every class of readers. Made up of newspaper articles, written years ago, and epigramatic comments on the follies of farmers, it has not the *practical* value of careful and thorough treatises on the various subjects included in its table of contents, but is nevertheless so stimulative of new and worthier effort in the departments of industry, to whose advancement its author aims, that we have good pleasure in recommending it to all persons interested in the subject matter of its title.

THE AMERICAN FARMERS' MAGAZINE.

We regret the demise of this valuable agricultural journal. Prof. Nash, its sterling and scholarly editor and publisher has been for years a popular leader in the army of progress, and was eminently worthy of financial as well as literary and scientific success. To use his own expressive words, "It dies of a collapse in the money drawer."

The Prof. is one of the best writers in the country, and we sincerely trust that he may find, very soon, a more satisfactory and profitable channel of communication with the agricultural public.

THE SOILING OF CATTLE. BY JOSIAH QUINCEY. Phillips, Sampson & Co., Boston, Mass.

We are indebted to its distinguished and venerable author for a copy of this excellent work. It comprises some hundred and fifty pages, royal octavo, and includes two able, practical essays on the important subject of which it treats. In future numbers we shall make liberal quotations from its pages.

COUNTRY SCHOOL HOUSES, Containing Elevations, Plans, and Specifications, with Estimates, Directions to Builders, Suggestions as to School Grounds, Furniture, Apparatus, etc., and a Treatise on School-House Architecture. By JAMES JOHONNOT, with numerous designs by S. E. Hewes. Ivison & Phinney, 331 Broadway, N. Y. Price $2,00 —$2,25, if forwarded by mail.

We have anxiously looked for this book since its first announcement, and are happy to find that it is even more than a full realization of our expectations. To Horace Mann belongs the honor of having roused the public attention, by a succession of eloquent addresses and reports, to the great importance of a thorough reform in the location, construction, and furnishing of school-houses; and Henry Barnard, Chancellor elect of our State University, is also justly entitled to the gratitude of the children of the present and future, for his valuable work on the same subject. But after all that had been accomplished by these noble reformers, there was still a felt need among the people, who, though convinced of their error, knew not so well how to improve the quality and style of their school houses. To meet this want was the aim of our author, and justice requires the statement that he has met it well and ably.

His book ought to be in the hands of every school board in the country, and no school-house should be planned without a careful reference to its excellent plans and invaluable advice.

Advertisement Notices

L. L. Lee & Son advertise the well-known Danford's Mower and Reaper, manufactured and sold by them at Milwaukee. We believe they are understood to be the best mower in use so far as running in tangled and lodged grass and clover without clogging, is concerned; besides it is claimed that they cut very low, a merit by the way that many of the so-called combined machines do not possess, and from the simple fact that their thick reaper bars absolutely prevent their coming down to the ground in their cut. A pretty important matter, by the way, in as short grass as the present season. We think that farmers who need mowers, will do well to examine those of Messrs. Lee & Son.

Sugar Cane Mills are also extensively manufactured by them, and so far as we can judge from appearances, are a first rate article, embracing several different sizes and prices. We think that all wishing mills can suit themselves at their establishment. Farmers' corn and feed mills of various sizes and styles are among their articles of manufacture. Circulars fully illustrating all the foregoing articles, together with prices, terms, and all important particulars will be forwarded by Messrs. L. & Son on application. They have an extensive establishment for the manufacture and sale of all the aforesaid articles, about one hundred rods directly south of the M. & M. R. R. Depot. Farmers give them a call.

See advertisement of Pratt's Patent Self-Ventilating Milk Pans. We know nothing of their value, but should think they might be an exceedingly good and useful article.

Wilson's Albany Strawberry. See adv. of John Sloan. Also an illustration of it in our Horticultural pages. It is attaining to great popularity all over the country.

Bi. Sulphite of Lime. See adv. of Walter Carswell. It is an article of the merits of which we know nothing. It may be well worth an experiment.

