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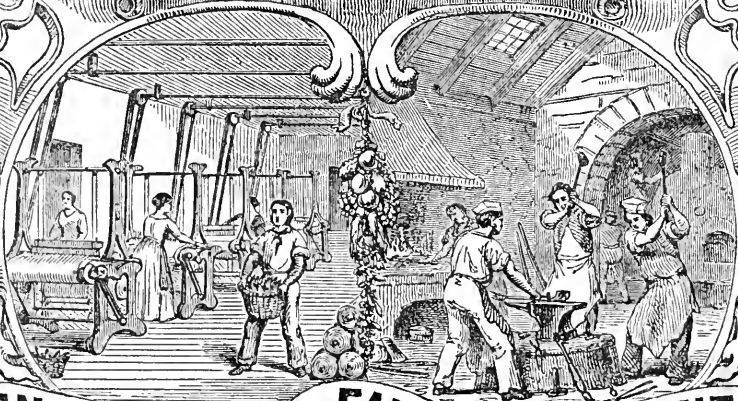
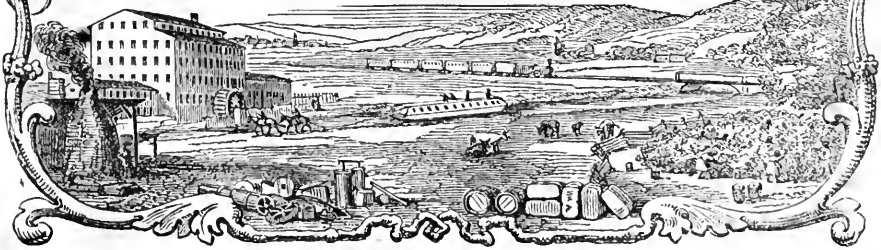


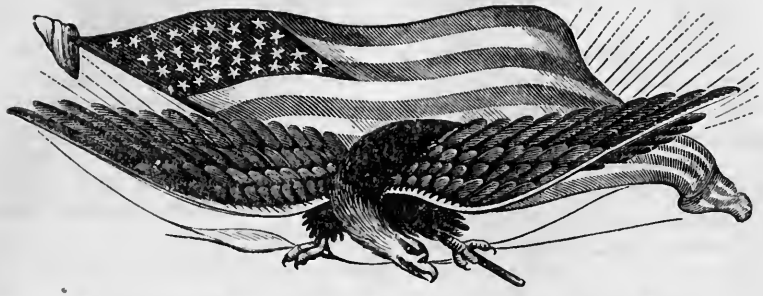
AN AMERICAN FARMERS' MAGAZINE

AND MECHANICS' GUIDE.

NEW-YORK: No. 7 BEEKMAN STREET.

J. A. NASH & M. P. PARISH, EDITORS & PUBLISHERS.





AMERICAN FARMERS' MAGAZINE.

VOL. XI. JANUARY, 1858. No. 1.

Agricultural.

THE NEW YEAR.

WHILE tendering to our readers the congratulations of the season, and wishing as we heartily do, that their coming year may be a happy and prosperous one, we do not forget that, in the relation we sustain to them, something depends upon us.

If we discharge our duties with a sound judgment, and a heart in sympathy with their avocation, knowing as we do its difficulties, and having experienced its pleasures, they can hardly fail to derive from our labors some increase of material wealth, but more we would fain hope of intellectual riches, and still more of those pleasures which are derived from seeing their children advancing in knowledge and goodness.

On the contrary, we are equally aware, that if our writings should be ill-judged and untimely, supercilious and arrogant, pretending rather than reliable, in no soulful sympathy with the working farmer, dropped along the track of the coming year in a care-for-nobody spirit, or with a manifested preference for men of any and all other callings over the producer from the soil, they would be loosers rather than gainers, in whatever goes to make up the sum of their happiness. It would not be for their interest to read us through the year, and probably they would not.

There is a middle ground. If our articles should be pretty good, but no better than are found every where; if our selections should be well enough, but such that you would say they might be a great deal better; if our whole journal should be made up of negative excellencies, faultless and nothing more, it would contribute no great to the material, intellectual, or social welfare of our readers, and might possibly damage them by displacing one of a more positive character.

It is not by an Agricultural Journal of medium qualities, faultless without excellence; and certainly it is not by one of positively bad characteristics, untrue in its teachings, and unsympathizing towards the farmer, that the great cause of soil culture, with profit, and honor, and happiness to the cultivator, can be advanced. And yet to advance this cause is to advance the cause of universal humanity; for it is impossible that our country should make progress in this line and the whole world not par-

ticipate, at no very distant day, in the benefits.

If a higher civilization is to dawn on mankind, and if Christianity is yet to have a more perfect work, in both of which we believe, agriculture, to which the Creator has destined at least half the human family, must be honored in the hearts of all men, and not merely by the words of the wily politician when he wants the farmer's vote. Improved methods must be spread abroad. New methods must be introduced. We are not at the end of all improvement yet. Brain work and labor-saving improvements must relieve the severity of toil. Farm work must not be a working of the body at the expense of the mind, but a business concern that makes both mind and body strong and active.

One half of our community should be farmers, and every one of them proud that he is. A very large portion of the other half should be mechanics, and not a whit ashamed of it. Neither should be in danger of hearing it said, or seeing it acted, he's nothing but a farmer; he's nothing but a mechanic—mere workies, and nothing more. As these two classes create all the wealth, they should possess a pretty good share of it. They need merchants and bankers enough to help in their exchanges, but not enough to rule and ruin them. Merchants, clergymen, lawyers, doctors, teachers, are all wanted; but in a well-regulated community they would not all together constitute more than one in a hundred. If one merchant could not make the exchanges for a thousand people, and one minister do their preaching, and one lawyer their quarreling, and one doctor their healing, and half-a-dozen teachers dispel their ignorance, it must be because there is something wrong.

The great mass should be employed either in drawing raw materials from the earth, or in molding them into forms of additional utility by their handiwork. Above all things it should be no detriment to any one to be so employed, and yet it will be till more live by their industries and less live out of them. There is, however, no use in scolding. If there is "a good time coming," it will be brought about by improvements in the condition of those who do the real, necessary business of the world. First on the list are the farmers. In the inauguration and carrying on of improvements nearly every thing depends upon themselves. If they are to have a good year of this 1858, they, with the blessing of God, must make it so.

So far as the peculiar duties of the agricultural Editor are concerned, we are fully convinced that no *wrong side* Journal will answer their purpose. No half-way teachings will do them much good. They want the best, and it is no easy task to furnish it. We enter upon the new year with earnest purpose, but not without misgivings. Our purpose is to give our readers a better Journal than at any former time; to furnish well-considered, reliable articles on all the leading questions of farming, gardening, fruit culture, stock-growing, and dairying; to adorn our pages more than heretofore with such engravings as may illustrate the subjects and thus be of practical utility; to give our full share of mechanical matter, and to select with reference to its usefulness to the farmer as well as to the mechanic; and to enliven our miscellaneous pages with a variety that shall be at once amusing and instructive. We hope to enlist the interest of young men in our scientific articles, and shall hope to give the children occasional amusement, and perhaps some words of kindly advice, that may aid their mothers in training them to virtue and usefulness.

Such are our purposes, such our hopes; and although we have our fears, we continue our labors with a full conviction of their importance, and a determination to do what in us lies to advance the prosperity and happiness of our readers for the year to come.—Ed.

HINTS FOR THE SEASON.

There is little farm work on hand for this month. If the farmer takes a kindly care for all around him, keeping everything in an orderly, thriving condition, laying his plans for the future, and making such provision for their prosecution as can be made now to better advantage than at any future time, it is about as much as should be expected, and if any man living has a right to pause in the bustle of life and take comfort, he has.

Self-culture is the first duty of all. Now is the time when the farmer, if he seizes the golden opportunity, may outstrip men in almost any other calling. The stormy days and long evenings of winter are his by a peculiar right. They are a boon which he should value. The lawyer, the merchant, and even the mechanic may become more flippant, but the farmer should *know* more than either, and if true to himself he will.

Attend the evening lectures if you have any; and if you have none, be not backward in helping to get them up. Read your agricultural and other papers; and, more than this, read works on history, art, science, literature, political economy, etc.; and learn not only the duties of your own calling, but whatever will make you an intelligent, influential, and useful citizen. You are the cultivator of the earth; you make it more beautiful and more productive; we suppose you are improving everything about you; and if so, all praise is due; but do not neglect yourself.

Next is your family. Is everything done for their comfort, for their advancement in knowledge, for their present and permanent well-being? It would be well for you to look into the school, and see that your children are making progress. Of course you will take them to the lectures with you. Why should you not take them to the farmers' club? Young people are social in their feelings, and it is well that they are, and you should encourage them in all rational and innocent pleasures. If you will prepare yourself to speak at your evening gatherings, it will do you good as well as others, and why not encourage your sons to take a part? A little study and a little practice may prepare them to take a high and useful position as citizens of this free country. By all means, encourage your sons and daughters to read, and if possible, amid the trashy literature of the times, persuade them to read such books as will make them acquainted, not with mere fancy worlds, but with the veritable world we inhabit, and make them better men and women, to enact a part in this same world.

See that the stalls, the folds, and the pens are all warm; that no feed is wasted, either by being trodden under foot, or by being devoured by animals so uncomfortably cold that the whole goes to keep them from freezing, and none to produce growth. Above all let the animals that give milk be warm, and give them plenty of succulent food. How can the pail be filled, or how can the suckling young thrive, if the mother be not kindly dealt by? Every farmer knows, or should, that there is more profit, twice told, in keeping a milk cow, or a suckling animal of any kind, well, than by inferior care.

The old wood pile, we hope, will not be gone till May; but early, before the snow drifts, is the best time to get up the next year's stock. What a bother, when the plow should be going, to have a child come and tell you that oven wood is wanted! To have the dinner half cooked for the want of well-dried wood is almost as bad. There is no surer sign of a good farmer, to say nothing of a good husband and father, than never to be out of dry wood.

Fencing stuff, in many cases, can be removed advantageously in January; and if there is lumber to be got to the sawmill, the first snows are the best. Other things will suggest themselves to the enterprising farmer. Nothing is

better settled, than that such a farmer never finds a time when there is "nothing to do." It is only the shabby farmer that can find no work.

But our object was rather to call attention to the great importance of self-culture and the comfort and improvement of the family. Winter is the harvest time for those things. The farmers of our country should strive to be equal —superior if they can—to any other class.

Let not this winter go by without a step towards a consummation so devoutly, so patriotically to be wished. Push yourself on the race, start your children on the race early.—Ed.

INTRODUCTION OF MERINO SHEEP INTO THE UNITED STATES.

BY CASTIGATOR.

S. G. Goodrich, alias Peter Parley, feeling that he must needs write a book, appeared to think that he could make said book by writing down all that he could *recollect of a life time*, but failing in obtaining the requisite amount of material, he was driven to the pitiable alternative, as we find on page 404, Vol. I, of his *Recollections of a Life Time*, of quoting from the Cyclopædia of American Literature, a work of no authority, a statement with regard to the introduction of merino sheep into this country, which he should have known was not in accordance with facts, viz.: "The first merino sheep brought into the United States were imported by Chancellor Robert R. Livingston—a pair of each sex—in 1802. M. Delessert sent a few others soon after. Little attention, however, was paid to the subject, and it seems that about 1805 half-breeds were sold at a price below that of common sheep. Afterwards a larger importation was made by Col. Humphreys, who had been our minister to Spain and our Consul Jarvis; these were three hundred in number and arrived in 1810."

Why did not Goodrich, when his recollections failed, refer us to some reliable statement from Livingston, showing the month and day when his "*pair of each sex*" were introduced? Why did he not refer to Humpreys' works, published in New-York in 1804, and which are in all our libraries, and give us the true state of the case? There he would see in a dissertation on the merino sheep, dated Boston, August 25th, 1802, the following, which I extract from page 349: "Convinced that this race of sheep, of which *I believe not one* (surely he had an opportunity of knowing) had been brought to the United States until the importation by myself, might be introduced with great benefit to our country, I contracted with a person of the most respectable character, to deliver to me at Lisbon, one hundred, composed of twenty-five rams and seventy-five ewes, from one to two years old. They were conducted with proper passports across the country of Portugal by three Spanish shepherds, and escorted by a small guard of Portuguese soldiers. On the 10th of April last they were embarked in the Tagus, on board the ship Perseverance, of 250 tons, Caleb Coggeshall, master. In about fifty days twenty-one rams and seventy ewes were landed at Derby, in Connecticut, they having been shipped at New-York on board of a sloop destined to that river."

On page 356 is an engraved copy of a gold medal inscribed, "Presented by the Massachusetts Society for Promoting Agriculture, to the Hon. David Humphreys, Esq., late minister to the Court of Madrid, as a testimony of respect for his patriotic exertions in importing into New-England 100 of the merino breed of sheep from Spain, to improve the breed of that useful animal in his own country. 1802."

It is a sad reflection that our American Literature is so unreliable, and that we have so much gossip garnered up and *recollections* unauthenticated, published

in our Cyclopædias and filed away in our Historical Collections, to perplex and mislead our future historians.

ORIGIN OF HUNGARIAN GRASS IN THIS COUNTRY.

Ed. Prairie Farmer:—Numerous inquiries come to me about the Hungarian grass—so called—which has lately been introduced among our farmers, with such unparalleled success as a hay crop.

I thought, perhaps, it might be of interest to some of your numerous readers, to have a little sketch of the history, character, and qualities of this grass. The seed was brought into this country about three years ago by some Hungarian refugees, who were passing through to their settlement west of this place, and was highly recommended by them, and after two years' trial, became popular, and spread all over the country.

It is a species of *millet*, though different from any the farmers of this country are, or have been, acquainted with. The yield on our rich prairies is very heavy. The premium acre at our last country fair weighed eight tons and two hundred pounds of well cured hay. This grew on fresh hazel brush land; $25 was the premium; other competitors came within a few hundred pounds of this weight. The average on our prairie lands is about five tons per acre. This grass is an annual, cultivated pretty much as oats, though somewhat later. Any time in May it does well here. One-third of a bushel per acre is about the proper quantity, covered very shallow, and harvested when the blades and head begin to turn yellow. Cutting time for this grass does not come on till the other harvest comes on.

As hay, it is of very nutritous quality, and stock eat it with avidity, particularly, when the seed is on. It has a very heavy head of seed, and yields from fifteen to twenty bushels per acre. Farmers tell me that horses will keep fat on it without any other grain, and do moderate work.—L. Phillips, *in Prairie Farmer.*

EXTRACTS FROM A REPORT ON ASIATIC GOATS.

ACCEPTED AND PUBLISHED BY ORDER OF THE SOCIETY, AT THEIR ANNUAL MEETING, OCTOBER, 1857.

1. By a resolution of the Southern Central Agricultural Association, of Georgia, we were appointed on a Committee to report on the Goats now in the possession of Richard Peters, Esq., and, in compliance, present the following report as the result of our investigations:

2. Among all the domesticated animals introduced into our country, the Goat has hitherto been regarded as the least valuable. The several large breeds, such as the Scind, the Maltese, and the Swiss Goats, which were, from time to time, introduced as milking animals, were, after some time, neglected and considered as of no great value, in comparison with the Cow, and we are not aware that their milk is converted into cheese in any portion of our country. The hair was too coarse for manufacturing purposes, and the flesh was considered inferior to that of veal or mutton; hence the Goat was scarcely regarded as deserving of notice among the herds of the farmer.

The wisdom of Providence has, however, wisely so ordered it, that in all the species of animals intended for the use of man, distinct and permanent varieties are produced in different localities, which varieties, by proper attention, may be preserved for ages without change or deterioration. Breeds of Horses have been produced, adapted to the various necessities of man. The breeds that have originated from our domesticated horned cattle are equally varied and so organized as to minister to the wants of man in the different climates of the world.

3. The Sheep, which in many of its varieties is a coarse wooled animal, has assumed various forms and infinite varieties in the flavor of its mutton—in its fleece and in its adaptation either to cold, temperate or tropical climates. In Africa and the West Indies, breeds have sprung up, called by some Nubian Sheep, whose wool has become converted into a short, coarse glossy hair. In the mountains of Spain and in Saxony, varieties of the same species produce the finest wool. These Merino and Saxon Sheep, having become permanent breeds, have retained their fine fleece in our country, during successive generations.

4. The varieties of the Goat are equally numerous and equally varied in different countries. They are all of one species, the varieties mixing and multiplying with each other *ad infinitum.* They all claim as their origin, the comm n Goat, (Capra hircus,)

which it is admitted by nearly all reliable naturalists, derives its parentage from the wild Goat, (Capra ægagrus,) that still exists on the European Alps. Two individuals of this wild species lived for several years in the menagerie of Paris and exhibited all the manners of the common Goat. We have, on several occasions, seen herds of our common Goats, that had strayed away and become wild; one of these might for several years have been seen on that wonderful production of nature, the Stone Mountain of Georgia. They evidenced all the peculiarities ascribed to the wild Goats of the Alps. A herd of these Goats exists on the precipitous side of Ben Nevis, in Scotland, and are described as still numerous on the rocky island of Juan Fernandez, which the fertile imagination of Defoe, by the aid of the narrative of Selkirk, has invested with such a fascinating romance.

5. An animal so easily reared and domesticated, must have been given to man by a beneficient Providence for a more valuable purpose than that of its very sparing portion of milk, and its rather inferior flesh. The Creator, who gave to our first parents the soil, with the command to "till" it, has also given to the animals that accompany him in his migrations over the earth, an organization adapted to the production of improved and permanent varieties. These, when produced, it becomes the duty of man to increase and multiply. The individual who does this, by the application of his time, his scientific knowledge, his labors or his wealth, carries out the designs of a superintending Providence, and becomes a public benefactor. . . .

6. As we are obliged to regard the different breeds of animals by the names under which they are usually designated, we are not allowed to consider the Goats of Mr. Peters as the true cashmere. The two kinds of hair, with an under vest of delicate grayish wool which amounts only to two or three ounces on a well-grown animal—together with horns, not spiral, draw a broad line of separation between these probable crosses, and the far superior Goats of Mr. Peters.

7. This animal differs also from the Angora Goat, to which it has a nearer approach and from which this improved variety has probably descended. In the few specimens of the Angora Goat, which we saw many years ago in Europe, and in the figures now extant of this variety—the ears compared with those of the Goats of Mr. Peters were smaller and less pendulous, the tail was much longer, the neck was covered with a mane of almost straight hair, reaching the shoulders and uniting with the beard under the chin—the body was larger and more Goat-like, and had less the appearance of the Sheep than the present variety. The fleece was equally white and glossy, but more than double as coarse. By what local name this breed of Goats, owned by Mr. Peters, is called in the East remains for some future naturalist, or traveler to determine. . . . At present, we can only designate them by the general term, Asiatic Goats, or to be more definite, as the Davis Cashmere Goats, from the individual who introduced them.

8. It yet remains for us to consider the most important subject connected with this report. What benefit may our country be expected to derive from this breed of Goats? They were introduced into South Carolina in 1849, having been brought from Turkey, in Asia, by J. B. Davis, M. D. We examined these animals on their first arrival and pronounced them as destined to become a valuable acquisition to our country. We have since taken advantage of many opportunities, from time to time, of ascertaining their adaptedness to our climate, and saw them recently at the farm of Mr. Peters, at Calhoun. We are much gratified in stating that the result has far exceeded our most sanguine expectations. We will give the result of our inquiries and experience under several heads.

9. *Their Constitutional Characteristics and adaptedness to our Climate.*—They appear to be remarkably well adapted to our climate, show no evidence of suffering, and do not pant like the Sheep during the warm weather of summer, when the thermometer often rises to 92°. In winter, when the thermometer sometimes sinks to zero, their woolly covering protects them from the cold, which they endure fully as well as do the Sheep. In the lower country of Carolina, during recent severe winters, we ascertained that many of the common Goats (as far as we could learn, one-half of the whole stock) perished from cold; the Asiatic Goats, however, did not appear to suffer the least inconvenience. Kids were dropped in a snow bank, at Mr. Peters' farm in February, and sustained no injury.

10. Three of these Goats were kept during winter and summer near Utica, in central New-York, and three others, with their descendants, have remained near Harper's Ferry, Virginia, since the autumn of 1854; all of them are doing well and have suffered no inconvenience either in winter or summer. This hardy disposition is imparted to the different grades, the half and three-quarter bloods, produced by an intermixture with the common Goat. They are all healthy. No disease has appeared among them, and there has not been a single sick goat or any death by disease among those originally imported, or in any of their descendants during the eight years since their introduction.

11. The oldest imported female is now at least ten, probably eleven years old—she produces a kid every year, and now has at her side a very fine female kid, dropped on the tenth of March last—she is in fine order and looks as though she would breed for several years. The females are abundantly furnished with milk, and are excellent mothers, never losing their kids, they being strong when dropped, and able to suck in a few moments, the mother remaining over and about them for forty-eight hours, and afterwards always keeping a careful watch. The half breed ewes inherit from the Davis Goats this peculiar trait of character, being the very reverse of the common Goats in this particular, the latter, especially when bred in large herds, care little for their young, who are often left to die for want of nourishment, when a few hours old.