A Practical Gardener wants a situation.—See his card.

County Fairs for 1859.

Grant,	Lancaster,	Sept. 13–15
Pierce,	Prescott,	" 14–15
Sheboygan,	Sheboygan Falls,	" 14–15
Waukesha,	Waukesha,	" 14–16
Dodge,	Juneau,	" 14–16
St. Croix,	Hudson,	" 20–21
Columbia,	Portage City,	" 20–21
Waupaca,	Waupaca,	" 20 21
Dane,	Madison,	" 20–22
Rock,	Janesville,	" 20–22
Walworth,	Elkhorn,	" 21–23
Jefferson,	Lake Mills,	" 21–22
Winnebago,	Oshkosh,	" 22–23
Green,	Monroe,	" 23–24
Kenosha,		" 23–24
Richland,	Richland Centre,	" 28–29
Manitowoc,	Manitowoc,	Oct. 3– 4
Waushara,	Wautoma,	" 12–13

State Fairs for 1859.

Illinois,	Freeport,	Sept 5– 9
Vermont,	Burlington,	do 13–16
Maine,	Augusta,	do 13–16
New Jersey,	Elizabeth,	do 13–16
Kentucky,	Lexington,	do 13–17
Ohio,	Zanesville,	do 20–28
Wisconsin,	Milwaukee,	do 26–30
Pennsylvania,	Philadelphia,	do 27–30
Canada West,	Kingston,	do 27–30
Iowa,	Oskaloosa,	do 27–30
Indiana,	New Albany,	Sept. 26–Oct. 1
Missouri,	St. Louis,	do 26– do 1
California,	Sacramento,	do 27– do 1
Michigan,	Detroit,	Oct. 4– 7
New York,	Albany,	do 4– 7
New Hampshire,	Dover,	do 5– 7
Tennessee,	Nashville,	do 4– 7
Georgia,	Atlanta,	do 24–28
Maryland,	Frederick City,	do 25–28
Alabama,	Montgomery,	Nov. 15–18
Connecticut,		

The 7th Annual Exhibition of the U. S. Agricultural Society will be held at Chicago, Sept. 12–17, 1859.

Pratt's Patent, Self-Ventilating, *COVERED MILK-PAN.*

THIS is an enclosed milk-pan, so arranged as to secure the supply and circulation of air required for the separation and rising of the cream. By reference to the engraving, it will be seen that the pan has a cover; around the lower rim of this cover are several minute perforations for the air to enter, and at the top of the chimney, (as it may be called,) which rises from the centre of the cover, is another series of perforations for the air to escape. When new milk is placed in this pan, the colder external air presses in through the lower range of perforations in the cover, and forces the warm air out through the perforations above, thus producing the required circulation. This circulation of air will diminish, as the cooling process goes on, but not cease; for, gases being evolved in the production of cream, their lightness will still cause the air to draw in through the lower perforations, and so continue the process of ventilation.

The value of this new milk-pan will be at once apparent. Dairymen often have great difficulty in protecting their open pans from gnats, flies, rats, mice, snails lizards, &c.; and they cannot cover them, because, if the air is shut out, the cream will not separate from the milk.

But not alone to dairymen is the invention of value. In every family milk is used, and with one or more of these self-ventilating pans, the best condition for raising cream is secured. Covered, and set upon a shelf, or the cellar floor, the pan is entirely free from molestation. During the time that the patent was pending, in 1858, this milk-pan was exhibited at the U S Agricultural Fair, held in Richmond, Va, at the Pennsylvania State Fair, held at Pittsburgh, and at the New Hampshire State Fair, held at Dover. In each case DIPLOMAS were awarded.

ARTHUR, BURNHAM & GILROY,
Sole Manufacturers, 117 & 119 South Tenth Street, Philadelphia, Pa.