12. *The Increase.*—This has been less than was at first anticipated. The fact of the common goat having two, and sometimes three young at a birth, and often two broods in a year, led many persons to the conclusion that this new variety of goat would be equally prolific. In this, experience has now undeceived us. The animal produces young but once in a year, and only one kid at a birth. Mr. Peters received from Dr. Davis in December, 1856, eight females and two males—three of the females having been imported. There were in this number three small kids that failed to breed until two years old. From these females, Mr. Peters has raised twenty-one, twelve of which proved to be males and nine females. Thus it appears that the constitution of this variety, is organized like that of the wild goats (Ca*Æ*gagrus) which produces but one young annually. As, however, it produces young when fifteen months old, and continues to breed until over ten years of age, taking into consideration the strength and hardihood of the kids, we may safely consider it as equal to the French Merino sheep in the rapidity with which a flock may be bred and increased. There is, however, another mode, both natural and certain, by which this variety can be increased very rapidly. To this we will direct attention hereafter.

13. *The preponderance of young males over females.*—It has frequently been remarked, that animals and poultry of various kinds brought from China and Western Asia, produce a much greater number of males than females. The only experiment we made was on the Shanghae fowl, which as long as we had an old male, produced, on an average, three or four male chickens to one female. Since we have kept young males only, the sexes in their descendants are about equal. It was at one time feared that the experiments in the introduction of these goats would be greatly retarded from the fact that they produced nearly all males. The following memorandum may be of some service in the future propagators of this goat:

14. In 1854, Dr. Davis used a two-year old buck to five ewes. The result was, two females and three males. In 1855, Mr. Peters used the old imported buck to eight ewes; the result was, two females and six males. In 1856, he used a buck kid of nine months old to six ewes; the result was four females to two males. In the same year he used the imported buck to two ewes; the product was one male and one female. It will be a matter of interest to the physiologist to become acquainted with the result of a further continuance of these experiments.

15. *Their Food.*—Like all species and varieties of Goats, they prefer weeds, briars and leaves, to grass. Mr. Peters informed us that during the summer months they are a decided benefit to his grass lands, by feeding on, and finally destroying, briars, weeds and bushes. They are especially fond of the leaves of young pines and cedars, both in summer and winter; the balsomic character of which is conducive to their health and thrift. During winter they should be fed like sheep, but do not require

much attention, except in snowy weather, as they are better able to shift for themselves than the sheep. Mr. Peters advises that during winter they should be divided into flocks of about one hundred, or less, as they butt each other at feeding time.

16. *Their Flesh as an article of Food.*—We have never indulged in the extravagant luxury of feasting on a full-blooded animal of this variety, but we have on several occasions made a hearty meal on the quarter, half or three-quarter bloods, and all who dined in company pronounced the meat of the half-breed wethers superior to lamb, and at eighteen months old superior to mutton; the flavor approaches nearer to venison than to mutton. They remain fat nearly throughout the year, and in November are almost too fat for the table. We observed a great improvement in the progeny of the full bloods over their imported parents, both in size and fatness. The weight of the buck is given as one hundred and fifty-five pounds, that of the doe one hundred and two.

17. *Their liability to be destroyed by Dogs.*—If this animal was as liable to be killed by dogs as the common sheep, we would tremble for the perpetuity of the race in our country. We have often lamented that no laws were enacted and enforced to prevent worthless curs from depopulating the valuable sheep of our country. Many a once sanguine raiser of choice breeds of imported sheep, has been caused to sigh over his massacred flock, and then abandoned the raising of sheep in despair. A flock of sheep when pursued by dogs scatter in every direction, and fall an easy prey to their relentless, blood-thirsty foe; but when he approaches a herd of goats he finds them formed into a ring—the kids in the center and the old bucks in advance, exhibiting their formidable horns. No dog is bold enough to close in, but usually runs, barking, around the flock, thus attracting attention, and receiving the reward of his carnivorous designs. Mr. Peters informs us that he gave up the raising of sheep after having a dozen fine South-Downs killed by a pack of dogs, when they also destroyed four common ewe goats, but since there were no sheep on the farm to tempt the dogs, they have not come near the goats. Mr. Peters informs us that he has lost none of his goats, either of the pure breeds or the grades, by dogs. He further remarked that with a large herd he had no trouble. They have a range of two or three miles over fields and through woods; they return every evening before sunset to their house, and in case of a shower of rain run to their shelter, even at the distance of several miles. He believes that a thousand or more would continue in fine condition during summer and fall, in one flock, on a large range, as they are free from disease, do not crowd together like sheep, or suffer from heat; they are very easily driven and managed, and do not run off and get lost.

18.—*The Fleece.*—The quantity sheared in April was from the bucks (aged) from five to seven pounds, and from the ewes from four to five pounds. Mr. Peters shears but once a year, but intends hereafter to shear the kids in September and again in April.

19. In regard to the fineness of the fleece, we find a microscopic examination of the hair of Asiatic goats, from the stock now owned by Mr. Peters, William P. Davenport, of Virginia, and Dr. Ambler, then of New-York, printed in the Patent Office Report for 1855, pp. 57–59. The examinations were made by George C. Schaffer, M. D. He says, "the degree of fineness is about that of the finest Saxony wool." He gave also an outline from a "piece of shawl stuff imported from Calcutta, and said to be the finest ever brought into this country." He adds, "it is gratifying, then, to be assured that the fleece may be raised in this country with a fineness closely approximating to that which it has ever attained in Asia under the most favorable circumstances."

20. We have lying before us specimens from the fleeces of several young Asiatic goats, which we have compared with the finest wool of the merino sheep, and find the former not only equal in fineness, but of far greater length. It must, however, be observed, that young animals, at their first shearing only, present this remarkably fine fleece. In the old female it is a little coarser, and in the old males still more so. It is proposed by Mr. Peters to divide the fleeces of these goats at shearing time into classes, thus:

Kids under a year old..... No. 1.
Yearling ewes and yearling wethers. No. 2.
Yearling bucks, old ewes..... No. 3.
Aged bucks..... No. 4.

21. The fleeces of old ewes and year-

ling bucks would answer for cloth of a valuable texture. The fleece of the yearling is much finer than that of the old ewes; and that of the kid is fine enough for the very finest shawls, and ought to be very valuable. There is a large class of fabrics for which these fleeces are peculiarly adapted, viz: Camlet and worsted goods and ladies' fabrics, as shallies, mouslin delaines, gentlemen's clothing for summer wear, hosiery, &c., promising a beauty, strength, durability, luster and permanency of color, far superior to the wool of the sheep or the alpaca. The goat's hair is known to receive and retain the most brilliant coloring, which the hair of the sheep and the alpaca has not the property of retaining.

22. From the characteristics exhibited by castrated animals, it is probable that the wool from a pure bred wether, altered when quite young, would not become coarser after the first year, and the quantity would certainly amount to eight or nine pounds. A member of our family has had in use for several years a pair of stockings from the wool of this goat, and they seem to be almost indestructible. Mr. Peters has also had an excellent cloth spun and woven from it.

23. *The results of Breeding with the common Goat.*—Familiar as we have been through a long life with the changes produced by crosses among varieties of domestic animals and poultry, there is one trait in these goats which is more strongly developed then in any other variety that we have ever known. We allude to the wonderful facility with which the young of the cross between the male of the Asiatic goat and the female of the common goat so readily assumes all the characteristics of the former. It is exceedingly difficult to change a breed that has become permanent in any of our domestic varieties, whether it be that of horses, cattle, sheep, or hogs, into another variety by the aid of the male of the latter. There is a tendency to run back into their original varieties, hence the objection to mixed breeds. But in the progeny of these Asiatic and common goats, nine-tenths of them exhibit the strongest tendency to adopt the characteristics of the male and to elevate themselves into the higher and nobler grade, as if ashamed of their coarse, dingy hair and musky aromatics, and desirous of washing out the odorous perfume, and putting on the white livery of a more respectable race.

24. Mr. Peters has not bred any quarter-breeds. He made wethers of all his half-breed males of 1856, and sold his three-quarter blood rams. He now owns one hundred and fifty half-blood females, seventy-five three-quarter blood females, and six seven-eighths blood females. He has also four females three-quarters Asiatic and one-quarter Thibet shawl. There appears to be no improvement in this mixture with the shawl goat, over that produced by a union with the common goat; indeed, the product which we saw in Charleston from what was called the Cashmere and the Asiatic goat, was decidedly inferior.

The half-bloods, as we have stated, have an under coat of fine, downy wool, closely resembling and equal in quality and quantity to the fleece of the Thibet shawl goats imported into this country. The three-quarter breeds in midwinter show an under coat of greater quantity and length. In both grades, this under fur drops out in summer. The fifteen-sixteenths or one-sixteenth common goat resemble the Asiatic goat in quantity and quality of fleece, and size of carcass so closely that we found it impossible to distinguish them from the full bloods. Another advantage is likely to result from this admixture with the common goat: the half-blood females produce two kids at a birth, and the three-quarter blood females generally, although not always, two. Thus the breed may be rendered more prolific. We here perceive in how short a period of time our whole race of now almost worthless goats may be converted into a breed valuable both for its flesh and its wool.

25. *The regions of our country to which they are best adapted.*—There does not appear to be any part of the United States to which the constitution of this goat is not adapted. Damp climates, like England, where there are almost daily drizzling rains, are injurious. This animal scarcely needs water. We were informed by Mr. Peters, that three of them remained in a lot, feeding on weeds and grass, without any water during three months and keeping in fine order. Our whole country is warm in summer, and portions of it very cold in winter. If this goat is constitutionally adapted to brave the cold of the steppes of the eastern Caucassian, Himmaleh and Altaian Mountains, it would not

suffer (if fed in winter) in our coldest regions, and would thrive along all the sides of the Alleghany and Rocky Mountains. It has improved in the comparatively warm climate of Carolina. It would do well in the hilly country of the Carolinas and Georgia, many portions of which are now scarcely cultivated. The whole western country from Nebraska down to Western Texas and New-Mexico, may be rendered a feeding ground for this wool-bearing goat. The mountain regions of Virginia, North Carolina, Kentucky, and Tennessee, will be found admirably adapted to the raising of large flocks of these goats and their crosses. The wild growth of the mountain sides, with the native grasses of the rich valleys, will afford pasturage summer and winter at a trifling cost. The worn-out plantations and poor pine lands of the Carolinas and Georgia might be brought into requisition to supply meat for our markets, which, by many persons, would be preferred to venison. A single shepherd could guard a flock of several thousands, more especially if he called to his assistance the large shepherd's dog, from the Swiss Mountains. They would not only astonish the marauding wolf, but his prowling relative, the cur.

26. It is not impossible, that among the many varieties of goats existing in the far distant, and almost inaccessible regions of the Eastern world, some breeds may yet exist more valuable to our country than this, but at present we know of none that can be compared with it.

27. *What improvement can be made in this breed of Goats?*—Since it possesses the characteristics of all the other domesticated animals, we have reason to believe that, by judicious breeding, and devoting to this subject the same attention that breeders in England bestow on their horses, cattle, sheep, and swine, an equal number of improved varieties will be produced. We are at present unacquainted with any superior variety of Goat with which this might be crossed to improve the fineness of the wool. Improved individuals, however, spring up in these varieties themselves, without any foreign admixture, and by selecting these, and separating them from the common stock, we have at once a new breed, which soon becomes a permanent race. Let us in these matters follow the teachings of nature in all her departments. How were the varieties of Sea Island cotton, of large rice, of prolific corn, wheat, &c., produced? A few stalks of these superior qualities were detected in the fields.

28. Thus far, it was the free gift of a beneficent Creator. Man, his agent, now selected and cultivated them separate from all others. Thus a valuable variety was obtained, that may, by proper care, be perpetuated. In the *Courrier des Etats Unis* we have a long and interesting account of a merino sheep in France, which, instead of wool, produced fine silken hair. The breed was perpetuated, and goes under the name of Cashmere sheep. At the "universal exhibition," in Paris, it was affirmed by the examinators of one of the shawls, made from this hair, that "they found this (as they named it) native Cashmere as soft and as brilliant as the imported, and that it was superior to the latter on account of its regularity of detail." We notice in a paper called the *Homestead*, published in Hartford, Connecticut, October 25, 1855, a translation of the article, and a note by the translator in which he states that in Barnwell, South Carolina, where merinoes had been acclimated, the proportion of these kinds of cashmere lambs were four out of five; supposing the flock to be degenerating yearly, and their fleece of no value, they were handed over to the butcher. In this way many a good gift of Providence is cast away on account of man's want of knowledge and attention.

29. *Some instructive lessons in Physiology and Natural History, are taught us in our experience in reference to the History of this Goat.*—Several learned writers, regarded as authority, have asserted that these eastern goats, which so much resemble sheep, were the products of the sheep and the goat; hence they asserted, that the views of naturalists in regard to species must be greatly modified. For the last ten or twelve years persons, in several parts of the United States, have been engaged in efforts to produce an offspring from an association of the sheep and the goat, which we do not consider improbable, but which, if the experiment had been attended with success, would, we are confident, have proved a hybrid incapable of propagation *inter se.* We have not yet heard of a single instance of offspring having been produced in the United States by these efforts. Mr. Peters, who, at our request, instituted some experiments by

carefully rearing up a young male sheep, with several young female goats, informs us that they copulated readily, but not a single young was produced. We here learn that God only is the creator of species, and has drawn a barrier of separation which can not be overcome. Varieties may be crossed and improved by breeding with other varieties of the same species, but can not be improved by crossing with other species, since these, if produced, would be hybrids and incapable of perpetuating a race.

30. Another writer was engaged in deciding on species by a microscopical examination of hair, and made the cashmere goat a new species from this test. If his supposed new species should not prove a cross, it may at least be seen now readily, the goats themselves are converting one species into another, and demolishing his whole visionary theory. Another theory, almost universally received by breeders, of stock since the days of "Walker's book on intermarriage"—on "in-and-in breeding," &c., is likely to receive a considerable shock, as these experiments with the goats, and especially with the Brahmin breed of cattle, are in progress. Our doctrine is that relationship and blood, and "in-and-in breeding," as it is termed, has nothing to do with the deterioration of animals, but that this deterioration is the result of the constitutions having been formed in the same localities, and that the descendants of a single pair, if separated, and removed to other localities where, from food and climate, the constitution has undergone a change, and are then brought together, they would continue healthy and prolific till the end of time. It is the settled opinion of physiologists that from the changes which the bodies of men and animals are daily undergoing, not a particle of the original body or the blood remains after seven years. Thus, the Irishman who proclaimed himself a native American on the strength of his having been seven years in America, was, in a physiological sense, not far out of the way.

31. Dr. Davis brought a small number of goats to this country, some of which were born after he left Turkey, they must therefore be very closely related. This will apply still more nearly to the Brahmin cattle which he imported at the same time. We saw the original pair at the Earl of Derby's at Knowesly, near Liverpool. There has been in-and-in breeding ever since. There is not one animal of this variety in America that has not descended from this single pair, which, as far as we can recollect, were brother and sister. They are scattered throughout the West, breeding as fast as cattle can breed, and we are assured that they have improved rather than deteriorated. The water Buffaloes, imported at the same time by Dr. Davis, and now multiplying among themselves, but not mixing with our common cattle, are progressing in their own natural way to overturn an erroneous theory. Single pairs of turkeys, ducks, or common fowls will stock a farm-yard and in time spread over a whole district or State. A single pair of tame pigeons from the same nest, brother and sister, will soon fill the pigeon-house and give no evidence of degeneracy or sterility, and a single pair of fish will stock a fish-pond. Give them healthy constitutions, by an occasional change of food and localities, and there will be no danger of degeneracy by "in-and-in breeding." We give the results of our own experiments pursued through a period of fifty years. Let these goats, cattle, &c., be bred in different localities, and let there be an occasional interchange, and we feel assured that there will be no deterioration in consequence of their close relationship.

32. In conclusion, we may be asked, whether we are induced to believe that from the many good properties of this goat it will eventually supersede the sheep in husbandry? We answer, certainly not. A gift of Providence so valuable as the sheep, is not to be cast aside by any intruder on its rightful domains. The sheep and the goat have each their appropriate sphere in the economy of nature, and there are good properties in each that can not be supplanted by the other. The Creator, in his munificent benevolence, has given a limited number of valuable domestic animals and poultry, grains, fruits, and vegetables to man—all capable of producing varieties and of accompanying him in his migrations over the world. Each has its limits of usefulness, and one species can not intrude on the rights of the other. The maple tree of the North, and the sugar beet and Chinese sugar cane of more temperate climates, are admirable substitutes and of immense value. They are also well adapted to check the cupidity of speculators in syrups and sugars; but they can not in

the end demolish the great sweetner of the human palate of the world, the old tropical sugar cane. Cotton is at this time king, and is struggling, like Aaron's rod, to swallow all the lesser products of silk, flax and wool, but they are destined still to hold their place in the articles that minister to man's comfort. The sheep will not be depressed in the scale of man's valuable commodities—the goat will only be elevated to the standard to which it was designed to rise. Thus each product revolves in its own sphere like the lesser lights in the firmanent, reflecting glory on their great Author and conferring benefits and blessings on him "who was created in his image and crowned with glory and honor." Respectfully submitted,

JOHN BACHMAN,
Chairman of the Committee.

We have published the foregoing, though of greater length than we like to present in a single article, for the sake of the valuable information it contains on an important subject, only regretting that our space does not allow us to give the full report, particularly the elaborate discussion of the committee, as to the breed of Mr. Peters' Goats. It would interest many of our readers had we made a place for it. But what we have published is perhaps of greater practical value. If more such reports as the one from which the above is taken were published—giving the results of patient, thorough examinations, it would be well for Agriculture.—ED.

PUBLIC LANDS FOR AGRICULTURAL EDUCATION.

INCREDIBLE as it may seem, says a letter wr ter from Washington, in the *N. Y. Evening Post*, there is actually a prospect that the old States are going to share in the distribution of public lands. Mr. Morrill, of Vermont, introduced a bill to-day providing for a distribution of public lands to the several States for the purpose of establishing agricultural colleges, giving twenty thousand acres for each presidential elector to every State. Those States which have no public lands within their boundaries will receive land scrip, which can not be located in any other State, but may be so located by any individual purchasing the scrip. The interest of the fund must be devoted to the maintenance of agricultural colleges, and to nothing else. A limited amount can be appropriated to the purchase of model farms, but not to the erection of buildings. Every State which accepts the trust must bind itself to protect it against contingencies.

There are some four hundred colleges of this character in Europe, sustained and conducted wholly or in part by government, and a desire to follow their example seems to have awakened simultaneously in different States. The agricultural college of Michigan was the first one established on this continent, and is now in very successful and useful operation, with more than one hundred students. There have been some organized in New-York, Pennsylvania and Maryland, and will be opened in New-York and Pennsylvania next year. Virginia has also taken some steps towards establishing one in the Old Dominion.

A memorial was presented to the last Congress by Washburn, of Illinois, asking for an act like this of Mr. Morrill's. Michigan has asked for an appropriation of lands for her college.

Prodigal grants of lands have been made to railroads in the new States, and to those States themselves, but with the exception of the grant of lands to support the indigent insane, vetoed by Pierce, I believe that this bill is the only one for an equitable and comprehensive distribution to all the States in proportion to their population.

SUBSOIL PLOUGING.

BY AN OLD SUBSCRIBER.

MUCH has been said and written upon subsoil ploughing, yet not half enough. For few are so difficult to eradicate as prejudices which are wholly devoid of truth for their foundation. And until the erroneous opinion entertained about disturbing subsoil be extinguished, no one deserving the name, in these days, of an agriculturist, can believe that he has done all the good he can to advance the interests of his favorite pursuit, unless he has left no stone unturned to set people right upon the subject.

Deep tillage is the essence of high farm-

ing; high farming is the perfection of farming. And the reason is, that by high farming a greater return is obtained for the amount of capital and labor employed, than by any other means.

It matters not how much land is cultivated. That is not the question. Taken alone, the question which a farmer should ask is not, "how much land can I get?" but "how much land will the labor and capital I can command enable me to farm, so as to get the largest return for that capital and labor?"

The answer to the question should be divided into two parts. 1st. How to raise the greatest amount of crops. 2d. What those crops should be with reference to the quality of that land and the market that is *in the locality available.*

It is the first part of this answer only that we have to consider in this article. A man, a horse, or an ox can only perform a given amount of labor in a day. What that amount is, depends upon the physical powers of each. Any waste of expenditure of those powers is a loss of so much productive labor. This every farmer knows, and practises when he sends half a mile instead of ten miles for a load of manure. But the same thing, (that is a waste of labor,) occurs wherever more ground is gone over, or worked, whether with the plough or the harrow to raise a given crop, than is in truth needful to raise that crop. And every day's experience shows that *this* is a waste of labor that does not always occur in that light to the farmer. If a crop is got from two acres, that in quantity and quality *could* be got from one, not quite double, but nearly that amount of labor has been wasted in man and team in the production of it. Nor is that all; because, of course, one acre of the two would, if not so occupied, be available for another crop.