Also Manufacturers, under the Patent, of "The Old Dominion" Coffee Pot, and Arthur's Self-Sealing Fruit Cans and Jars. XI VIII 2

A Practical Gardener and Nurseryman

WANTS a situation as Foreman or or Partner in the Nursery business. He understands the raising and management of Fruit and Ornamental trees, the culture of all sorts of green house plants, also the culture of the grape vine under glass and in open air; the laying out of gardens and landscape gardens in modern style; the raising of flowers, vegetables, etc., etc. Having served in the largest establishments in Germany, France, and the United States, he is able to give the best reference about his practice, experience and honesty, and will answer to all reasonable expectation in his line. Address A. B., at the office of this paper. XI VIII 3

DANFORD'S IMPROVED

IRON MOWER AND REAPER.

THE undersigned would apprise the public and their customers generally that they are manufacturing and selling extensively the aforesaid popular and unsurpassed machines, the most efficient and perfect now in use. Over 8000 of them are now in operation.

All the principal acting parts of machinery are iron and steel, hence exceedingly strong and durable. The cutting arrangement is composed of two knives playing directly upon each other in such a manner as to render clogging even in wet grass or lodged clover impossible.

The cutter bar on which the knives work is of the best hammered wrought iron, and sufficiently strong to withstand the power of four horses, and is so constructed as to cut lower than any other mower in use.

These machines are warranted to cut all kinds of grass and grain, coarse or fine, thick or thin, wet or dry, lodged or standing in the best manner.

☞ We append a certificate of a well known Wisconsin farmer, and could add many more equally to the point, if deemed necessary.

MESSRS. LEE & SON:—The combined mower and reaper you sent me has been received. We have tried it as a mower and are pleased with it, and therefore, according to agreement, send you one hundred and twenty dollars by express, as pay for the mower. We have not tried the harvester as yet, and shall not for more than a week to come. When we have tried that you will hear from us again. We are glad to find, at last, a mower that will not clog in wet grass, and one that can cut its way through lodged and tangled places Yours respectfully, F. H, CASE.

Whitewater, July 28, 1859.

Our Agents are as follows:

J. McHASE, Whitewater.
J. E. BUXTON, Columbus.
J. MARSHALL, Fond du Lac.
THOMPSON E. BROWN, Monroe.
N. PRENTICE, North Prairie.
N. T. KINTEN, Ripon.
L. D. PHELPS, Berlin.
H. G. TALBOT, "
E. PIXLER, Portage City.
E. D. CADWELL, Union Grove.
J. A. WILLIAMS, Burnett.
HEATH & KELLEY, Brandon.
J. ROWELL, Beaver Dam.

The undersigned have still a few machines on hand, which they will be pleased to dispose of on application to themselves or agents, at the following reduced

PRICES.

Combined Reaper and Mower,.....$100
Mower with Reel and Bearings,..... 90
Mower without Reel,..... 80

Time will be given when required to responsible parties.

L. L. LEE & SON,
Globe Iron Works.

Milwaukee, July, 1859. XI VIII

Mil. and Miss. Railroad.

1859 SUMMER ARRANGEMENT. 1859

ON and after Thursday, June 30, 1859, and until further notice, Passenger Trains will run as ollows DAILY [except Sundays.]

GOING WESTWARD.

Leave Milwaukee at	9.15 A. M.	and 1.30 P. M.	
" Waukesha,	10.22 "	2.30 "	
" Whitewater,	12.10 P. M.	3.50 "	
" Janesville,	12.45 "	4.00 "	
" Madison,	3.02 "	5.45	
" Prairie du Chien,	7.45 "	9.30	

GOING EASTWARD.

" Prairie du Chien,	6.00 A. M.	2.00 P. M.
" Madison,	10.02 "	6.22 "
" Janesville,	11.50 "	8.30 "
" Whitewater,	12.10 P. M.	8.48 "
" Waukesha,	1.29 "	10.22 "
" Milwaukee,	2.30 "	10.30 "

XII tf WM. JERVIS, Superintendent.

Albany Tile Works.