There is no doubt whatever, that for many crops (although not for all) the proportion of two to one is by no means exaggerated; or, that deep tillage alone, will, in many instances, make that, and more than that, difference.

Many modifications of subsoil ploughing present themselves into which our limits will not permit us to enter; in some cases it may be expedient to bring up partially the subsoil to the surface; in other instances this would be inexpedient. The nature of the land must determine that question. But there is *no* land that will not be materially benefited by subsoil ploughing in one way or other, unless the bottom be a pure gravel of a very open texture. And even in such land injury would not be done, unless, indeed, the gravel were brought to the surface, which of course no farmer would dream of.

On a future occasion we may enter upon the positive advantages resulting from subsoiling, at present we have only space to advert to one or two of the objections sometimes urged against it.

It is erroneously supposed by some persons that in lands with a sandy bottom the practice of subsoiling renders them less capable of sustaining vegetable life during the drouths of summer.

A greater fallacy can not exist. The more compact soil is, the more easily will it conduct heat on the one hand, and the less water or moisture will it hold, on the other. A brick will heat through much more rapidly than a volume of dry earth or sand of equal size, and water will *never* conduct heat *downwards.*

When, therefore, a sandy subsoil is ploughed, the effect being simply to make it thereby more porous and open, the consequence is that it is in a condition mechanically to admit the roots of plants more readily; and also to place it in a condition more freely to admit moisture from the surface, or by capillary attraction from below, whilst its greater permeability to the passage of atmospheric air enables the vegetable particles distributed through it to take up in that passage a larger amount of ammonia from which one of the most essential aliments vegetable life is derived.

Again we have heard raised an opinion that the disturbance of subsoils consisting of hard pan is injurious, on the ground of its becoming intermixed with the surface soil. This objection is as untenable as the previous one. For, in the first place, such intermixture need not occur, (though in certain conditions and quantities *that* might do good,) whilst the benefits to be derived would be of a similar kind, but in yet greater amount, than in the case of the sandy land.

We purpose again to revert to a subject of such great importance to the farmer.

THE FARMER.

We have seldom found any thing more beautiful and true than the following, which we cut from the *New-York Ledger*. If there is any thing in it from which we dissent, it is, that the farmer can live without the mechanic, but not the mechanic without the farmer. This is true, if we reduce the word live to its lowest meaning. But in the sense of living well — prospering — the farmer needs the mechanic, not only to make his plow and reaper, and to build his house, but to create a market for his produce. The truth is, the farmer and the mechanic are very necessary to each other; and it is not easy to say which needs the other most.

What a sovereign man is the intelligent, industrious farmer. Within his own realm of earth, he wields a sceptre to which all must bend. The balance of the world's life and comfort he holds in his stalwart hand. Neither courts, nor camps, nor armies, nor fleets, can exist without his aid. He is the feeder—aye, and the garmenter, virtually—of the race. Cities spring from the traffic in the products of his industry. Commerce is born at his bequest. Of the State he is "first Estate." Lord of the land, no man has firmer hold of the essential title of nobility. And he need be no plodder because he is a farmer. The day is past when the soil tiller was confounded with the clod turned by his plow. The soil is his servitor; he smites it, and lo! the harvest comes forth. The hoe and the sickle make him music braver than dulcimers, and sound the march of a triumph, grand as it is peaceful and blessed. But he is not forever in the furrow. For him are broadest fields of study—fairest fields of delight. For him are honors linked to beauties and wisdoms; for him, periods of communion and rapture, of which the birds, the flowers, the streams, the stars, and all wondrous things of the universe, may bear witness. A brave man art thou, wielder of the mallet and plane; and thou, skillful worker of webs; and thou, deviser of all machines whereby the labor of man's hand is speeded or abridged. But ye are all second to the farmer. He is master of the needfulest of toils, and the most serviceable products. He can live without you, but you can not exist for a day without him. Honor to the farmer; may his sphere widen and his stature be exalted. And honor to all honest toil, for of such are the fruits that form the crowning glories of the world.

A WORD TO FARMERS.

An exchange says, and we approve and adopt, the following:

Now, farmers, is the time to commence writing for your paper. Now the long winter evenings are drawing on, you have time to write, and your brother farmers have time to read your letters; do so then at once. Give us the fruits of your experience, in facts and facts only.

Short letters are best, so give us your ideas in as compact a form as possible. We should like to hear from some one upon sheep, swine, poultry—upon manures, the various methods of cultivation as at present in actual use in the Granite State.

SYRUP FROM THE SUGAR CANE.

Mr. Charles Keeny, of Chester, in this county, presented us last week with a bottle of syrup manufactured from the Chinese Sugar Cane, which for clearness, deliciousness of taste, and excellent quality, far exceeds, in our judgment, the best Southern Sugar-House syrup. It has none of the raw, strong, cane taste peculiar to the latter article, but is rich in taste and color. Mr. Keeny informs us that he procured in the spring only *fifty cents' worth* of the seed, in-

tending simply to try its saccharine qualities as an experiment. The result far exceeds his anticipations. From that fifty cents' worth of seed he obtained *half a barrel* of delicious syrup, worth at least seventy-five cents per gallon. His method of manufacturing it is similar to that adopted in making syrup and sugar from the maple, by boiling, cleansing, skimming, etc. We regard Mr. Keeny's experiment as *entirely successful*, and if any one wishes to satisfy himself of the truth of the above statement, let him call at our office and *taste* for himself.—*Jeffersonian Democrat.*

ON STEAM PLOUGHING.

BY P. MANNY.

WADAM'S GROVE, Nov. 30, 1857.

MESSRS. EDITORS—DEAR SIRS:—I notice an article in your November number, headed Steam Plough, stating that Mr. Bronson Murray, of Illinois, has offered $50,000 for the best practical steam plough. This, I think, is a mistake; and, as I have reason to believe, the proposition he did make some time ago to try to raise that amount of money as a bonus for the best invention, is likely to prove an injurious stimulent to our inventive genius, in as much as it will no doubt induce a number of our hard-working, industrious mechanics to spend too much of their time on that which I believe never will benefit anybody. I am an inventor myself, and my success may clearly be traced back to the starting point, which is this: In the first place ascertain as clearly as possible whether such an invention will prove profitable and beneficial to the public. As I have investigated many years ago the practicability of steam ploughing, I will state the result of my investigation. In the first place its cost will be $4,000 or $5,000 at least, the interest on which in our State will be $500 a year. The wages of two men to run it three months, which is about the average time of plowing in a year, at $1 50 per day each, added to the interest, makes $734. Allowing it to plough 10 acres per day, this would be 780 acres, leaving out the cost of fuel and repairs, and the expense is nearly $1 per acre. Except the prairie sod, we can hire our land ploughed for 75 cents per acre; but there is a more profitable way than this, which we shall some day universally adopt;—stock our farms as they should be with cattle, and while they are growing up into bullocks, they will not only do all our ploughing, but will give us about 25 per cent. in their growth. Now the difference between ploughing with our steers and gaining 25 per cent. in their growth, or ploughing with a steam engine and losing 10 per cent. on its cost, is so great that I could never make myself believe that any sane man would adopt steam ploughing on our prairie farms, where we have such abundant means, for raising stock. If steam ploughing proves to be profitable any where, it must be among our eastern farmers where their farms are too small to keep stock sufficient for ploughing.

The writer of the above is a veteran in a good cause. He has done well in the reaper and mower line, and we believe he is now doing better and better every year—making really valuable improvements. But he has failed to prove to our apprehension that some one else, or even he himself, may not yet do a greater thing for agriculture in the way of steam ploughing. We have an idea that his objections to it are answerable, but we leave them to some of our correspondents, only stating our belief that the time is not far distant when steam ploughs will be manufactured for less money, and will plough more land per day than he estimates.—ED.

AUTUMNAL CULTIVATION—AS A MEANS FOR GOOD FARMING.

WE could not subscribe to every word of the following, from the (London) *Farmers' Magazine*, but we believe that it is, in the main, true and important, and that

very much is gained by the fall cultivation of soils, especially those of a heavy nature, and we very much doubt whether the cultivation of even light sandy soils, in autumn, is as injurious as has been sometimes represented. Will some of our readers give us the results of their experience in fall cultivation, noting particularly the character of the soil?

It is highly necessary we should possess clear and distinct views upon every subject connected with the practice of agriculture; and we again revert to the system of autumnal cultivation, because we feel it to be a subject of vast importance to the farming interest of the kingdom at large, while it is our observation and conviction that the practice is neither generally understood nor sufficiently appreciated. It is certainly but partially and imperfectly carried out, both as to efficiency and in extent.

We do not presume to the position of tutors in agriculture; but we do desire to see *more* of the autumnal fallow, and *less* of the curse of creation in the shape of the thorn and the thistle, and the commingled mass of grass and rubbish which feast upon and impoverish the soil. We want good farming to be general; we want bad farming to be the exception. We desire to see comparative garden culture abounding; and well may you who have already attained to it plume yourselves at your will and at your pleasure upon your superior skill and surpassing judgment; but where weeds exist and abound, there is other and more important work to be done. Weeds and self-laudation and self-satisfaction will not do; they are our admitted enemies; they are as a stealthy foe, and as insidious robbers. Therefore Extirpation! must be our watched and our cry, whilst the autumn system of fallow must be our practice. It is unquestionably the cheapest and best means by which to secure and maintain a clean occupation, and it has but to be tried in practice to be appreciated; and, when appreciated, it will be considered worthy of strenuous efforts to be carried out generally as a common system of culture. The time is coming when it must be viewed not as secondary, but of primary, importance; for the future will be far too competitive an age for the farmer manacled and tied with the fetters of his couch to stand a chance, or find either existence or breathing-space in the straining exertions of the hard-fought race for profit. He *must* be distanced. Extra weight will tell. If clean farming won't pay, foul-farming can't; and the landed proprietors are gradually learning the worth of a good tenant, whilst they reject and eject the bad.

Autumn cultivation has for its main object the eradication and destruction of all the perennial weeds which infest the soil; and it is to this end every operation should, in the first instance, be fully directed. The annuals are but secondary; therefore for couch and so forth it is highly necessary to cultivate deeply, and, whether with Biddell's, Bentall's or Coleman's scarifiers, or the common plow, it is essential to thoroughly break up the soil to its accustomed depth. Above all things, it is requisite to be careful that no couch remains in the solid soil beneath the passage for the share. We repeat, the soil must be broken to the depth at which it is usually plowed, or perfect cleanness will not be effected. We know that this is often no light task, and a master's eye must watch the progress of the work, or it will be but partially and inefficiently performed. The truth is, every horseman has his favorite "Sharper" or "Pepper" or "Boxer," and these animals, in his estimation, are of far more consequence than good tillage, therefore spare them he will if possible. Besides, the weather is hot, the flies sharp, the land hard, and Tom or Jem will ease the depth a little too much, or swear point-blank it can't be done at all. Now comes the master's firmness and sound judgment to dictate what can and what shall be done, and how. We have seen many a complaisant man foiled and overruled by the plausibility or perversity of his men, but almost any land can be properly broken up by the use of the proper means; and, if the value of autumn cultivation were really understood, the country at large would present a very different appearance at the present time. Truly the system is on the increase; but how many a set of horses have we of late, and especially at the commencement of harvest, idly swinging their tails in some rough pasture, under the shade of some old oak or ash, instead of being first fed with a good feed of corn, (which they require,) and then attached to an effective implement for the cultivation of some neighboring stubble—which by-the-bye, contained "such good sheep-fed," "such laying for birds," and, in short, such an

amount of deviltry as would beggar description, and even defy spring-cleansing, with all its operations of many plowings and endless harrowings. To be brief, two or three scarifyings or stirrings under a scorching sun, in August, would have been sufficient to destroy the thousand-and-one enemies which have flourished through a course of years, and still flourish on without molestation; and the horses would have been far better occupied than in doing nothing. Although every county is the best-farmed in the kingdom, according to local tradition and agricultural banter, yet every county needs to be much better farmed than it is. We are sickened at the sight of foul stubbles; and so infinite are the advantages arising from fallowing in the autumn, that it is both *the* system and *the* season we can not afford to neglect. We allow there are difficulties to overcome in the cultivation of a wide breadth at so busy a time of the year; but to how many minds do any innovations present insurmountable obstacles! We do not say this in the spirit of condemnation or complaint; for many even sensible men do not comprehend, or appreciate, at first sight, the benefit likely to arise from any new but sound practices. Further, we need to be cautious, and there is no reason why autumn cultivation should be swallowed wholesale. If the utility to arise is unappreciated, the trouble of its accomplishment will appear incompatible with the advantages accruing—consequently, by such the task will not be undertaken, and thus men may or may not live on with a mental hedge of thorns to all progress, content to swim with the tide, because slow to appreciate, and far too local in education and in knowledge. Realize the value, and arrange the work of the farm, that some cultivation at least can be done. We prepare for, and plant our wheat crop; why not eradicate and destroy our weed crop? The one is as important as the other, and the latter should be considered as primary to the former.

We have advocated deep autumnal cultivation for the destruction of the perennials, and, as time is an important consideration, the rubbish must be kept at the surface for exposure to the sun's rays. It may not be buried snug in the soil, to be shaded from the influence of the sun, but have the couch out for public exposure and the bright noon of day. Presuming a shower of rain to fall, how beautifully, by harrowing, the clods come to powder and the couch to the surface, to be baked by the sun, or burned in a series of bonfires!

With fineness of tilth and moisture of soil, now comes the turn for the vegetation of the annuals, and an abundant crop of young weeds present themselves. Thus perennials and annuals are alike destroyed, and the land freed for the growth of any desirable produce. Manure, too, can now be applied with unabated success; the expense of hoeing, in future, is reduced; and a crop can be grown which is worthy of the soil and the skill of the cultivator.

We know of men this year, who, just previous to harvest, broke up and perfectly fallowed their clover-stubbles. This was after once mowing the crop and feeding the after-growth, and only upon such lands where the succeeding wheat-plant is usually subject to wire-worm, and to be root-fallen. They have, further, since cultivated their hundred acres of corn-stubbles deeply, and with full success. And nothing but the wetness of September has prevented much greater progress.

As a finale, cultivate deeply, keep the weeds at the surface, avail yourselves of your existing horse-power, and you will find autumnal cultivation much to your individual profit, and to the good of the country at large.

FROM EDWARD EVERETT'S ADDRESS AT BUFFALO.

In the first place, the earth which is to be cultivated instead of being either a uniform or a homogeneous mass, is made up of a variety of materials, differing in different places, and possessing different chemical and agricultural properties and qualities. A few of these elements, and especially clay, lime and sand, predominate, usually intermixed to some extent by nature, and capable of being, so mingled and treated by art, as to produce a vastly increased fertility. The late Lord Leicester in England, better known as Mr. Coke, first carried out this idea on a large scale, and more than doubled the productive value of his great estates in Norfolk by claying his light soils. To conduct operations of this kind, some knowledge of geology, mineralogy and chemistry, is required. The enrichment of the earth by decaying animal and vegetable substances, is

the most familiar operation perhaps in husbandry; but it is only since its scientific principles have been explored by Davy and Liebig, that the great practical improvements in this branch of agriculture have taken place. It is true that the almost boundless natural fertility of the soil supersedes for the present, in some parts of our country, the importance of artificial enrichment. I inquired last spring of a friend living in a region of this kind, on the banks of the Ohio, how they contrived to *get rid* of the accumulation of the farm-yard, (a strange question it will seem to farmers in this part of the world,) and he answered, "By carting it down to the river's side, and emptying it into the stream." In another portion of the western country, where I had seen hemp growing vigorously about thirty years ago, I found that wheat was now the prevailing crop. I was informed that the land was originally so rich as to be adapted only for hemp, but had now become poor enough for wheat.

These, however, are not instances of a permanent and normal condition of things. In the greater part of the Union, especially in those portions which have been for some time under cultivation, the annual exhaustion must be restored by the annual renovation of the soil. To accomplish this object, of late years every branch of science, every resource of the laboratory, every kingdom of nature, has been placed under contribution. Battle-fields have been dug over for the bones of their victims; geology has furnished lime, gypsum and marl; commerce has explored the remotest seas for guano, and has called loudly on diplomacy to assist her efforts; chemistry has been tasked for the production of compounds, which, in the progress of science, may supercede those of animal or vegetable origin which are prepared by nature. The nutritive principles developed by decaying animal and vegetable organization are universally diffused throughout the material world, and the problem to be solved is to produce them artificially on a large scale, cheap enough for general use. In the mean time, the most simple and familiar processes of enrichment, with the aid of mechanical power and a moderate application of capital, are producing the most astonishing results. The success which has attended Mr. Mechi's operations in England is familiar to us all. By the application of natural fertilizing liquids, sprinkled by a steam engine over his fields, they have been made to produce, it is said, seven annual crops of heavy grass.

Simple water is one of the most effectual fertilizers, and in some countries irrigation, carried on with no moderate degree of hydraulic skill, is the basis of their husbandry. While walking, on one occasion, with the late Lord Ashburton, in his delightful grounds in Hampshire, just before he departed on his special mission to this country, in one of the intervals of our earnest conference on the North-eastern Boundary, he told me that he had expended ten thousand pounds sterling in conducting round his fields the waters of the little river—the Itchen, I think, that flows through the property, and that it was money well laid out. Pardon me the digression of a moment to say that I could not but honor the disinterested patriotism which led this kind-hearted, upright and intelligent man, at an advanced age, (with nothing on earth to gain or desire, and with everything of reputation to risk,) to leave the earthly paradise in which I saw him, and to cross the Atlantic in the winter, in a sailing vessel, (his voyage was of fifty-one days,) to do his part in adjusting a controversy which had seriously menaced the peace of the two countries. The famous water-meadows of the Duke of Portland, at Clipstone, have been often described, where the same operations has been performed on a still more extensive scale. Mr. Colman's interesting volumes on European agriculture contain accounts of other works of this kind, but I confine myself to those which have fallen under my own observation.

Nor are these the only operations in which agriculture calls for the aid of well-instructed skill. That moisture, which in moderation is the great vehicle of vegetable nourishment, may exist in excess. Vast tracts of land are lost to husbandry in this country, which might be reclaimed by dykes and embankments, or become fertile by drainage. Land is yet too abundant and cheap in America to admit of great expenditures in this way, except in very limited localities; but the time will no doubt come when in the populous portions of the country, especially in the nighborhood of large cities, the sunken marshes which now stretch along our coast will be reclaimed from the ocean, as in Hol-

land; and thousands of acres in the interior, now given up to alder swamps and cranberry meadows, be clothed with grass and corn. There are few farms of any size in the country, which do not contain waste spots of this kind—the harbor of turtles, frogs and serpents—which might be brought at moderate expense and some hydraulic skill, into cultivation. Other extensive tracts are awaiting the time when the increase of population and the enhanced value of land will bear the expense of costly operations in engineering. The marshes on the sea-coast of New-England, New-York and New-Jersey, probably exceed in the aggregate the superfices of the Kingdom of the Netherlands, the greater part of which has been redeemed by artificial means from the ocean—a considerable tract, covered by the Lake of Harlem, within a few years. Now, if we could only add a new territory to the Union, as large as the Kingdom of the Netherlands, by the peaceful operations of husbandry, it would be a species of *annexation* to which I for one should make no objection. All the resources of science have been called into operation in that country, under the direction of a separate Department of the Government, to sustain the hydraulic works which protect it from the ocean. The state of things is similar in the fens of Lincolnshire and Bedfordshire. All the spare revenues of the Grand Duke of Tuscany have been appropriated for years to the improvement of the low grounds on the coast of that country, once the abode of the powerful Etruscan Confederacy, which ruled Italy before the ascendancy of the Romans, now, and for ages past, a malarious, uninhabitable waste.

But when science and art have done their best for the preparation of the soil, they have but commenced their operations in the lowest department of agriculture. They have dealt, thus far, only with what we call lifeless nature, though I apply that word with reluctance to the genial bosom of our mother earth, from which everything that germinates draws its life and appropriate nourishment. Still, however, we take a great step upward, when, in pursuing the operations of husbandry, we ascend from mineral and inorganic substances to vegetable organization. We now enter a new world of agricultural research; the mysteries of assimilation, growth and decay; of seed time and harvest; the life, the death, and the reproduction of the vegetable world. Here we still need the light of science, but rather to explore and reveal than to imitate the operations of nature. The skilful agricultural chemist can mingle soils and compound fertilizing phosphates; but with all his apparatus and all his reagents, it is beyond his power to fabricate the humblest leaf. He can give you, to the thousandth part of a grain, the component elements of wheat—he can mingle those elements in due proportion in his laboratory—but to manufacture a single kernel, endowed with living reproductive power, is as much beyond his skill as to create a world.

Every topic to which I have thus hastily alluded, in connection with the vegetable kingdoms of nature, suggests inquiry for the naturalist, in some department of his studies, and forms the subject of regular courses of instruction in some of the European universities, especially those in Germany.

The insects and vermin injurious to vegetation present another curious and difficult path of inquiry. A very considerable part of every crop of grain and fruit is planted, not for the mouths of our children, but for the fly, the curculio, and the canker-worm, or some other of these pests of husbandry. Science has done something, and will no doubt do more, to alleviate the plague. It has already taught us not to wage equal war on the wheat fly and the parasite which preys upon it; and it will, perhaps, eventually persuade those who need the lesson, that a few peas and cherries are well bestowed by way of dessert on the cheerful little warblers who turn our gardens into concert-rooms, and do so much to aid us in the warfare against the grubs and caterpillars which form their principal meal.

Agriculture is looking anxiously to science for informatian on the nature and remedies of the formidable disease which has of late years destroyed so large a portion of the potato crop. The naturalist who shall solve that problem will stand high among the benefactors of his race.

Closely connected with this department of agriculture is another, in which the modern arts have made great progress, and in which inventive sagacity is still dilligently and successfully employed. I refer to agricultural machinery—improved implements of husbandry.

This is a field in which the creative powers of the mind seem to be at work with an activity never before equalled, and which is likely to produce more important results in this than in any other country. The supply of labor in the United States has not kept pace with the demand, as it can rarely do in a new country, where strong temptations exist for enterprising attempt in every branch of industry. This state of things has furnished very powerful inducements for the introduction of labor-saving machinery and implements, and the proverbial ingenuity of our countrymen has been turned with great success in that direction. Your exhibition grounds fully justify this remark. Even the good old plow has become almost a new machine in its various novel forms; and other implements of the most ingenious contrivance and efficient action have been invented. The cultivator, the horse-rake, the mowing-machine, the reaper, and the threshing-machine, are daily coming into use in Europe and America, and producing the most important economy of labor. Successful attempts are making to work them by steam. It was said long ago of the cotton-gin, by Mr. Justice Johnson, of the Supreme Court of the United States, that it had doubled the value of the lands in the cotton-growing region; and the mowing-machine, the reaper, and the treshing-machine are destined, almost to the same extent, to alleviate the severest labors of the farmer's year. The fame of the reaper is not confined to this hemisphere. At the great exhibition of the Industry of all Nations, in London, in 1851, it mainly contributed to enable American art to hold up her head in the face of the civilized world.

But there is still another department of agriculture which opens the door to research of a higher order, and deals with finer elements—I mean that which regards the domestic animals attached to the service of man, and which are of such inestimable importance as the direct partners of his labors, as furnishing one of the great articles of his food, and as a principal resource for restoring the exhausted fertility of the soil. In the remotest ages of antiquity, into which the torch of history throws not the faintest gleam of light, a small number, selected from the all but numberless races of the lower animals, were adopted by domestication into the family of man. So skillful and exhaustive was this selection that 3,000 years of experience, during which Europe and America have been settled by civilized races of men, have not added to the number. It is somewhat humbling to the pride of our rational nature to consider how much of our civilization rests on this partnership —how helpless we should be, deprived of the horse, the ox, the cow, the sheep, the swine, the goat, the ass, the reindeer, the dog, the cat, and the various kinds of poultry. In the warmer regions this list is enlarged by the lama, the elephant, and the camel—the latter of which, it is not unlikely, will be extensively introduced in our own southern region.

It may be said of this subject, as of that to which I have already alluded, that it is a science of itself. No branch of husbandry has, within the last century, engaged more of the attention of farmers, theoretical and practical, than the improvement of the breed of domestic animals, and in none perhaps has the attention thus bestowed been better repaid. By judicious selection and mixtures of the parent stock, and by intelligence and care in the training and nourishing of the young animals, the improved breeds of the present day differ probably almost as much from their predecessors a hundred years ago, as we may suppose the entire races of domesticated animals do from the wild stocks from which they are descended.

There is no reason to suppose that the utmost limit of improvement has been reached in this direction. Deriving our improved animals as we generally do from Europe—that is, from a climate differing materially from our own—it is not unlikely that, in the lapse of time, experience will lead to the production of a class of animals, better adapted to the peculiarities of our seasons than any of the transatlantic varieties as they now exist. The bare repetition of the words draft, speed, endurance, meat, milk, butter, cheese, and wool, will suggest the vast importance of continued experiments, on this subject, guided by all the lights of physiological science.

Among the most prominent *desiderata*, in what may be called animal husbandry, may be mentioned an improved state of veterinary science in this country. While the anatomy of the lower animals is substantially the same as man's, their treatment when diseased or overtaken by accidents is left almost

wholly to uneducated empiricism. It rarely, I may say, never happens that the substantial farmer has not considerable property invested in live stock, to say nothing of the personal attachment he often feels for some of his favorites—horse, or cow, or dog. But when their frames, as delicately organized and as sensitive as our own, are attacked by disease, or they meet with a serious accident, they are of necessity in most parts of the country committed to the care of persons wholly ignorant of anatomy and physiology, or imperfectly acquainted with them, and whose skill is comprehended in a few rude traditionary operations and nostrums. There are few of us, I suppose, who have not had some painful experience on this subject, both in our pockets and our feelings. The want of veterinary institutions, and of a class of well-educated practitioners, is yet to be supplied.

CATTLE SHOW IN THE METROPOLIS.

An exhibition of stall and grass fed fat cattle, sheep, swine, and poultry was opened at the Crystal Palace yesterday morning, under the auspices of the American Institute. The variety and size of the exhibition was by no means as extensive as might have been expected, although it is very creditable, and comprises many very fine and valuable specimens of cattle, sheep and swine, among the most prominent of which are tho following:

One pair of four year old Durham steers, owned by Charles G. Teed, at Somers, Westchester county, and weighing together 4,580 pounds. These were of the Durham breed, very fine and fat, and drew the first premium on grass fed cattle.

A remarkably fine pair of Durham steers, 4 years old, owned by Thomas Wheeler, South Dover, Dutchess county, weighed 4,480 lbs, and drew the second premium on grass fed cattle. Also a very fine pair of Durham steers, of four years, owned by T. Van Alstyne, Ghent, Columbia Co., N. Y. These drew a third, or special premium on grass fed cattle.

A very handsome Devon bull, dark brown, weighing about 1,200 or 1,400 pounds, very fat, broad and sleek. This animal presented a somewhat novel appearance, being chained to a post by means of a large ring through his nose; notwithstanding which he appeared very restless and desirous of paying his affectionate regards to some of the bystanders who were, ever and anon, attempting to stroke and caress him. This animal is owned in White Plains, Westchester county.

A pair of grade Devon oxen, stall fed and very fat, owned by Levi Van Vliet, Clinton, Dutchess Co., N. Y., but sold during the exhibition to Col. Devoe, of this city. The price we do not remember precisely. It was between $300 and $400; we think $337. These were not remarkably large, but were very fat. Weight, 4,600 lbs. We should think them to be half Devon and half our native red cattle, which by the way, are good cattle, as good, in our humble opinion, for dairy and working purposes as any other, and pretty good for beef. If bred and cared for in the best manner, they would become a splendid race of cattle in a few generations. After so much haphazard breeding, so much neglect in rearing, and after killing so many of the fine calves for veal, and raising the inferior, the only wonder is that they are as good as we find them, more or less, all over the country. Mr. Van Vliet's, subsequently Col. Devoe's cattle, drew the first premium on stall fed oxen.

Two Durham heifers, from West Farms, very fine.

One pair of very fat oxen weighing in the neighborhood of 4,000 pounds, belonging in Newcastle, Westchester county. Very fine.

Seventy-two Nankin sheep, the original stock consisting of three ewes, were imported from China by Capt. Smith, twenty months ago, and have since that

period increased to the present number, seventy-two. Among this lot are three very young lambs, apparently not over a week old. The flesh of these sheep, it is said, is far superior in sweetness to any other kind of mutton, and brings a much higher price in market; while the wool is said to be much coarser. They are easily designated from the common sheep of this country by the formation of their head and ears. This lot is, as a general thing, in good condition, and made a very fine appearance. They are owned in Pelham, Ulster county.

Ten very fine and large fat lambs, from Carmel, Putnam county.

Five Suffolk pigs and one Hampshire hog, from Sixty-fifth street, this city. Very fat and fine.

A beautiful collection of imported pigeons from various portions of the globe, by Messrs. Howland & Aspinwall.

One four year old Maltese jack, in fine trim. Owned in this city.

The above list comprises but a small portion of each kind of animal named, on exhibition; but was selected from the number merely to serve as specimens.

The number of visitors yesterday was very limited, and if the exhibition is not better patronized during the remaining days which it is to be continued, the American Institute will not reap a very handsome harvest from the enterprise. In addition to the cattle show, exhibitors who have machinery in the Palace, keep the same in motion throughout the day.

EXTRACT FROM AN ADDRESS,

BY GEN. H. K. OLIVER,

At the State Fair, Concord, N. H.

I MAKE a high estimate of agriculture from a long and deeply seated conviction that reason as we may about other arts, either in reference to their antiquity, their universality, their value, or their necessity, we are clearly compelled to revert to agriculture, not only as the fount of their existence, but as the sustenance of their continued vitality, the liberal feed root of all the branches, and all the fruit of the tree of human life. We are compelled to concede that it is the great and only enduring and reliable fount of national greatness and prosperity; that the whole pulse of commercial and monetary operations is affected by the healthful and unhealthful beatings of the agricultural heart; that stocks and prices in the market and on "change," rise and fall as the agricultural tide ebbs and flows; that, as come the crops, either plenteous or meagre, so darts or limps the gigantic business of the busy world; that it prevents human poverty, human misery, and human wickedness; that it has a positive favorable influence upon private and public morals; that it is pre-eminently propitious in securing habits of virtue and temperance in all things, in individuals, and through them, thus purified, operates with equally good results in purifying the public mind, and in establishing the pillars of the State upon the steadfast foundation of persistent, unbending virtue; that it is a faithful and powerful auxiliary of Christianity itself, in generating civilization, and nourishing it into vigorous life; civilization itself being, in its matured growth, enabled to refund its great debt by inventing new implements of labor, and, by their aid, putting into operation new modes of tillage.

There are certain facts in relation to agriculture so plainly manifest, that the most blear-eyed observer can not fail to perceive them. In China, a close and perfect cultivation keeps alive all of civilization that its teeming millions enjoy. There agriculture has been honored and encouraged beyond every other pursuit, and the culture of the land and the nature of its produce, are such as to afford the largest returns to the labor employed, while the ruined husbandry of Central Asia has opened the flood-gates and let in upon its people a deluge of barbarism. The ancient high culture of Sicily made it the exhaustless granary of Rome, and carried its people by rapid advances to civilization, riches, and refinement. The husbandry of ancient Britain, once not adequate even to the wants of its own sparse population, made it, under the teachings of its Roman masters, the surcharged storehouse, whence issued the food of uncultivated Germany, while, at the same time, it softened the manners and refined the hearts of its own rude people. And when, under the Saxon sway, agricul-

ture declined to its lowest degradation, and the mass of the people became degraded with it, they only began to improve with the restoration of the art, a restoration due to the influence of the monks in introducing into England the better agriculture of Normandy. The northern sea pirates of the 9th century, those savage and remorseless marine vagabonds, who, in the year 876, invaded and subdued Normandy, became, when driven to the culture of the soil by their leader Rollo, a comparatively civilized gentle race, and so successful in the art of tillage, that their systems were acknowledged to be the best of Europe, and were introduced into England, upon the lands of the English monasteries, making them to be the most fertile in the Island, and laying the foundation of the attachment of the English to country life, and consequent future success of English agriculture; a success which is now to be seen in the general neatness, exactness, and thoroughness which is to be met with all over the kingdom, and in the abundant yield of her well tilled acres. And can any one presume to say that the high civilization of England has no connection with the high culture of her soil, and that the two have not made their successful march with equal step?

It is among the most propitious circumstances for agriculture in every nation, that it has addicted itself to it with the devotion that agriculture may legitimately demand, that it has enlisted in its behalf, not only the best mechanical skill of its earnest devotees and artizans, but that it has attracted in an eminent degree, the friendship and the service of many of the noblest intellects with which God has endowed man. Head has come in, in the plentitude of its strength, to advise and to operate with hand. Had the art always been under the pasturage of unlettered men, so unlettered that we may justly look upon them as mere agricultural drudges, there would be danger that beaten paths only would be pursued, and that the farmer, like the toiler in a treadmill, would be always returning upon his own footsteps and never be achieving any progress. They who do so, I am sorry to believe, yet exist, though in diminished and diminishing numbers. May this remnant not be saved nor abide long in the land. Cultivated minds originate new ideas; they try experiments, and all experiments can not be fruitless of good issue. Weary years may pass away in the process of research and investigation. God, who made the soil with all its cunning complicities and wonders, moves in a mysterious way, and his ways are often past finding out. Men may grope, and falter, and stumble in the dark scrutiny of experiment, and the uncertainty of practice, occasionally hitting the mark, and perhaps more frequently missing the truth. But mind, always superior to mere matter, always able to cope with and subdue it, comes in to illumine the darkness, and to supply the thread that shall guide through the tortuous labrinth—mind, thinking, reasoning, inquisitive, prying, searching, obstinate, unyielding, indefatigable, investigating mind, comes in and questions, and cross-questions, and examines and re-examines, and "puts that and that together," and compares, and hammers away, and thrusts itself forward after the truth and facts, till at last the weary dark gives way, far up in the east, slowly open the gates of morn, the dim dawn appears, the ruddier glow of the orient flashes up, and now, behold, up comes the gorgeous sun, great lustrous giant of the skies, and all is light and day, and the truth is grasped. Everybody who has taken the smallest pains to find out the facts, knows and testifies, willingly or unwillingly, that agriculture has advanced just in proportion as mind, mind as developed in men of intellect, intelligence, education and reflection, has given attention to it. The condition of English agriculture, as an obvious and suggestive example, bears ample testimony to the influence of mind upon it. Let us see if this is not so. In the middle of the 14th century, the produce of a farm, in the parish of Hampstead, in Suffolk, was at the rate of

8½	bushels	of wheat	per acre.
16	"	barley	"
5	"	oats	"
8	"	peas	"

The farm contained 600 acres of land, of which 321 were under tillage. Land rented from $2 75 to $4 50 per acre per annum, and in one case, 18 acres were let on a lease of 80 years, at $1 80 per acre per annum. In the latter part of the 16th century, under the teachings of the monks, the sole educated men of

the times, the monastery lands yielding at the rate of

20 bushels of wheat,
32 " barley,
40 " oats,
40 " peas,

a very respectable yield. Let us pursue this point a little further. The English agricultural community is divided into three classes, the laborers, the farmers, and the great land owners. Of the undesirable condition of the first named class, I do not now stop to speak. The middle class, the farmers, are not generally owners of the land they till. They hire, on long lease, of the last named class, who own land by thousands and tens of thousands of acres. Nor are they generally actual workers on the land they hire. If one of them have no more than a hundred acres, he seldom or never handles a tool. He supervises —he controls—he directs—he bosses the farm laborers whom he employs. His head directs their hands. His head devises modes of operating which the same head, through its peep holes, the eyes, sees that their hands put into practice. His head, and that means his brain, is in communication with the brains of other farmers, who are overseers of their laborers, and the mutual conflict of brain with brain, of thought with thought, educates each into a better understanding of his craft. I am a great advocate of professional and practical specialities, for I believe that a devotion to one pursuit, the doing of one thing well, tends to a better understanding of a given subject, and elevates its practitioner to improved degrees of skill therein, and every degree of knowledge attained by the directing head, acts immediately upon the operating hand, and the operating hand, in this instance, acts upon the clods of soil, and makes it yield two grasses, two blades of wheat, two turnips, two pumpkins, and two units of all products else, where but one was yielded before. But to return. The great landholders are comparatively few in number. I have seen them variously computed at from 30,000 to 40,000, who hold land property yielding an annual rent of not less than $500.00 per annum—the number rapidly diminishing as the annual rent increases. The incomes of the wealthiest range from $100,000 to $1,500,000 per annum. One hundred years ago, the land-holders of England proper were numbered at 230,000, which number has been ever since rapidly diminishing by the purchasing of the lands of the thriftless and wasteful, by the more prudent and wealthy. The Marquis of Bredalbane rides out of his house a hundred miles in a straight line to the sea, on his own property. The Duke of Sutherland owns the county of Sutherland, stretching across Scotland from sea to sea. The Duke of Devonshire, besides his other estates, owns 96,000 acres in the county of Derby. The Duke of Richmond has 40,000 acres at Goodwood and 300,000 at Gordon Castle. The Duke of Norfolk's park, in Sussex, is 15 miles in circuit. An agriculturist bought lately the island of Lewis, in the Hebrides; it contains 500,000 acres. Their large domains are growing larger. The great estates are absorbing the small freeholds.

Among these great soil owners are many men of the highest intellectual powers and attainments, of the highest social position, and of the most refined culture; noblemen, not only by the right of geniture and rank, but noble men in the noblest sense of the word, who are carrying forward upon their enormous estates, the most magnificent operations in the highest culture of the soil, winning from their well fed and well tilled acres, the richest reward of the wisest husbandry. One contemplates with amazement the magnificence of their arrangements for irrigating hundreds of acres, as may be seen on the estate of the Duke of Portland, at Welbeck, in Nottinghamshire; the vast extent of their systems of drainage and subsoiling, the enormous capital invested in carrying on their agricultural processes and improvements, and the enormous revenues by which they are enabled to push forward their splendid designs. I thank God that he has put in the hearts of such men to devote their splendid talents and their great resources to an enterprise so unspeakably important, and to exert their powerful influence in the promotion of so great a cause—a cause which holds concentrate within itself every inducement which should allure the loftiest minds and the fullest means to its support, because on its success humanity itself, the noblest creation of the divine mind, depends for the continuance of its very existence. I venture to assert that but for the high culture which the soil of England has received

under such influences, and the consequent development of its exuberant riches, her population could not have made the great strides that have carried it from 4½ millions in 1600, to nearly 25 millions in 1850; nor could the nation itself have attained that immense power and wealth, that make her now to stand foremost among the nations of the world, and her nobles the richest and the noblest of all earth's nobles. Under the influence of the culture, created by the action of such minds upon labor, we find a yield of 50 to 80 bushels of wheat per acre in England, and from 40 to 70 in France, and the productive power of an acre of land in the well cultivated part of Europe to be double what it was 75 years ago. In proof of the influence of improved tillage in England in enabling her to sustain her own people with diminished reliance upon importations from foreign countries, I may here state the interesting fact that while in the first ten years of the present century, she imported foreign wheat, at the rate of eight quarts per annum for each person in the realm; in the next ten years she imported but six; in the next five years, but four, and in the last three years of these five, at the low rate of a single pint—the soil of the kingdom supplying all the rest consumed. More land had indeed been brought under tillage, but every acre, old and new, had been better tilled, and had made a better yield.

And now, here in dear New-England, how hath stood, and how stands the great art, when viewed by the light of English husbandry? Conceding that, as a whole, ours is now inferior, though probably at the outset ours was better than theirs, at their outset, (all outsets savor of crudeness,) we may justly insist, in relation to the two when brought together for comparison, that Dogberry's saying is specially applicable, that "comparisons are odious."

The climate of England is, if the expression may be allowed, more strictly an agricultural climate, and generally highly favorable to her farming. Her frequent rains, coming at brief intervals, and her nourishing fogs, give a vigorous life and a beautiful freshness and greenness of look to the grasses. These, indeed, they sometimes do have in excess, and damp, and wet, and want of sunshine thus become severe obstacles. But these are the exceptions and not the rule. With us, heat and cold, wet and dry, in sudden succession, like unlooked for and unbidden guests, just when least desired, or drouths of intense endurance, burning up and killing of every green herb upon the face of the land, and then deluges of rain, as though "the windows of heaven were opened," flooding field and farm, and which would sweep and wash off houses and barns, and the very land and all before them, in one resistless, watery devastation, had not the merciful Almighty provided outlets in our huge riverbeds, through which the accumulated torrents may find their way back to their ocean home; these are to us the rule and not the exception. Nor is the English farmer, banished from his fields, as is his American brother, nearly one half the year, by winters of the horrible severity of those which bind our soils in their icy shackles. Ditching and draining, which may be performed in England after all other labor is ended for the season, during their comparative mild winter, is impracticable against our adamantine frosts of four feet deep. Their soil, too, better than the general average of ours, never hardened by beating rains, nor baked by fervid suns, yields more easily and kindly to implements of tillage. But then, to contend with all hindrances, we have the great advantage of bringing into immediate conflict with the soil a much better agricultural population.

There are with us no owners of huge estates, no middlemen leasers, and no degraded laborers. Our farmer is the owner of his land, his house, his barns, his tools, and his stock, and *he* is the laborer on his own acres, and whatever help he employs, are his sons or his hired men, and he and they all work together. Being, moreover, men of better education (God prosper the common schools!) than their compeers of the old country, they bring to assist them in their work the help of mind far more matured. Ours are descended from a race of men, God-fearing and God-serving, who, "accustomed in their own native land to no more than a plain country life and the innocent trade of husbandry," followed, in their voluntary exile here, both from choice and necessity, the same harmless occupation. Their difficulties and their dangers were equally terrible, and would have discouraged any men other than those of the iron will and unflinching nerve, and the steady perseverance which marked

the primitive fathers of New-England. No imaginings of ours can picture the intense agony of their sufferings. Rude cabins, affording a ruder shelter, rude storehouses and rude fortifications were the earliest doings of these early days of our country. For years, sweeping through their ranks, death stalked with merciless sickle, and the living could scarcely bury the dead, or the whole care for the sick. All evils pressed upon them but despair, and all comfort forsook them but the comforting assurance that God cared for them. Their first acts, after the weary and dreary winter which dated their landing had worn itself away, and nearly worn them to death, were acts of tillage to secure the naked necessities of life, and so fruitless, did their early harvests prove, that even in the third year of their settlement their supplies were so scanty, that they often "knew not at night, where to have a bit for the morning." A lobster, a fish, a few clams, or quahogs, a cup of cold water were frequently all the meagre hospitalities they could extend to any new comers.