Cor. Clinton Av. and Knox-st., Albany, N. Y.

THE Subscribers being the most extensive manufacturers of DRAINING TILE in the United States, have on hand, in large or small quantities, for Land Draining, ROUND, SOLE and HORSE-SHOE TILE, warranted superior to any made in this country, hard burned, and over one foot in length. Orders solicited. Price List sent on application.

XI VII 12 C. & W. McCAMMON, Albany, N. Y.

Bi. Sulphite of Lime.

FOR SALE AT THE SUGAR PLANTERS DEPOT,

Portage City, Wisconsin.

IT prevents acidity in the juice, clarifies it, whitens the syrup and sugar, and improves their flavor. It is sold by the subscriber at 15 cts. per quart (sufficient for 100 gallons juice.) It is valuable to use with water in washing the vessels used in syrup making, as it prevents and eradicates the seeds of fermentation.

XI VIII 1 WALTER CARSWELL.

Wilson's Albany Strawberry

IS the best and most valuable Straw- berry in general cultivation, yielding from 35 to 45 bushels per acre more than any other variety we know of. I have cultivated it for four years, and every plant sent from here will be true to name. Price of strong plants $1.50 per 100, $5 per 500, $8 per 1000. Also a very fine assortment of fruit and ornamental trees, grape vines. currant and gooseberry bushes, rhubarb, asparagus, &c. Catalogues free.

Address— JOHN SLOAN.
E. Corning's Nursery, Albany, N. Y. XI VIII 2

WISCONSIN LAND AGENCY,

Banking and Exchange Office.

WILLIAMSON & BARWISE,

[LATE CATLIN & WILLIAMSON,]

MADISON, WISCONSIN,

HAVE a large amount of Lands for sale in Dane and other Counties.

Make investments on UNDOUBTED REAL ESTATE SECURITY.

Pay TAXES in any part of the State of Wisconsin.

Give particular attention to CONVEYANCING, and all business connected with REAL ESTATE.

Attend to the entry of and payment of Interest on School, University and Swamp Lands, and generally to the transaction of any business at the Capital.

Buy and sell Farming Lands and Town Lots.

Make collections and remit promptly at current rates of Exchange.

Have a full and reliable Abstract of Title to all Lands and Village Lots in Dane County. XI III tf

E. M. WILLIAMSON. GEO. H. BARWISE.

S. H. Donnel, Architect,

OPPOSITE WRIGHT & PAINE'S DRUG STORE, KING ST., MADISON.

DEALER in Sash, Doors, and Blinds, Sash Primed and Glazed, Glass, Putty, Stained and Ground Glass, Paints and Oils, Newels and Ballasters, Pine Mouldings for inside finish, Water Lime, Rosendale Cement, Plaster Paris, Marble Dust, Hot Air Furnaces, Registers, Ranges, Ventilators, Marbleized Iron, Marble and Slate Mantels and Grates, Iron Window Caps and Sills, Verandans, Fences, Store Fronts, Columns, Brackets and Sash Weights, Terra Cotta Ornaments such as Chimney Tops, Vases, Flower Pots, &c., Encaustic Tile for floors, and in fact anything wanted in the house furnishing line. Those wishing anything in this line will find it to their interest to call. XI VII tf

Geo. V. Ott's

LEATHER AND HARNESS STORE,

WHOLESALE AND RETAIL.

UPPER, SOLE, HARNESS & BELTING LEATHER.

FRENCH CALF AND KIP SKINS.

Shoe Findings, Tools and Lasts.

PLASTERING HAIR

☞ Harness made to order, and Repairing done, &c.

GEO. V. OTT,

In Basement of Bruen's Block, under Dane Co. Bank, Madison, Wis. XI VII 12

For Sale.

THE subscriber offers for sale, cheap, the Spanish Jack GABRIEL. Gabriel is a blue Jack of good size and fine action and will be sold at a bargain.—Apply to W. E. JONES.

Belmont, Lafayette Co., Wis.