Ah, my friends, in the midst of our fullness, how can we realize their destitution! In the midst of our success, how can we realize their weakness! As little as in the midst of our irreligion and our ingratitude, for like Jeshuran, we have "waxed fat and we kick," we can realize the intensity of their confident hope, and the fervency of their piety. Out of these small beginnings, these simplest elements of all colonizings, a result has been matured, out-romancing the wildest imaginings, and a people whose influence must be felt in all coming ages of the world.

CHINESE SUGAR CANE.

Last spring, through the kindness of Col. B. P. Johnson, I received a paper of Chinese Sugar Cane Seed, which I planted at the time of planting my corn, on the 26th of May. It was planted the the same as the corn in hills, about three feet each way, with from four to six grains in a hill. The ground was quite gravelly and stony, being on a diluvial formation. The ground was also quite rich, being a sod where cattle had run more or less for years. In ten or twelve days the young plant begun to show, but appeared very feeble. At the time of first hoeing one would suppose it would amount to nothing. The whole field of corn and cane was much injured by worms—a number of hills wholly gone. The cane did not fairly start to grow till after the middle of July, when it grew very rapidly till the middle of September—a majority of stalks sending out two large suckers. The stalks were about ten feet high and much thicker than any I had seen. On the morning of the 30th of September our first killing frost came, that stopped all vegetation. The cane at that time looked as much as two weeks of being ripe—hardly a seed had begun to turn black. On the 5th of October we cut the cane at the ground, stripped the leaves, and cut near two feet of the tops off, and drew the stalks and run them through a scrach cider mill, and pressed in the cider press. The yield of juice was as much as fifteen gallons, from about 400 stalks, the whole boiled away in a large kettle out doors. After being cleansed with lime and skimmed a number of times, the boiling was continued till there was about one and a half gallons, nearly equal in goodness to West India molasses. If the plant had been ripe and a different process gone through with, the result would have been much better. It is well worth raising for cattle alone.

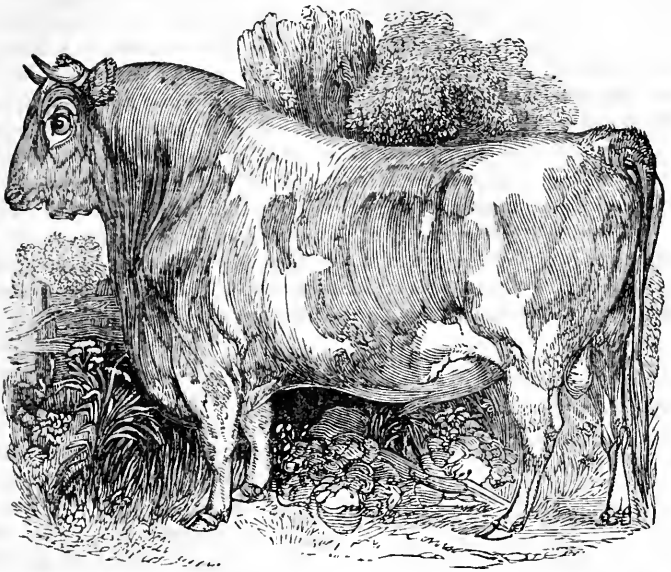
R. Howell.

Nichols, Dec. 14th, 1857.

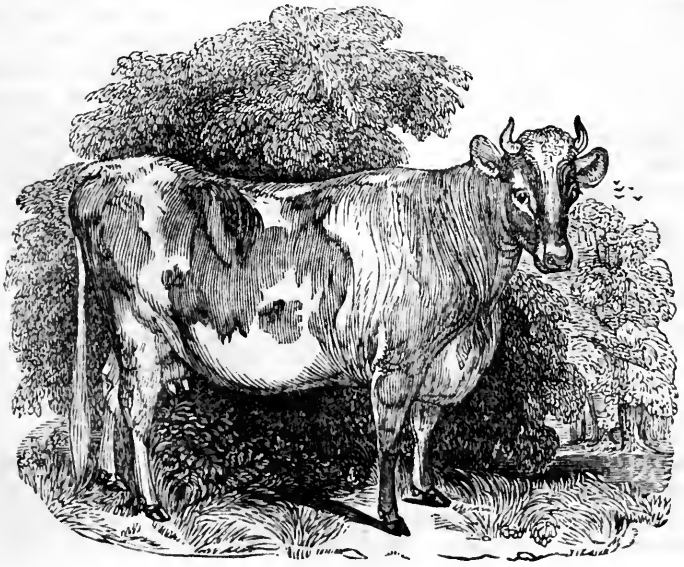
WHEAT PER ACRE.

The London *Economist* says: "The English wheat crop is remarkably good, of unusually fine quality, and the weight fully up to sixty-four pounds per bushel. In Kent and Essex, the produce is from forty-six to fifty-six bushels per acre. In the Midland districts the yield is forty-four bushels to the acre. In the north, north-eastern and western districts the growth may be considered the best on record. Hence it would be no exaggeration to state that England has produced this year nearly, if not quite, eight million bushels more wheat than in 1856. The *Economist* does not anticipate any great reduction of price in consequence of this great produce, but says there will probably be a proportional increase in consumption.

BREEDS OF CATTLE.



We purpose to give in a few short articles, in this and succeeding numbers, some of the distinctive characteristics of the leading breeds of cattle. Our design is not to draw upon what others have said, but to give in brief our own impressions. Not professing to be a *cattle man*, and not having had of late much experience in stock growing, we have nevertheless had our eyes and ears



open to the importance of the subject, and have enjoyed pretty extensive opportunities for observation. With these remarks, we shall give our opinion freely about the leading breeds, not expecting to agree with everybody, and quite willing that what we say should go for its worth only. In the meantime our columns shall be open on this subject to all candid discussion, as well from those disagreeing as from those agreeing with us. Will the advocates and the opponents of the several breeds give us short articles, presenting the results of their experience and observation?

Our cuts will be of advantage in helping to fix in the mind of those not familiar with the appearance of the different breeds, the more striking peculiarities of each. We shall not aim at an exhibition of the finest specimens—those never seen but in the stalls of mere fanciers, kept only because they are beautiful to look upon, and give the owner a pleasing notoriety. To see these you must not look at an engraving, but upon the living animal, for no engraving can do full justice. We shall endeavor rather to represent, in our cuts, a fair representative sample of the breed—well conditioned, but not much superior to what should be seen on all farms, such as we believe will be seen every where, as soon as the advantage of keeping good cattle and keeping them well is understood. We begin with the race of which we think the least. The cuts over this article represent an Alderney Bull and an Alderney Cow. A variety of this breed is called the Improved Jersey; and this we believe is an improvement upon the old Normandy cattle, or the Alderneys, as they are called, from the island whence many of them have come; but the same tendencies and general characteristics belong to both, and when we speak of Alderneys we mean the Normandy cattle, under whatever changes they have undergone.

The color is light red, dun, yellow, fawn color, and generally varies much on the different parts, sometimes spotted, black and white, black and yellow, and but seldom in such a way as to give in our eyes a pleasing effect. In size they are small—considerably smaller than the original Normandy cattle from which they sprung. Their shape is anything but good—long, slim necked, big bellied, rump short and small, hollow back, thin in the brisket, and exceedingly feeble, frail looking. In appearance they have one redeeming quality—a bright, beautiful, gazelle, or fawn eye; and for practical use they have some redeeming qualities. One is that they give milk of a very superior quality, little in proportion to their feed, for they eat like Pharoah's lean kine, and are usually about as lean, but remarkably fine, adapted to family use, and if properly cared for, they give milk nearly the whole year. This commends them for such families as keep a single cow, and can afford to supply themselves at all times with a choicer article of milk than can otherwise be obtained. Their milk is excellent for butter; and no doubt some specimens of these cows are profitable for the dairy. The veteran editor of the *Massachusetts' Ploughman* still affirms that his favorite Alderney cow gives milk, four quarts of which will make a pound of butter. But the quantity in most cases is small, and we do not believe that, with rare exceptions, the Alderneys can ever become desirable for the dairy. The cows are gentle, but for the bulls, if highly kept, it is necessary to look out.

Another half-way redeeming quality is, that they fatten easily and quickly when dried, though one would suppose, from seeing them in milking order, that they never could be fattened. Their principal excellence, we believe, is for the one purpose, before spoken of, that of affording the finest, richest milk to families keeping but one cow, and desiring a home supply with the least possi-

ble intermission. We would recommend them for this object and for no other; and we sincerely hope their blood will never be commingled with the general stock of this country.

Any admirer of this breed may overthrow every word we have said, in our future numbers, if he can; and if we feel obliged to oppose his views, we will be a fair opponent.

The cuts above do this breed a little more than justice, as far as we can judge from samples we have met with in this country and abroad, especially that of the male. We can not admire them. —Ed.

AYERS' WATER ELEVATOR.

The *Wisconsin Farmer* thus describes a contrivance by which cattle are expected to draw their own water, while the owner warms his toes by a good fire and reads his agricultural paper, or is at liberty to attend to other business. It says:—"A platform eighteen feet long, and three or four feet wide, is keyed at the ground at one end, and suspended on pullies at the other; these pullies are upon a wrought iron shaft, with a wheel in the center, four feet in diameter, over which runs a rope, suspending a bucket. While this platform is raised, the bucket is under water in the well; the weight of the animal causes the platform to sink, turning, in its descent, the wheel, which brings up the bucket. The water is discharged from a pipe at the bottom, into a trough before the animal. Under the platform is fixed a leaking air cushion, which causes it to sink to its bearings very gradually, and without jar. The descent of the platform is proportioned to the depth of the well. One foot of descent causes twelve feet rise of the bucket. A simple system of valves in the bucket, causes the water to discharge from it while in the well, until the weight of a light animal is sufficient to counterbalance the weight of water, when the valve closes, and all the water that the weight of the animal will move, is brought up. In ordinary wells the water elevated is about one pound for every twelve of the animal on the platform, which is more than is required, being always an excess, which can, by a water pipe, be carried into another trough, or back into the well."

TRUTH OR FICTION—WHICH.

A writer in the *Rural New-Yorker*, over the very respectable name of Plowhandle, one, it would seem, who eschews roguery, yet for once consented to have a hand in it, just like a great many would-be-honest people, says:

Col. Moore:—Some years ago I got acquainted with one of your contributors who edited the *Wool Grower*, and he used to put me in print. I must say my vanity was flattered by seeing my name printed in the paper, with some things I said and some I didn't say, and we've kept the papers ever since. After all, everybody likes a little fame, but some are satisfied with a smaller amount than others. Well, I have not the editor any more to set me out, so I have been thinking I would just try and see if you would not put me into the *Rural* on my own hook—especially as I want to tell you all about my going to the State Fair at Buffalo the other day.

Concludes to go.

As it was not so far but what we could go with our own team, mother and I concluded we would hitch up and have a week to see the sights and some cousins we had not seen for a long time. Mother (that's wife, you know) thought we ought to take something to the Fair. I told her to take a tub of her butter, but she said she didn't think it was good enough, but thought I might take some of the stock. But I thought it would be a great bother. However, Sam was pretty strong in the faith that we could beat everybody on horses, and wanted to take old Nance. She's a right smart beast, is that old mare, you may depend.

Takes the mare.

Well, we packed off Sam, for I was willing to give the boy a holiday. It does the boys great good to attend these kind of Fairs, I do believe, after seeing all I saw there.

Goes in.

We got safely to town Monday night, and Tuesday I went up early to the Fair grounds to see what was going on. I got in and hunted up Sam, and found he'd got the mare entered, and had got his card on her head, and a good stall, and all things comfortable. The animal arrangements were first-rate generally, and during all the time of the Fair the supply of fodder was good. I think that Maj. Patrick, who was everybody in managing things, a trump sort of a man.

Hears something.

As I was standing up near the business office in the crowd, I heard a couple of men talking about premiums. One said to the other:

"Are you an exhibitor?"

"Yes."

"So am I, and we had better look to the committees."

"Why so?"

"You see the committees are never all full, and if you are on hand at the big tent when they are called, it's easy to slip in a friend, which is a mighty nice thing sometimes."

"Well, I am showing a patent for making cowcumbers, and if I can get the premium it will make my fortune."

"And I am showing a new kind of bob-tailed hens, and a premium won't set me back."

"Well, you get me on to your committee, and I will name you for mine."

"All right; go in to win when you can."

Thinks I, perhaps if that's the way the thing leans I may as well take care of myself as anybody else. Everybody for himself seems to be the rule on these occasions. So off I streaked it to the cattle pens to find Smith, who is my neighbor, you know. Smith is in the patent bull line. [*Mr. P. evidently means "improved."*] Says I, "Smith, you're showing bulls, and I am showing old Nance, and I guess if merit counts we can win." And that's the talk here on paper. Then I told him what I'd heard about the committee.

"Is that so?"

"Exactly."

"Well, I think old Nance is the best mare in the yard."

"And you've got the best bull on the ground."

Then I told him that we must be up at the tent in time.

Well, sure enough, when the committees were made up I was on Smith's bull committees, and he was on the mare committee.

The Committee goes out.

The head man took the book as had the things in it, and we were all introduced to each other, and went down to look at the bulls. We were on the red bulls. So we went along and looked at them, and I didn't say much till we came to Smith's bull, and I looked at him pretty carefully, pulled his tail, punched my fingers into his ribs, and went through the motions as I had seen the others. Says I, "that's a bull that looks like it." Smith had combed him all over with a fine-toothed comb, and brushed him with a hair brush, and he did look slick, for he was just as fat as a hog. And from all I saw, I think fat at fairs, like what the lawyer said about charity, covers a multitude of sins.

Gets the horns poked at him.

Just as I said that, the fellow who had a bull in the next stall comes up to me pretty fierce, and says he:

"What do you know about bulls?"

"Well," says I, "I think I know what they are used for in my section."

"May be," says he, "you are on the committee?"

"I have that honor," says I.

"Oh! well, that makes a difference, but you ain't the man I expected to see," says he.

"Very likely," says I.

"But," says he, "that bull hain't got any pedigree."

"Well," says I, "he had a father and mother, didn't he?"

"Oh! yes, but then nobody knows who they were."

"Well, then nobody knows but they were just as likely as your bull's parents."

"But, sir, look at my bull's pedigree. There it is, sir. Got by imported Shirttail, out of Skimmilk by Thunder, etc.," and he showed a string of names as long as your arm.

"Well," says I to the committee, "are we to judge the pedigree or the animal?"

And they said, "The animal, of course."

"Then," said I to the fellow, "will your bull get better stock than this?"

"Of course he will," says he, "for he's got a pedigree, and that bull hain't."

"Well," says I, "your bull has got somebody to brag for him, and the other hasn't, that's certain." And that sort o' knocked him. "But," says I, "I've known people who felt grand over their pedigree, and I've seen a heap of people who couldn't go further back than their father and mother that banged them all to pieces for smartness. Handsome is that handsome does," says I, "and, as the hymn-book says, 'a man's a man for a' that.' Pedigree go to grass, I go in for the animal."

Smith's bull wins.

When we got through and looked at our marks the other two had Smith's bull second. I had him first. So we talked it over, and finally, as they didn't care much about it, they altered the figures and gave Smith the first premium, which I think was right.

And the old mare.

Smith had a great time over old Nance. It turned out that each of the other two committeemen had friends whose mares were to be judged, and they pretty soon picked out their favorites. So he kept still and let them talk, and they soon got into a quarrel, and then they appealed to Smith, and he kinder sided with one, but thought old Nance was the best mare, and finally, to keep the other from getting first, they sided with him, and he went in for both of theirs. Smith says he saw some queer things on that committee.

You see we got our premiums, but you don't see, perhaps, Col., as well as I do, that it wants something more than merit to be sure of winning.

Gets irreverent.

The State of New-York is a great State, the biggest in the Union, and the New-York State Agricultural Society is a great institution, but if there ain't some of the allfiredest big humbugs crawling around its Annual Fair, then I'm a teapot.

Concludes.

I want to tell you a heap more, but I have used up so much paper I fear you won't have patience to print my letter.

Yours to command,

JOHN PLOWHANDLE.

LABOR and capital judiciously applied to the improvement of agriculture, are a no less sure investment than in any other business.

SUGGESTIONS ABOUT AGRICULTURAL JOURNALS.

A CORRESPONDENT suggests, what we are willing to consider, and that our brethren of the press should take into consideration also, if they think proper, as follows:

I have noticed what I consider three defects in all agricultural journals I am acquainted with. The first is, there is too little space devoted to horses, their breeds, qualities, and diseases. An animal so indispensably useful surely deserves more notice than he generally receives. Secondly, farm buildings receive too little attention of a kind suitable for the mass of farmers. As a matter of course we get a few plans of laborer's cottages and suburban residences, but comparatively few good models of farm houses, suited to the majority of country farmers. A special department occasionally set apart to the laying out of grounds and placing the buildings, stating the proper distances from the public highway, the distance between house and barn, hog-house, hen-house, shop, etc., and the most advantageous way of placing each, would be of value to the community, as well as the internal arrangement and construction of barns and all other necessary outbuildings. Thirdly, agricultural tools, implements, and machinery are too much neglected; that is, the ever-day necessities, such as plows, harrows, cultivators, horse-rakes, straw-cutters, corn-shellers, etc., are not sufficiently known to the mass of farmers. For instance, the latest improved Eagle plows, Ramsey's and other newly invented harrows, Boughton's and other wheel cultivators, Gilbert's straw-cutter, etc., etc., are not to be found in any agricultural periodical within my knowledge. It appears to me that good and properly placed buildings, improved and labor-saving implements, beautiful, powerful, and enduring teams of horses suited to the road and farm, are three things that outweigh, with the exception of a

good soil, nearly all other requisites of successful farming, and are first and foremost.

LICE ON YOUNG CATTLE.

Look closely into the coats of young cattle now, and let no vermin live on their necks and backs. It is an easy matter to kill those lice, and as all lousy come out poor in the spring, it is barbarous to let such small mites as lice have their own way through the winter.

Farmers find out in the spring that their calves are poor and lousy, and they make a stir for a remedy.

Any greasy matter, well rubbed in, will kill these lice. Ashes sifted on their backs will do it. Yellow snuff costs but little, and is better than the juice of tobacco. Fine sand sifted on them will drive off lice; the only objection to sand is that it causes an itching on old cattle in the spring.—*Ploughman.*

APPLICATION OF MANURES.

It is now pretty generally agreed among practical farmers that manures of all kinds may be buried too deep in the furrow—so deep with a deep plow as to entirely destroy their efficacy for a number of seasons, if not forever. The reason why this is so is not very satisfactorily explained—for it is proved that manures never work down to any great depth, else the subsoil would be valuable after many years of deep manuring.

One great point with farmers should be to prevent loss of their barn manures by checking great fermentation. Strong manures heaped up, soon ferment and burn unless much extra matter is mixed in the pile. Some heaps heat so much as to turn white. They are "fire-fanged," as the old gardeners used to express it, and they are almost worthless when this excessive heating has been permitted. We incline to think that more of the essence of our manures is wasted by this fermentation — this heating process — than in all other modes of waste.

It is certain that excellent crops of corn are grown where the manure from the barnyard was buried no deeper than a common harrow would bury it when spread on the surface. This we often see on dry ground and in dry summers, and with only a moderate dressing of manure.

So we find that all kinds of manure spread in October and November on grass land or meadow land, work well and increase the crop abundantly though exposed through the winter to all kinds of weather.

The truth seems to be that not much of the essence of barn manures is lost by evaporation when they are spread out where no fermentation takes place.

Still if we would secure all the essence of barn manures, we must mix them with fresh earth immediately, or in the yard, or in the field with a light furrow or a harrow. When this is done no effluvium, or ammonia, is perceived to pass away.—*Mass. Ploughman.*

AN EXTENSIVE FARMER.

It is said by a correspondent of the *Silver Creek* (Texas) *Mirror* that Col. Jacob Carroll, of Texas, is the largest farmer in the United States. He owns 250,000 acres of land (nearly 400 square miles) in that and adjoining counties. His home plantation contains 8,000 acres, nearly all valuable bottom lands, along the Gaudalupe River. On this farm he has over 600 acres in cultivation, on which he raises annually about 300 bales of cotton, worth at the plantation from $75 to $100 per bale, and 20,000 bushels of corn, worth about 50 cents per bushel. He has a force of about fifty field hands, and he works about sixty mules and horses, and fifteen yoke of oxen. Col. Carroll has, on his immense ranges of pasture lands, about one thousand horses and mules, worth $50,000; one thousand head of cattle, worth $70,000; six hundred hogs, worth $2,000; fifteen jacks, worth 9,000; three hundred Spanish mares, worth $15,000; fifty jennies, worth $2,000; and five stallions, worth $2,500. Col. Carrell's property, in stock and negroes, is worth at least, $150,000; and the value of his landed estate will swell the amount to over half a million of dollars. His annual income from the sale of stock amounts from $5,000 to $10,000; and from the sale of cotton, to from $15,000 to $20,000.

ARRIVAL OF LLAMAS IN NEW-YORK.

The brig E. Drummond, which arrived at this port yesterday from Aspinwall, brought a flock of forty-two llamas, consigned to James Fisher & Co. They were purchased by a French gentleman

for a company in this city, for the purpose, we believe, of introducing the breed on the mountainous lands of New-England. The wool of the llama is exceedingly valuable, and as the animal is very hardy and flourishes in high mountain regions, delighting in pure, rarified air, and feeding, like the camel, on almost anything in the shape of grass, no matter how coarse, it is possible that the breed may be planted successfully in the sterile regions of New-England.

The llama is probably familiar to most people who have been visitors to the traveling managerie, as a specimen is usually to be found there. It belongs to the group ruminantia, of the family of camel. Indeed, they are known to naturalists as the camelus lama, and are frequently called the camel of the new world. They are found exclusively in South America, and in the greatest abundance on the Andes. They are chiefly used by the natives as beasts of burthen, though they can not carry more than about a hundred pounds weight, and do not travel far without rest. In the transit of treasure from the mines of Potosi they have been found most valuable from the earliest period. The llama is much smaller than the camel of the East of Europe. It has no hump, but in shape it much resembles the camel. The neck is long and arched, and the face, in mildness of expression and the peculiarity of the split lip, is precisely like that of the camel. It rarely measures more than three feet in height. It is covered with a thick fine wool, which makes the animal impervious to cold, and renders housing quite unnecessary. Like the camel and the ox, its feet are cloven ; but unlike the former animal, it has no common horny sole, uniting the toes at the bottom. Appended to the foot behind is a kind of spear, which assists it in moving over precipices and rugged paths. It is accordingly as sure-footed as the goat, and, being very agile, it is extremely difficult to capture it when it takes to the mountain crags, as it invariably does when pursued. It is found much oftener on the northern than the southern side of the Andes, and is said to become vigorous in proportion to the coldness of its situation. Thus, though essentially a tropical animal, the coldness of our northern climate is not likely to prove detrimental to its increase.

The animals on the brig E. Drummond were taken from the Cordilleras, and were sent from Guayaquil to Aspinwall by railroad, where Capt. Chapman, of the Drummond, took them in charge. There were seventy-one of them shipped, but owing to severe weather twenty-nine died and were thrown overboard, leaving only forty-two alive. These, however, are in good condition. This is a novel importation; but if the experiment should prove successful, it may become one of some importance to the improvement of the growth of wool on this continent.—*N. Y. Herald.*

THE FALL.

Recent financial troubles have produced their effects upon the agriculture of this country. From the Southern to the Northern extremities of our Union, agriculture has declined, not in merit, but by way of pecuniary disasters. Witness the fall in breadstuffs, in the staple products of the soil generally, and then you are convinced that we have either heretofore paid too much for food, or that we are now getting too little for it. For the good of humanity, for the good of the poor, provisions are to-day high enough to satisfy all reasonable minds. There are some kinds of food that are too low ; wheat, for instance, but you may rely upon it that beef and pork are up as high as any rational mind could ask for.

The great West is full of cheap corn, in many localities it being worth only twenty cents per bushel, and, therefore, can not pork be afforded in New-York market at $6.00 or $6.25 per hundred pounds dressed weight? The fall would seem to be equal upon most everything. Look, if you please, at the manufacturing interests. Now cotton and woolen goods have gone down in price almost equally with barley and wheat. Indeed, cast an eye towards the mechanical departments, and you are equally surprised to find those trades amazingly depressed, with no activity to brace them up.

Happily for the prosperity of the country, some of our machine shops, woolen and cotton factories have again commenced the noise of active labor.

But the great fall to which attention has already been called, will not last always. Matters are bound to regulate themselves, and I believe that money will again be plenty within a short time. Farm products will again sell with the same activity that formerly characterized their sale, though they may not bring as high prices. For the past few months, it has been almost impossible to dispose of anything, so tight has been the money market. Everybody "most" has got something to sell, but no buyers appear. Instead of the purchasers running to you for your products, you are compelled to run to them, and then are put off with the answer that "we don't buy now, sir; our doors are closed," &c.

Mark our prediction, that unless some remarkable change takes place between now and June next, farmers will not sow nor reap more than one-half as much as they did in the year of 1857. Sluggishness always marks the energy of the country after the fall of provisions.

But I believe the community at large will be better off by reason of the low price of produce, provided the working classes will consent to work in proportion to the value of provisions. Now look at the matter,—*wheat* has been sold in Oswego this winter for seventy-eight cents per bushel—"the Milwaukee Club." What must that wheat have been bought for per bushel in Wisconsin? Probably fifty or sixty cents.

But these prices are in accordance with the times, and hence we shall have to succumb to them, and go on, paying but little attention to them, if we would be prosperous as a people.

Whether lands in the Eastern States will go down in price in consequence of low prices, I am illy able to say. I am confident lands in the West must be lower than they have been. Railroad companies have raised their prices for carrying freight, and every cent so added must, I believe, finally be paid by the Western farmer. And it does seem as though speculators, in the West, will cease to be operators any longer, particularly in lands. These *sharks* must have lost large sums in lands which, of course, nobody cares for except those who are directly interested. The whole people have been taught a good and glorious lesson. Agricultural interests are now dormant, and will be for some time to come. The people can live cheaply; the poor can procure the necessaries of life reasonably. Men are not so amazingly greedy after wealth as they were one year since. The farming world, and the rest of the people, are, I think, taking more rest and comfort than they were under old prices. And on the whole, though we may not get rich so fast, will not the great fall be a blessing to our country?

BALDWINSVILLE, N. Y., Jan., 1858.

WASTE OF FERTILIZERS.

"THE amount of manure wasted in the United States, is a subject of amazement and alarm. A judicious observer has put it at one hundred millions of dollars worth annually, passing off into the air in lost gasses, or washing away from barn-yards out into the road, or moulding away unnoticed in secluded corners all over the farms. And the worst, yet truest view of all this, is, that this great amount of fertilizing material, came originally from the soil, and ought to be restored to it, for if it be not, it is a theft of the worst sort, impoverishing both the land and the owner thereof. All decaying vegetable substances when they shall have reached that point of decay best suited to the farmer's convenient handling, must be restored to the soil, there to complete their decay to such perfect degree, that Nature can again spread them upon her ample board, at her great annual feeding and feasting of her multifarious vegetable children."

So said Gen. H. K. Oliver, at the late Fair of the New-Hampshire State Agricultural Society; and we do not believe that he at all over estimates; for though a hundred million is a large sum, still it is but a few dollars for each farmstead in the United States; and we should

think that the aggregate of individual losses from bad management with manures would be greater rather than less.

This is not however so much lost out of the world; nor is it lost for all time. The gasses that pass into the air, are returned in the rains. It is true that a portion of them fall into the ocean, and therefore do not immediately promote vegetable growth. Other portions fall so as to promote a less valuable growth than if the application were made by a wise cultivator. They are undoubtedly very widely diffused, and but a small portion of them, can it be supposed, will find their way back to the same farm from which they ascended, or to other farms with much immediate, practical benefit. Still not all is lost. The ammonia which ascends from a fermenting mass of manure, being arrested and brought down in rains, benefits, not appreciably, because of its wide diffusion, but really, a thousand farms, and some of them at great distances from where it had its origin. But its benefits are probably not half as great in the the aggregate as if it had been kpet on the farm from which it escaped. Practically, then, it is not materially incorrect, to speak of the escaping gases, as lost or wasted.

It is so with the soluble salts, which are washed away into the streets. Those are not absolutely lost. They are not without effect. Vegetation of some kind, more generally useless, is promoted by them. If any of them find their way into the brook, its banks extract them from the water, and are made to produce more grass either for the scythe or for grazing beasts, and even the fish, all the way to the ocean and in the ocean itself, receive from them a greater growth and a higher flavor. But these will be regarded rather as fanciful than real returns, and we will give it up, that the soluble salts which flow from the farmyard into the street or the brook are about as good as lost. To say the least, they are likely to be kept out of the market for a long time to come.

It is much so with those substances, of which Col. Oliver speaks as "moulderring away unnoticed in secluded corners all over the farm." If let alone, they will eventually be turned into food for man or beast. Such is the law of God, and no human negligence can always prevent. We or our descendants shall sooner or later consume that beef's skull, that lies in the corner of the fence. If ground fine, mixed with half its weight of sulphuric acid, and put into the soil now, we should have it back next fall in the form of wheat, corn, or some other product. If let alone it will sooner or later come to the same thing. But it may be a very long time first; and therefore we think Col. Oliver quite right in speaking of such things as lost or wasted; and we do nor believe it extravagant to estimate the losses from the neglect or wrong management of the fertilizers within the reach of the farmers of this country, as high as one hundred millions of dollars a year. It may seem wild to some, but less so, we have not the least doubt, to those who have reflected on the subject, than to the unthinking.—Ed.

WALL ROSES.

The secret of growing roses against a wall might be packed in a lady's thimble. A two feet deep border of strong loam, four or five feet wide, to be as rich as rotten dung can make it; the border to be thoroughly soaked with soft pondwater twice a week in dry weather, and when the roses are in bloom, to keep them thin in the branches, as if they they were peach trees, and to play the water-engine against them as for a house on fire, from the first appearance of insects till no more come. There is a reason for everything under the sun, and the reason for insects attacking roses in general, and those on walls more particularly, is from too much dryness at the roots causing the juices to be more palatable through the action of the leaves.

Horticultural.

CALENDAR FOR JANUARY.

FLOWERS.

Bulbous Roots.—Those who have not purchased bulbous roots may yet be in time to get some at the seed stores, such as Crocus, Hyacinth, Narcissus, Tulips and others. These will do well if now put into pots in a compost of thoroughly decayed stable manure, white or river sand and garden mould in equal parts. When potted they should be placed in a cellar or shed, or under the stage of of a greenhouse, and covered over their tops with six inches of ashes, sawdust or sand. In a month's time they may be taken out, a few at a time, and brought into the parlor or greenhouse to bloom. They will require water every two or three days, and should be near the light.

Hyacinths may be grown also in glasses. The water should have a pinch of salt in it, and should be changed every week, using tepid water the temperature of the room. The glass should *not* be filled so full as to let the bottom of the bulb quite touch the water.

The Greenhouse.—Give water only when really required; do not spill it about the house. Give air whenever the temperature outside is above freezing, for a few hours in the middle of the day, but shut up early (by 3 o'clock). Avoid letting in drafts of wind. Air is best admitted at the top.

If frost happens to get in, syringe the plants all over with quite cold water, and shade from the sun until the frost is out of the house. Do not raise the temperature suddenly by heat, or the frozen plants will die. The art is to get the frost out of them as *gradually* as possible, which is best done by ice-cold water.

N. B.—These remarks apply to greenhouses that are kept at low temperature, that is from which frost only is intended to be kept out.

Vegetable Garden.—The vegetable garden should have been ridged up in the fall to expose the soil to the beneficial influences of the winter's frost. If not done, do it now if the weather permits. Coldframes covered with glazed sashes should also have been filled in October and November, with young cauliflowers, cabbages and lettuces for early spring. If that has been done they will require covering at night with mats or litter which should be removed in the day and air admitted, except in very hard weather. Look also to fruit trees, and when the snow comes tread it hard round their base, which helps to keep vermin from attacking their bark when the rigor of winter makes them short of food.

From the Pear Culturist.

PRODUCTION OF NEW VARIETIES OF PEARS.

In their natural wild state, each of the different kinds of fruits, such as the Cherry, the Peach, the Pear, etc., consisted of one or more species, inferior in their original quality, or which became afterwards degenerated by unfavorable changes of climate, exhausted soils, or other causes. These several species, while in this wild and uncultivated state, always reproduced the same, with occasional slight modifications occasioned by local or incidental causes. To *change*, therefore, this naturally fixed habit of the tree, and obtain new and improved varieties of its fruit, has long been the subject of diligent and persevering effort on the part of many of the most distinguished Pomologists. But it is a process attended with a great degree of uncertainty, and requiring much time and patience. To the interested and enthusiastic culturist, however, it has peculiar attractions. By slow degrees he compels unwilling nature to bend to his continued efforts. "The sour and bitter Crab expands into the Golden Pippin; the wild Pear loses its thorns, and becomes a Bergamot or a Beurre; the Almond is deprived of its bitterness, and

the dry and flavorless Peach is at length a tempting and delicious fruit." Such are the results that attend the persevering efforts of the skilful culturist.

To produce new and improved varieties of the Pear, Dr. Van Mons, of Belgium, so distinguished in Pomological science, has labored with indefatigable energy and perseverance nearly his whole lifetime for this object, the results of which are a great number of new varieties of rare excellence. His theory, however, could not be expected to be *perfect*, although much valuable instruction has been drawn from his experience. His theory was briefly this.—The aim of nature is simply a healthy, vigorous state of the *tree*, producing nearly perfect *seeds* for its own continued propagation. The object of culture should be, to reduce excess of vegetation in the tree, diminish the size of the seeds, and increase the size and improve the quality of the pulp or fruit which encloses them. He also maintains that the *older* the tree of any cultivated variety of the Pear, the nearer will the seedlings produced from it, approach its original wild state; while seedlings from the fruit of *young* cultivated trees of good sorts, more frequently produce improved varieties.

Dr. Van Mons, acting on this principle, selects his seeds from young *seedling trees*, sows them in his seed bed, where they remain until they are of a size sufficient to enable him to judge of their character. He then selects the most vigorous and promising, plants them out and patiently awaits their fruiting. The first seeds from the best of these he again sows, and repeats the operation. Each generation comes more quickly into bearing than the one preceding it; the *fifth* sowing often coming into bearing in *three* years, and producing fruit, in many instances, of rare excellence. Whatever we may think of his theory, the results, as before remarked, have been several new varieties, productive in habit, and of delicious flavor. Following this plan, in order to produce improved varieties of the Pear, we must first be careful to plant the seeds of *seedling Pears* of healthy and vigorous growth, and continue the process until we have attained our object, viz., new varieties of a high degree of excellence.

This is the Belgian method, from which some of the fruit culturists in England and our own country dissent, and maintain that new varieties may be obtained from the seeds of the most valuable sorts of our *grafted Pears*, equally as good as by the Van Mons mode, and without his long and repeated process of successive plantings; and claim that some of our native favorite fruits were obtained at once from the seeds of the old *grafted* varieties. In some instances, this is doubtless true, but whether the result is from chance or otherwise, we can not with certainty determine. Should the Amateur desire to engage in the pleasant but somewhat tardy process of propagating new varieties, it would be advisable to employ both methods, carefully keeping each distinct and separate from the other, and compare the results.

New Varieties by Fertilization.—This is a process for obtaining new varieties by cross impregnation, or fertilizing the pistil of one variety with the pollen of another. It was advocated and practised by T. A. Knight, Esq., formerly President of the Horticultural Society, of London, and is now generally practised in England, as well as by many of our own fruit growers, with success.

The Pear blossom has five central organs elevated above the others, called the *pistils*, the upper or enlarged extremities of each of which is called the *stigma*. These are surrounded by other delicate thread-like organs called the *stamens*, supporting on their upper extremity the *anthers*. These last are little receptacles containing the pollen or fertilizing dust. In their natural operation, when the flowers open, the anthers become distended, and when perfectly ripe, burst and discharge their pollen on the stigma, whose gummy exterior receives and retains the fertilizing shower, rendering fruitful the young seed lying at its base. This same process artificially performed, by impregnating or fertilizing the pistil of one variety of fruit with the pollen of another, will produce a fruit partaking in some degree of the properties of both. This is performed by simply clipping off, with a pair of fine scissors, all the stamens, (before the blossom is fully expanded,) of the variety which is intended to be impregnated, carefully leaving the pistils untouched, and when the flower is fully expanded, and the stigma properly matured, (which will be indicated by its glutinous surface,) transferring to it with a camel's hair pencil, the pollen of the sort with which it is to be crossed. This process

does not particularly affect the *fruit*, but the *seeds* partake of the nature of both the original sorts, and produce trees which yield intermediate varieties of new, and frequently of rare and valuable qualities. By this means some of the present excellent sorts have been obtained, both in Europe and our own country.

It will be seen at once that the process should be performed before the stigma of the blossom is impregnated with its own pollen, or that of the surrounding flowers, as it is impossible after that to innoculate it again. To prevent this, a thin gauze covering should be placed over it for a few days before and after the operation, to protect it from the pollen floating in the air, or from the intrusion of insects, by which, sometimes, the flower becomes accidentally impregnated.

HAVE YOU A CHOICE GRAPE CUTTING THAT YOU WANT TO GROW.

Then go to the woods, dig some roots of a wild grape vine, cut them into pieces of about six inches long, cut your choice grape vine or cutting into pieces of only one, or at most, two buds; insert the lower end by the common cleft grafting method, into the piece of wild vine root; plant it in the earth, leaving the bud of the cutting just level with the top of the ground. Every one so made will grow, and in two years become bearing plants.

SHOULD WE PLANT FRUIT TREES IN THE HIGHWAY?

I answer yes, for several reasons; the first is, there is a lack of fruit in this country, the demand being much greater than the supply; and every fruit tree that is planted and properly taken care of will bear fruit sometime, and of course *help* to supply the demand. Another reason is, trees properly planted and arranged on the side of the highway help to beautify it, and make it pleasant for those who travel on it, besides being an addition to the farm upon which they are planted, and a source of constant pleasure to the owner.

Now, while I write this, I have *have a particular kind of fruit tree* in view, and that is the Cherry;—not that there are no others as good, but because there is the greatest lack of fruit at the season of the year when cherries are ripe, and because they supply food for those true friends of the farmer, the birds.—*Gen. Far.*

Mechanical.

METHOD OF CLEANING CASKS.

The *London Engineer* describes the following process, which may be worth the notice of our agricultural friends who, in the manufacture of cider, etc., have occasion for such contrivances. A square frame of sufficient size is hung upon standards of suitable strength, into which a barrel is fastened, at the chimes, by V-shaped prongs, or any other convenient process, and the whole is made to revolve by a crank, water, or other cleansing mixtures being previously poured in in suitable quantities. This process may be repeated as many times as is desirable. This may be constructed by any one of tolerable mechanical genius, and will save much time and unpleasant labor.

GELATINE, MANURE, ETC., FROM BONES.

A process has been patented in England by Mr. A. E. Schonersahl for an improvement in the process of making gelatine, glue, etc., from bones. He first separates them from all putrescent matter soluble in water, then treats the bones with acid, which dissolves the phosphates and leaves the gelatine in a solid state, and is easily separated. The water used in separating the soluble matters is reserved for other processes which prepare it for application as a manure.

IMPROVED GAS STOVE.

A GAS stove is formed of an outer case made double to contain water, or a slowly conducting material. Within this casing a series of vertical tubes are ranged round its circumference, which extend from the bottom to the top of the casing and are for the passage of air, which entering below becomes heated, ascends and escapes at the top. A patent has been applied for.

IMPROVED HORSESHOE.

A PATENT has been applied for in England for the manufacture of horseshoes as follows: The corks are made tapering and with a small screw at the end. The shoe is pierced at the requisite places, and the cork is screwed into them. This may be an economical process, if the screw holds well, since the corks may be renewed without disturbing the shoe.

MANUFACTURE OF IRON.

IRON is one of the greatest sources of future wealth in this country, and the processes by which the ores may be profitably treated for the production of iron of various qualities, naturally receive the careful attention of all engaged in such pursuits. New facts are constantly developed which vary these processes, more or less, and some of which create an important revolution in this department of art. Mr. Harding, of Leeds, Eng., has recently found an economical method of separating the shales from the metallic ore. This has hitherto been done by spreading the ore upon the ground and exposing it to the action of the atmosphere. Mr. Harding now exposes the ore to the action of steam, and thus secures results in a few hours which have hitherto occupied months.

HARVESTING MACHINES.

MESSRS. COX & NEWTON, of Greenville, N. C., have secured a patent for a machine which cuts off the ears of corn, leaving the stalks standing in the field.

WASHING MACHINES.

WE have long believed that any convenient process securing a constant stream of water through clothes that need cleansing, would be exceedingly useful, by avoiding very much of the wear and tear occasioned by severe rubbing. This destroys under-clothes perhaps quite as much as does the wearing of them. It is this feature which recommends, to our judgment, the invention of Mr. Thomas King. A method for securing this important point has been invented by Mr. A. Dickson, of Hillsborough, N. C., whose specification claims "the combination of the oscillating rubber, stationary bed, and the pumps, arranged to act conjointly." The water is discharged as rapidly as it enters.

Another recent patent, secured by Mr. Abraham Huffer, of Hagerstown, Md., includes certain contrivances for lifting the clothes out of the water and exposing them to the air, and again immersing them. This, it is claimed, both bleaches and cleanses them at the same time. We can not judge of the details of this invention, not having seen any drawings of it, but the idea seems to be a very good one.

Mr. John D. Jenkins, Jacksonville, Ill., has also invented an anti-friction machine, but the means he employs are not published in detail.

PRINTING PRESSES.

MR. RICHARD M. HOE, the great king among inventors in this department of art, and whose reputation is now world-wide, has secured a new patent, which adds to the simplicity and economy of his great press. The fly-frames which have hitherto required some complication of machinery, are now worked by a cam shaft at each end of the machine, which is in immediate connection with it.

STRIPEING TOOL.

AN implement which will be found

very useful to painters has been patented by Mr. J. J. McCormick, of this city, and Mr. George Crossingham, of Croton Falls. It will stripe a line of any defined fineness, from a mere thread to two inches, in straight lines or in curves. The paint is fed by means of a piston.

SEGAR MACHINE.

A PARAGRAPH has been going the round of the Provincial papers, stating that M. Practorius, of Berlin, has "constructed" a machine for making segars, and that it rolls out 5,000 segars a day, and economizes both tobacco and manual labor. Upon the admitted principle that "honor should be given to whom honor is due," it is only right to state that the paragraph in question is not quite correct. It is true that M. Practorius, of Berlin, possesses such a machine, and that it combines all the useful qualities attributed to it; but it was from Liverpool that it was obtained. America claims, and is entitled to, the honor of the invention; but, many years ago, a Liverpool firm, James Steel & Co., 78 Duke street, purchased the patent, and subsequently made considerable improvements in its construction and working. The patent has many years yet to run, and it is still in the hands of the house just mentioned, who have the exclusive right of using it or permitting its use in the United Kingdom. M. Practorius, of Berlin, purchased his machine from a firm in Hamburg, to whom Messrs. Steel & Co. had sold it, and it has since been patented for the kingdom of Prussia. There can be no doubt of the ingenuity and value of the machine; but while a foreign manufacturer only buys it, he must not be allowed to steal the honor of construction from England, or invention from America.—*London Mechanics' Magazine.*

WHAT WILL A GLASS OF WATER HOLD?

IT is generally thought that when a vessel is full of water any solid substance immersed in it will cause it to overflow, and such will be the case if the substance is not soluble in water; but the philosophic truth, that in dissolving a body you do not increase the volume of the solvent, may be proved by a simple and interesting experiment.

Saturate a certain quantity of water, at a moderate heat, with three ounces of sugar; and when it will no longer receive that, there is room in it for two ounces of salt of tartar, and after that for an ounce and a dram of green vitriol, nearly six drams of niter, the same quantity of sal ammoniac or smelling salts, two drams and a scruple of alum and a dram and a half of borax. When all these are dissolved in it, it will not have increased in volume.—*Scientific American.*

SWIMMING LIFE PRESERVER.

THE saving of human life, whether from fire or water, and the prevention of accident generally, is a noble and philanthropic aim, and every one who directs his attention and inventive powers to such a purpose is to be regarded as a benefactor to the human race at large, by those who have any humanity in their hearts. We are happy then to chronicle the invention and patenting of an apparatus for saving life from shipwreck and similar catastrophies, by A. J. Gibson, of Worcester, Mass. This invention consists in making a deep, broad belt of india rubber or other elastic and waterproof material, constructed with air chambers, and having combined with it hollow floats which extend along each arm and expand at the hand to furnish broad paddles or means of propulsion in the water, which aid the person wearing it, in swimming, and by this means gaining any desired place of rest or refuge. *Scientific American.*

HOW MOISTURE AFFECTS THE VALUE OF WOOD.

WHEN wood is newly cut it contains a large quantity of water, (sap,) varying in different varieties from 20 to 50 per cent. Trees contain more water in those seasons when the flow of sap is active, than when the growth is suspended; and soft wood contains more than hard. Exposed to air a year, wood becomes air dried, and parts with about half its water; 15 per cent. more may be expelled by artificial heat; but before it loses the half of its moisture it begins to decompose, or char. The presence of water in wood diminishes its value as fuel in two ways—it hinders and delays the combustive process, and wastes heat by evaporation. Suppose that 100 pounds of wood contain 30 of water, they have

then but 70 of true combustible material. When burned, 1 pound of the wood will be expended in raising the temperature of the water to the boiling point, and six more in converting it into vapor, making a loss of 7 pounds of real wood, or 1-10 of the combustive force. Besides this dead loss of 10 per cent. of fuel, the water present is an annoyance, by hindering free and rapid combustion.

HOW TO MEND CHINA.

From an English almanac we, a long time since, cut a recipe for mending china, and the opportunity having occurred for trying, we found it admirable, the fracture being scarcely visible after the article was repaired. It is thus made: Take a very thick solution of gum arabic in water, and stir it into plaster of Paris until the mixture becomes a viscous paste. Apply it with a brush to the fractured edges and stick them together. In three days the article can not again be broken in the same place. The whiteness of the cement renders it doubly valuable.—*Exchange.*

CEMENT FOR JOINTING STONE.

A cement which gradually indurates to a stony consistence, may be made by mixing 20 parts of clean river sand, 2 of litharge, and one of quick-lime, into a thin putty with linseed oil. The quick-lime may be replaced with litharge. When the cement is applied to mend broken pieces of stone, as steps of stairs, it acquires after some time a stony hardness. A similar composition has been used to coat over brick walls under the name of mastic.

AMERICAN MECHANICAL SKILL.

The viceroy of Egypt gives a decided preference to the works of our American artizans, in which he shows excellent sense. A barque is loading at Boston for Alexandria, with a complete ponton train manufactured by Boston mechanics, to the order of the viceroy. The train consists of twenty-six wagons, and will carry the materials for constructing a bridge three hundred feet in length. The cost of this is upwards of $30,000. There are also boxes of tools, of every description, for the use of a moving army. One box of joiner's tools, from the manufactory of F. G. Gouch, of Worcester, are much admired for their superior make and exquisite finish. Osgood Bradley, car manufacturer, has an order from the viceroy for a train of eight-wheeled passenger cars, the cost of which will exceed $100,000.—*Kennebec Journal.*

MAKING WOOD FIRE-PROOF.

Propessor Rochelder, of Prague, has just discovered a new antiphlogist material, which promises to become of importance. It is a liquid chemical composition, the secret of which is not yet divulged, which renders wood and other articles indestructible by fire. Several successful experiments have been made, and others are promised on a larger scale.

LAMPS FOR THE BURNING OF KERASINE OIL.

These lamps are manufactured by Messrs. Dietz & Co., 132 William street, New-York. For producing a brilliant light at a small expense we think they would be hard to be outdone. No unpleasant odor, as far as we can perceive, arises from the kerasine, as burnt in this way. Having tested these lamps, we can cheerfully recommend them to our friends.

ANOTHER GREAT SHIP.

A gentleman of Liverpool, England, has proposed to build a ship which will dwarf even the *Leviathan*, to be called *Palmerston's Foresight.* The proposal was first received as something worthy of attention, but it has been found from his model that it would be unfit for any practicable purpose, being almost flat bottomed, with vertical sides, and no visible keel; in fact, it is but a gigantic box that might swim, but would be of no value as a ship. We chronicle this fact to illustrate the mistakes that persons make when undertaking to invent or improve upon anything without first fully understanding what they are about.

Scientific.

CHEMICAL.

8 OXYGEN 1 HYDROGEN 9 WATER.

Water with other substances forms *hydrates*, as hydrates of lime, of iron, etc.

16 OXYGEN 6 CARBON 22 CARBONIC ACID.

Carbonic acid forms carbonates, as carbonate of lime, (chalk, marble, lime-stone,) carbonate of soda, (washing soda,) bi-carbonate of soda, (cooking soda,) etc.

14 NITROGEN 3 HYDROGEN 17 AMMONIA.

The three compounds above, water carbonic acid, and ammonia constitute a very large part of the food of all growing plants. Nothing could grow if deprived of either of them. Decaying plants and animals are always giving them off; and living, growing plants are always receiving them.

Carbonic Acid.

Of oxygen as compounded with hydrogen in the form of water, and of its uses in vegetation, we have spoken at length. By the second formula above it will be seen that 16 lbs. of oxygen combined with six of carbon form twenty-two lbs. of carbonic acid. The young reader should keep in mind, that oxygen in its pure state is a limpid gas, constituting the vitality of the air we breathe, and that carbon, in a state of purity and crystalized, constitutes the diamond, but is better known as charcoal. In the latter form it is not quite pure, having a little ash mixed with it.

About one part in twenty-five hundred of the atmosphere is carbonic acid. This gas is once and a half as heavy as atmospheric air. When thrown into the air, its first tendency is to settle down into low places, as near the floor of a room, or into an open well, and consequently lives are sometimes destroyed by it, by descending into dry wells or into cisterns or vats in which liquors have been fermented. But a secondary tendency is to an equal diffusion of itself through the whole extent of the atmosphere. The air slowly takes it up and diffuses it through its whole mass. If you put a drop of alcohol into a barrel of water, it will mix equally with the whole. So with this gas in the air. If you put a few drops of strong vinegar on a piece of chalk, this gas will escape. First it falls to the floor, but soon will be taken up and equally diffused through the whole room.

Its proportion in the air varies a little at different times and places; but is generally, as we have said, about one part in twenty-five hundred. Growing vegetables are always drawing carbonic acid from the air. Other causes are constantly throwing it into the air, so that the above proportions are very nearly preserved. Now if the air contained much less, plants could not grow, for no plant can flourish without this gas; and if the air contained much more, animals, including man, could not live, for it is poisonous when breathed in much larger proportions than is usual. In future numbers we shall show how the air is kept constantly and certainly supplied with this gas to meet the wants of vegetation, and yet not over-supplied to the destruction of animal life.

Few subjects are more gratifying to a laudable curiosity, or attended with more valuable practical results, than that of the exhaustion of this gas from the atmosphere, its constant re-supply, and its influences on vegetable and animal life.

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN NOVEMBER, 1857.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Oct.	6 A.M.	1 P.M.	9 P.M.			REMARKS.
1	30	50	40	N.&S.	Cloudy.	Light rain at 9 P. M.
2	33	53	41	S. W.		
3	33	44	40	North	"	
4	31	47	36	South	"	
5	30	56	54	"	"	Rain commenced at 2 P. M.
6	52	62	55	"	"	Light rain in the evening at 8 o'clock.
7	36	56	54	"	"	Light rain in the morning.
8	56	72	65	"	"	
9	65	72	68	"	"	Very hard rain from 3 to 6 in morning. Small streams over the banks. Rain from 9½ P. M. to 2 or 3 in the morning.
10	40	43	27	West	"	
11	24	44	28	"	"	
12	26	50	45	South	"	
13	41	47	36	S. W.	"	Light rain in the afternoon.
14	30	29	24	North	"	Snow squall.
15	14	36	22	"	"	
16	19	36	35	South	"	Snow squall in the morning. Rain the afternoon.
17	34	38	34	North	"	
18	36	40	30	South	"	White hail in the forenoon.
19	39	39	29	"	"	Rain commenced at 10 o'clock and turned to snow.
20	16	22	14	S. W.	"	
21	18	29	25	S. E.	"	
22	29	35	21	S. W.	"	Snow squall in forenoon. [till 4 P. M.
23	24	42	28	South	"	Hard rain commenced at 11 A. M. and continued
24	22	25	18	S. W.	"	Snow squall in the afternoon.
25	8	18	15	N. W.	"	Susquehanna river froze over 4 miles above Owego.
26	17	25	14	North	"	
27	12	36	21	"	Clear.	
28	14	42	22	South	Cloudy.	
29	13	40	31	"	Clear.	
30	35	48	45	"	Cloudy.	

The storm of the 9th was the most severe ever experienced for the length of time of its continuance. Small streams over the banks. The force of the water was so great that logs and stones were moved that had lain more than twenty years. This storm could not be far above here in a south-east course, for the large creek running in that direction was not half-banks. In the evening of the 9th was a rain nearly equal to the one in the morning. These two storms took place at the same time as the great storm that inundated the central and west part of the State, and, as far as I can learn, lasted from 35 to 45 hours.

METEOROLOGICAL.

CHAPMAN'S PRECALCULATIONS.

FIRST DEPARTMENT.

EXPLANATORY.

VISION, (instead of being a faculty possessed and exerted at will on distant objects,)is simply a sense of feeling excited on the nerves of the eye by currents of electricity radiated or reflected from the object seen. Hence, light is identical with electricity, which, hence, instead of being confined to our earth, is the common property of the solar system.

The angles of incidence and reflection are *Positive* and *Negative* angles, inducing (with other causes) a successive series of positive and negative conditions of the atmosphere and elements.

THE TERM POSITIVE is here given to conditions abounding more with vital electricity, inspiring more health, vigor, cheerfulness, and better feelings for business, intercourse, etc., and consequently greater success, enjoyment, etc.

THE TERM NEGATIVE is given to those conditions which abound less with electricity, and consequently are more unfavorable to health, feelings, business, social intercourse, ets.

¶ Indicates Sundays.

FIRST MONTH, (January,) 1858.

Tendency. *Time o'clock*

1st, Negative, from 5 morn to 12 noon.
Positive, from 1 to 3 eve.
Negative, from 4 to 10 eve.
2d, Positive, from 1 to 8 morn.
Negative, from 5 to 10 morn.
Positive, from 11 morn to 12 eve.
3d, ¶ Positive, from 1 morn to 4 eve.
Negative, from 5 to 12 eve.
4th, Mixed, from 1 to 6 morn.
Negative, from 7 morn to 7 eve.
5th, Positive, from 1 morn to 4 eve.
Mixed, from 4 to 12 eve.
6th, Negative, from 4 morn to 2 eve.
Mixed, from 3 to 12 eve.
7th, Positive, from 1 morn to 11 eve.
8th, Mixed, from 1 to 11 morn.
Positive, from 12 noon to 12 eve.
9th, Positive, from 1 to 9 morn.
Mixed, from 10 morn to 2 eve.
Positive, from 3 to 12 eve.
10th, ¶ Positive, from 4 morn to 3 eve.
Negative, from 4 to 11 eve.
11th, Negative, from 1 to 8 morn.
Positive, from 9 morn to 12 noon.
Negative, from 1 to 12 eve.
12th, Positive, from 7 morn to 12 eve.
13th, Positive, from 1 morn to 12 eve.
14th, Mixed, from 6 morn to 12 eve.
15th, Mixed, from 1 to 6 morn.
Positive, from 7 morn to 10 eve.
Negative, from 3 to 12 eve.
16th, Negative, from 1 morn to 12 eve.
17th, ¶ Positive, from 1 to 10 morn.
Mixed, from 10 morn to 12 eve.
18th, Positive, from 3 to 8 morn.
Mixed, from 9 morn to 12 eve.
19th, Positive, from 1 to 8 morn.
Mixed, from 8 to 10 morn.
Positive, from 11 morn to 12 eve.
20th, Positive, from 1 morn to 3 eve.
Negative, from 3 to 12 eve.
21st, Negative, from 1 morn to 12 eve.
22d, Negative, from 1 morn to 5 eve.
Positive, from 6 to 7 eve.
Negative, from 7 to 12 eve.
23d, Positive, from 4 morn to 11 eve.
24th, ¶ Positive, from 3 morn to 7 eve.
25th, Positive, from 3 to 11 morn.
Negative, from 10 noon to 9 eve.
26th, Negative, from 2 morn to 12 eve.
27th, Negative, from 1 morn to 1 eve.
Positive, from 2 to 10 eve.
28th, Negative, from 6 morn to 1 eve.
Mixed, from 2 to 12 eve.
29th, Negative, from 1 morn to 12 eve.
30th, Negative, from 1 to 7 morn.
Positive, from 8 morn to 12 eve.
31st, ¶ Positive, from 1 morn to 12 eve.

SECOND DEPARTMENT.

The changes are four minutes *earlier* for each degree of longitude (60 miles) west. Difference of latitude in the same meridian is immaterial. The dry conditions are fair, and the damp conditions cloudy or wet, at least three or four times out of five in the average. When fair, the damp conditions diffuse a cool, damp sensation through the atmosphere.

Blanks indicate very weak, or mixed, or uncertain conditions.

¶ Indicate Sundays.

FIRST MONTH, (January,) 1858.

Time o'clock. *Ray-angle.* *Tendency.*

1st, At 2 morn B" wind stirring.
At 5 morn G, warm.
At 12 noon R" warm, dry.
At 3 eve V, cool.
At 10 eve G' warm.
2d, At 3 morn O, damp.
At 8 morn Y, warm, dry.
At 10 eve V" cool, damp.
At 11 eve Bv, cool, damp, windy.
At 12 eve O,, damp.
3d, ¶ At 4 morn G,, warm.
At 4 eve R,, warm.
4th, At 5 morn G' warm.
At 6 morn Y,, warm, dry.
At 11 morn B' wind stirring.
At 7 eve R' warm.
5th, At 3 morn V,, cool.
At 4 morn I,, cool, damp.
At 12 noon R, warm.
At 2 eve GV, cool, windy.
At 4 eve B,, wind stirring.
At 5 eve G" warm.
6th, At 3 morn I' cool.
At 8 morn V' cool, damp.
At 8 eve Y" warm, dry.
At 11 eve B' ——
At 12 eve YO, damp, windy.

7th, At 2 morn V, cool, damp.
At 7 morn VI,, cool, damp, windy.
At 10 morn G, warm.
At 11 eve O- damp.
8th, At two morn B" wind stirring.
At 7 morn · ——
At 10 morn G,, warm.
At 11 morn R" warm, dry.
At 12 noon Y, warm.
At 3 eve GR,, warm, dry.
9th, At 1 morn B, ——
At 9 morn G, warm, dry.
At 1 eve Y,, warm.
At 2 eve BO" damp, windy.
At 4 eve . ——
10th, At 2 morn I,, cool.
At 3 morn V" cool, damp.
At 12 noon . ——
At 1 eve B,, ——
At 3 eve .. warm.
At 11 eve Y' warm.
11th, At 8 morn I' cool, damp.
At 12 noon R. warm, dry.
At 10 eve O' ——
12th, At 6 morn R' warm, dry.
At 8 morn I. cool.
13th, At 4 morn O,, damp.
At 12 noon V, cool,
At 2 eve R,,· warm, dry.
14th, At 2 morn G- warm.
At 5 morn O, damp.
At 6 morn V' cool.
At 3 eve BV,, cool, windy.
At 12 eve Y-
At 12 eve I"
15th, At 1 morn YB-
At 1 morn B-
At 2 morn YI"
At 2 morn BI"
At 3 morn V,,
} See General Remarks.
At 2 eve YV,, cool, windy.
At 6 eve O" ——
At 10 eve R" warm.
16th, At 11 eve ..
17th, ¶ At 9 morn R, warm.
At 10 morn GO, wind stirring.
At 11 morn V" cool, damp.
At 8 eve I, cool.
18th, At 2 morn G' warm.
At 3 morn .. windy.
At 5 morn O,, ——
At 8 morn R,, warm, dry.
At 1 eve I' cool, damp.
At 8 eve V, cool.
At 10 eve Y' warm.
19th, At 3 morn GB- windy.
At 8 morn G,, warm, dry.
At 9 morn .
At 10 morn O'
At 5 eve I,, cool, damp.
20th, At 2 morn, end of the zodiacal period, or natural month.
At 4 morn Y,, warm.
At 7 morn G, warm, dry.
At 8 morn .. warm.
At 3 eve BO' windy.
21st, At 2 morn RO" windy.
At 10 morn B" wind stirring.
At 7 eve G" warm, dry.
At 10 eve I" cool.
22d, At 12 noon Y" warm, dry.
At 5 eve . ——
At 7 eve R- warm, dry.
At 9 eve O" damp.
23d, At 2 morn GI" cool, windy.
At 12 noon B,, wind stirring.
At 11 eve GV,. cool, damp, windy.
24th, ¶ At 2 eve B' wind stirring.
At 6 eve G, warm.
At 7 eve Y,, warm, dry.
25th, At 2 morn I' cool.
At 11 morn O, ——
At 9 eve Y' warm, dry.
At 12 eve . warm.
26th, At 1 eve Y, warm, dry.
At 12 eve R' warm, dry.
27th, At 4 morn YR" warm.
At 1 eve B" wind stirring.
At 7 eve R, warm.
28th, At 3 morn I- cool, damp.
At 5 morn V,, cool.
At 1 eve G" warm, dry.
At 12 eve V, cool.
29th, At 4 morn Y" warm, dry.
At 7 morn O" ——
30th, At 7 morn V" cool.
At 2 eve O, ——
31st, ¶ At 5 morn R,, warm, dry.
At 12 noon O,, damp.
At 11 eve B,, wind stirring.

—

GENERAL REMARKS.

Cool Periods, longer and more prominent, are more liable near the 7th, 15th.

Greater tendency to windy, cloudy or stormy periods, or gusts, near the 7th, 9th, 14th, to 16th, 23d, 24th.

Periods more prominently negative near the 9th, 14th, to 16th, 21st, 23d, 27th.

Periods of greater electrical deficiency 25th to 31st.

The number of combined and single currents intercepted on the 15th, is unusual. I judge that earthquakes, auroras, popular excitements, etc., will be more liable near the 14th or 15th.

Natural tendency of the zodiacal period from the 1st to 20th, dry.—From the 21st to 31st, damp.

Educational.

None have a higher stake in the educational interests of the country than the farmers and mechanics. They are not laborers in that offensive sense in which the term is known in other countries, and yet they are the real working men of ours. Of their position they are not ashamed. They have no reason to be. Most of them very wisely desire that their sons may follow their own or an equally useful profession. But they would be sorry that they should do this from necessity and not from choice. Far be the day when professions and employments shall become hereditary with us, as with many of the older nations, and when the son, unless possessed of extraordinary ability, shall have no choice but to follow the occupation of his father.

But what instrumentality shall prevent power and wealth, and place and station, and employment, and poverty even, and ignorance and degradation from becoming hereditary? We answer our public schools. Men in eminent positions will rarely fail to procure for their children high educational privileges. Their sons, if not destitute, as too often happens, of common sense and common prudence, will start in life with real, substantial advantages over the children of the poor and of the working classes generally, unless our public schools are made competent to give about as good an education as wealth can procure. When the son of a wood sawyer in one of our commercial cities carried off a hardly contested prize from the son of a merchant prince, it was a glorious promise that, however unequal one generation may become, the next shall start in life under circumstances of hope for all if such schools are maintained.

We would not be understood to say that the children of farmers and mechanics, and much less that those of the poor, should be *expensively* educated; but we do say that through the home influences and those of the public school, they must be *well* educated, their minds developed, a taste for reading formed, and ability *to think* given, or each generation will commence life more and more unequally. The son will follow the avocation of his father whether fitted for it and relishing it or not, and our republican institutions will yield to others that provide specially for the few, and care little for the many, except to make a convenience of them.

On the great producing classes of this country, and especially on the farmers, rests the question, whether education, through our public schools, free to all shall be general and of that high and thorough character which alone can make our descendants, as our fathers were, capable of self-government, or whether, while our fathers wrested the sceptre from tyrants, our sons shall suffer a yoke to be put upon their necks.

CHILDREN'S CORNER.

Flowers are rather out of season just now, but we always think of them when we think of children, and here they are

—emblems of Spring. Well, those for whom we write are in the spring-time of life, and so flowers are in good time, though it be the dead of winter.

The weather for some time past has been spring like, and some of our boy readers, not so far off but that we seem to see them, have been playing at marbles.

One of them is a strong, vigorous boy, about ten years of age. His name is William. We might here tell what a noble hearted boy he is, how obedient to his father, how kind to his mother, how loving and gentle to his younger brothers and sisters, and how everybody likes him—but let his actions speak for him. The world judges boys, as it does men, very much by their actions; and it is no uncommon thing to judge of looks very much by the same rule, for although William has not what would be called a handsome face, having a nose of rather huge dimensions, thick lips, a little too much rolled, and not a very smooth forehead, yet everybody says, what a fine looking fellow he is. This is because his conduct wins for him a favorable judgment. But let all this go.

William is playing marbles with some other boys. One of them is named Samuel. He is a beautiful boy, as any one would say, on seeing him for the first time; tall, straight, with symmetrical features, and a faultless complexion. Yet those who know him best, have hardly observed this. He is selfish; often he is abusive. If another boy says or does what can be interpreted into an insult to him, it is too much to be borne. If he insults another boy and gets a flogging for it, he thinks himself very badly used; and when people see him, they do not think so much of his fine looks as of his selfish acts, and so they hardly find out that he is really handsome.

While the play is going on, and William is stooping down to throw his marble, Samuel by a sudden movement pushes him over. Had William done the same to him, it would not have been easily forgiven. But as William knew his temper pretty well, he concluded, after brushing off the dust to let it pass.

Samuel attempts the same thing again, but William saves himself by a sudden spring, and Samuel pitches into the dirt. He jumps up, and without stopping to brush himself, thinks only of revenge. With an "I'll pay you for that," he rushes at William, and if he had been strong enough no one knows what would have followed. But William keeps cool, and only defends himself, till Samuel has worried himself out in fruitless attempts at him, and then goes off home to tell his mother. Whether his mother has the good sense to ferret out of him the whole truth and then to administer a reproof that should make him ashamed of himself, is more than we know. But the boys all said that Samuel was a mean fellow; that William had used him bet ter than any other boy would have done; and everybody, who has seen as much

of boys as we have, knows that their opinions in such matters are very apt to be about right.

LESSON IN SPELLING.

WRITE, we know, is written right
When we see it written *write;*
But when we see it written *right,*
We know it is not written *wright;*
For *write,* to have it written right,
Must not be written *right* or *wright,*
Nor yet should it be written *rite,*
But *write;* for so 'tis written *right.*
Old paper.

ENIGMA.

I AM composed of 23 letters.

My 7, 12, 3, 14, 21, 6 and 19 is the name of a country.

My 5, 8 and 22 is a hotel.

My 3, 8, 18, 5, 22 and 13 is a very useful machine.

My 9, 17, 4, 16, 23 and 11 is a cultivator.

My 11, 10, 20 and 3 is to erase.

My 1 and 15 is ancient coin.

My 2 and 13 is myself.

My whole is not far off.

Domestic.

THE SMITHSONIAN AQUARIUM AT WASHINGTON.

A FINE marine aquavivarium, or aquarium, has been prepared at the Smithsonian Institution, where the public can now inspect its curious contents. It is said that an eminent French zoologist, in order to prosecute his studies on marine animals of the Mediterranean, provided himself with a water dress, glass helmet and breathing tubes, that he might walk about under water and mark the habits of the various creatures pursuing their avocations. Any one who will visit the Smithsonian aquarium may enjoy the same opportunities, and become acquainted with the strange animals and plants of the sea without diving to gaze on them.

The aquarium is simply a glass tank, erected on a table, and filled with seawater, in which flourish marine plants and animals without any aid, or even changing the water.

The bottom of the Smithsonian aquarium is an imitation of the bottom of the sea, composed of silver sand, coarse sand and pebbles. In the center is a mass of rock, giving shelter and concealment to such animals as like concealment, while jotted about are growing specimens of fuci and algæ. In this miniature ocean cave are about three hundred specimens of animal vitality, belonging to some thirty-eight species of fishes, molluscæ, crustacæ and polypes. Some of these burrow in the sand, or modestly hide among the pebbles; others, like the hermit crabs, having taken possession of vacant suits of submarine armor, flourish about belligerently, ready for a fight. Some are perfectly transparent, like animated particles of jelly; others are enshrined in their shells. The curious "horse-fish" paddles about with his filmy dorsal fin; and a lethargic clam protrudes its siphons, enveloped in a shaggy fringe; a solitary flounder was evidently annoyed when rooted out, and immediately burrowed himself again in the sand; while two pugnacious crabs fought gallantly over an *amphitrite auricoma,* which had been obligingly sacrificed that we might see its golded combs.—*Washington Union.*

THE DIGNITY OF PRAYER.

BY ARCHBISHOP LEIGHTON.

CONSIDER the dignity of this, to be admitted into so near converse with the highest majesty. Were there nothing to follow, no answer at all, prayer pays itself in the excellence of its nature, and sweetness that the soul finds in it Poor fallen man, to be admitted into heaven while he is on earth, and there to come and speak his mind freely to the Lord of heaven and earth as his friend, as his father!—to empty all his complaints into his bosom, to refresh his soul in his God, wearied with the follies and miseries of the world. Where there is anything of His love, this is a privilege of the highest sweetness, for they that love, find much delight to discourse together, and count all hours short, and think the day runs too fast, that is so spent. And they that are much in this exercise, the

Lord does impart his secrets much to them.

GRAPE WINE.

Express the juice, as with the cranberries, washing the pulp in the same manner; the liquor will be about one-tenth part water. Add sugar, three pounds to a gallon of juice, and ferment as before.

We have before us a sample of wine made from each of these recipes. The cranberry and barberry wines make a very pleasant drink when mixed with about four or five times the amount of water. The other two kinds are excellent in their present state.—*N. E. Far.*

SALERATUS.

Use as little of this pernicious article as possible about your household; every particle taken into the stomach is injurious to the natural functions. This has been proved beyond doubt by careful tests among chemists.

TO MAKE CRACKERS.

Two cups of flour, one cup of butter, (or half lard and half butter,) two cups of water, two teaspoonfuls of cream of tartar, one teaspoonful of soda, and a little salt. They require only a common kneading and are very nice.

THE BEST.

Never grow a bad variety of anything, if you can help it. It takes the same room, and wants the same attention as a good one. Never buy cheap seed. Never waste animal or vegetable refuse. The very soap-suds from the laundry are rich manure.

CORN HUSKS FOR UNDER BEDS.

Corn husks for this purpose are too generally undervalued. Those who have used such beds for a number of years speak of them as light, cleanly, durable and generally superior to under beds made of any other material. The estimate of the value of one such bed made by a lady in a village, who had been brought up in a farm house in which several such were in use, and who offered a farmer acquaintance five dollars for one well filled, was probably not an extravagant one. And if of this value, might not the labor of children, as also of men and women not more advantageously employed, be profitably used in taking care of the husks for this purpose? Those who may be induced to make a trial of this mode of converting husks into most desirable articles of household comfort and convenience, should be particular about excluding all the outer and stiffer husks, allowing none to be put into the bed save the softer and smaller ones. Some strip them with a fork, while others, with whom we should agree, use them whole.

A MOTHER'S LOVE.

In some spring freshet, a river widely washed its shores and rent away a bough, whereon a bird had built a cottage for her summer hopes. Down the white and whirling stream, drifted the green branch, with its wicker cup of unfledged song; and fluttering beside it, as it went, the mother bird. Unheeding the roaring river, on she kept, her cries of agony and fear piercing the pauses of the storm. How like the love of the old-fashioned mother who followed the child she had plucked from her heart, all over the world. Swept away by passion, that might be, it mattered not; bearing away with him, the fragments of the shattered roof tree, though he did, yet that mother was with him, a Ruth through all his life, and a Rachel at his death.—*Lamartine.*

PUMPKIN BATTER.

Wash the pumpkins clean, take out the seeds, and scrape the inside out with a strong iron spoon. Boil till soft, and rub it through a coarse sieve. When strained, put it into a kettle and boil slowly all day, stirring it often. Put in a large handful of salt. When nearly done, add a pint of molasses, or a pound of sugar, to each gallon of pumpkin. Before it is quite done, add allspice, cinnamon, ginger and nutmeg, one or all, as you may fancy. Put it into jars when done—large ones are best. Tie it up tight, and it will keep until April or May, in a cold place, if you scald it when spring comes on. It is a good sauce for table use, and is always ready for pies, with the usual addition of salt and milk. It is much less trouble, and far better than dried pumpkin.—*Gran. State Far.*

Editor's Table.

Progress—the steady and earnest effort onward—may well be selected as the distinguishing feature in American character.

To assist that effort, to ease the difficulties that beset the traveler, and to point out the straight road where crossways meet, should be the watchful duty of the journalist, whatever be the objects to which his lucubrations are devoted.

We are not without hope, judging from the testimony of our numerous friends, that our past efforts in the pages of this journal have given a firm helping hand to many a farmer, and answered the expectations of other readers who turned over our pages for information. Yet if we have satisfied our readers, we have not always been successful in pleasing ourselves. For as month by month has rolled on, and we have become acquainted with the wants of our friends from their numerous letters of inquiry, we have ever and anon felt regret that we could not anticipate all their requirements. Nevertheless we have thence at least gained experience; and therein we trust we have the ground-work for more amply supplying for the future the wants of every class of our readers.

With this object in view we have, upon entering on our editorial duties for the new year, determined in some measure to remodel the arrangement of our journal, in such a way that whilst on the one hand no important feature of it has been omitted, on the other the various topics discussed have been so classed together and separated the one from the other, that every class of our readers will be enabled at all times to turn readily to the subjects that for the moment become the special matter of interest to them.

The pages of this number will show the method that has been adopted, and the same order will be observed in the subsequent numbers.

Our improvements are not confined, however, to merely typographical arrangement. We have made engagements which will enable us to present our readers with a series of articles of a popular, but at the same time, scientific character, connected with agriculture and horticulture which, whilst they will be written with special reference to *practical* utility, will also afford our readers the opportunity to become acquainted with the scientific principles upon which the practice depends. The importance of such knowledge can only be fully appreciated by those who possess it; but when presented in the familiar aspect in which we hope to place it before our readers, we feel much confidence that it will prove as acceptable to them as it will afford pleasure to us to impart it. The man who does a thing right without knowing *why*, may be a lucky man; but the man who does right and *knows why*, is a wise man, and moreover can then repeat his past practice.

Many a *lucky* farmer would be more lucky still if he were a *wise* one. Though far from *wise* in all things ourselves, we should be unfit to fill our editorial chair if we could not teach something at least to *some* amongst our readers.

We are able to promise our readers an article which we believe will be of very great value, in our February number, from Capt. Ralston, Veterinary Surgeon in the British Army, on the structure of the horse's foot, and its requirements, with regard to shoeing.

The subject of veterinary surgery is one of great importance, and one which has till of late been sadly neglected in this country. We are glad to learn that Capt. R. has recently lectured on the

subject in this city, that his lectures are highly appreciated by good judges of such matters, and that he proposes to lecture in other places, if desired. His lectures are accompanied with admirable illustrations of the organism of the horse, and are eminently scientific and instructive, as we are informed by persons on whom we rely.

J. W. Field, an eminently successful cultivator of the pear in Brooklyn, we learn, is about to come out with a book on the cultivation of this fruit, which we have no doubt will be a very valuable work. It is in process of publication by A. O. Moore, 140 Fulton street, N. Y.

TO OUR OLD SUBSCRIBERS.

We have more to say in another place. We will only say here, that as we have lowered our price from $3 to $2 for single copies, and to $1 50 for clubs, and as we now offer to send it to such as can not conveniently club with others in order to economize in these hard times, seven months for $1, fifteen months for $2, and two years for $3, we hope they will not complain of our urgency to adopt the cash-in-advance principle. Low prices and pre-pay, is the order of the day. Well, we have lowered our price, and now you will come in to the cash system. Let us hear from you this month.

Miscellaneous.

THE PAST YEAR AND THE PRESENT.

BY SENEX.

Some fifty years ago there lived in a famed but distant city an old man, by who dint of tact, with the aid of keen perceptive faculties, had acquired much celebrity with a large class of his neighbors as something between a prophet and a fortune-teller. He did not, however, assume the character either of a religious fanatic or of a crafty disciple of Dr. Faustus. But he was well read in the Scriptures, he had a good share of common sense, and a voluble tongue, and by degrees he acquired a fame for wise sayings and for capability to advise, which he owed more to his natural talents and a loquacious disposition than to any less worthy means. Being advanced in years, and his lot humble, he turned the good opinion formed of him to the account of his livelihood, by discussing questions put to him by his visitors in a frank and manly spirit, and without ever demanding recompense, he was ready to receive any gratuity that was offered by them on their departure. Moreover, his advice was always if not valuable at least good in kind; and few if any quitted his humble dwelling without leaving their good wishes in a substantial shape; or without having also formed a favorable opinion of their mentor.

So considerable became this good man's fame, at length, that many from curiosity alone were induced to visit him, and hear his "wise sayings."

His counsel was usually couched in short and terse sentences; frequently in proverbs, and often too in the language of the Bible, to which he would sometimes refer his inquirers for passages that would be found applicable, he stated, to their case. As these passages were usually selected from the Proverbs and other portions of somewhat similar description, which contained some rule of morals, or which advocated Christian duty, he seldom failed to be right.

Amongst others who were led by curiosity to this wise man was a young farmer, then not long entered upon the threshold of life, whom after some of the Scripture references above adverted to, he dismissed with the parting advice, "To keep a smiling countenance and a good exertion."

The young farmer lived to become an old man, and is now gathered to his fathers! But for many years the writer of this article heard him from time to time revert with pleasure to his visit, and say

that this simple aphorism had frequently cheered him in the hour of difficulty, and that the thoughts of the old man's contented countenance and encouraging voice when he uttered it, had gone far to make him place confidence in his counsel.

The past year has been one to many of much pain and distress, to most of great anxiety and labor. The signs of the times have called for unusual exertion both of body and mind. And now that the waves of adversity which have thus ruthlessly swept over our country, have, we may reasonably hope, spent their violence and given way to less turbulent billows that require yet time to settle down into the calm of every day life, let us look around, survey the ravages of the past hurricane, and see whence we can best place our foot as the starting point for our onward course of duty.

Firmness of principle, and courageous determination must be the banner under which we renew the fight; can we do better then than take our old man's counsel? "To keep a smiling countenance and a good exertion."

Let those amongst us who have lost, in the late struggle, much, may be all, of their hoarded treasures, reflect on the blessings still spared to them.

Who that has a healthy, cheerful wife to share his sorrows as she does his pleasures would wish to regain his worldly loss at the price of her languishing frame stretched out upon the bed of sickness?

Who that rejoices in a son springing forth into manhood, a blessing to his father, the joy of his mother, would regain his worldly loss at the cost of that boy's debasement in vice and debauchery?

Who that has a sister or a daughter, happy in the innocence of blooming youth, the pride of his eyes, the sharer of his hours of recreation, and his Sabbaths, would regain his worldly loss at the price of her fall from honor to despair?

Too prone are we all to brood over the clouds of our atmosphere, and too little do we keep the eye of hope fixed on the first sun-beam that pierces through to disperse them. Some slight glances at a blacker picture still, go far to deck in brighter hues the one that is now our own.

With "a smiling countenance and a good exertion," let every one of us, be his lot cast as it may chance to be with either the Plough, the Loom or the Anvil,—put forth manfully his powers, and thankful for the blessing yet spared, be it our effort in our worldly duties to follow the example set us in higher things, "forgetting those things that are behind, and reaching forth unto those things which are before, let us press towards the mark for the prize;" and if we thus demean ourselves we shall not fail, in earthly any more than in spiritual things, to obtain our reward.

Let one and all then commence this good new year resolving throughout its course "To keep a smiling countenance and a good exertion."

WHO LIVETH?

'Tis he who heals the wounded breast
And wipes away the mourner's tear—
Whose words of tenderness flow forth
As fountains in a desert drear—
Upon whose lip Eternal Truth
Sits 'mid a world of sin and shame—
Presiding in perpetual youth,
She breathes a dying Savior's name.

'Tis he who stamps upon his brain
The lore of glorious aged flee—
Holding high converse with the Past,
And dwelling with the mighty dead!
Stealing true inspiration's fire
From Suns that never can go down;
Chained to his task with iron zeal,
And wearing Labor's thorny crown.

'Tis he who strikes Apollo's lyre,
Whose burning songs can never die—
That echo through the vast of years,
As angel's anthems through the sky,
Who girt by woe and want and pain,
In a dark wilderness of years—
Wins an imperishable name—
A broken hearted Man of Tears.

CONUNDRUM.

Why are the females of the present day like the lilly in the scriptures?

Because "they *toil* not, neither do they *spin;* yet Solomon in all his glory was not arrayed like one of these."

Very true of a part of the sex, and it is a shame that it should be so, but not true of the sex in the aggregate, nor true comparatively with the other half of the race. From the felling of the first tree and the building of the first cabin on this continent

to the present time, when we have become a great country, woman has nobly born her part, has endured and toiled, has wrought her full share of our present greatness. This being so, the more's the pity that there should be such miserable exceptions, as give point and force to the above conundrum.

EMPLOYEES.

As the following relates to a matter of general interest we gladly give it a place in accordance with the request of Mr. Brace, Secretary of the Children's Aid Society:

TO HOUSE KEEPERS AND FARMERS AT THE WEST.

It has long been the greatest complaint with housekeepers at the West, that sufficient female help could not be obtained. There are now in our city thousands of industrious, sober girls, of good character, who are thrown entirely out of employment. Many of these are desirous of going to the West, and becoming house servants or domestics.

The difficulty has hitherto been, to find some responsible medium to connect those without work and those wanting work done. The CHILDREN'S AID SOCIETY has determined—though the effort is somewhat out of its usual field—to attempt during this season to connect this supply and demand. To do this, and to aid these thousands of poor girls, the West must also lend a hand. They must not expect well-trained servants in these girls, as they are not accustomed to house labor; still they are willing and able to learn, and only need patience and kindness. Every allowance should be made for mistakes and delays in the beginning of such an enterprise. Those applying must send the fares, as far as they are able; in all cases the Society will return the money if no girl is found to answer in general the description forwarded. Let not that, which is said to have broken down all previous enterprises of this kind, ruin this—the utter neglect of the West itself to give a helping hand. It is an effort to benefit both sides; the unemployed here, and the families there.

All letters must be addressed to Branch Office, Children's Aid Society, Clinton Hall, Astor Place, New-York.

The applications enclosing fares will always be attended to first. There will be an understanding, and, if possible, a written agreement with each girl, that her fare is to be deducted from her wages.

Parties applying will state exactly their wants, the wages offered, their town, county and State, and the cheapest and best way of reaching the place. References from the clergyman, magistrate, or other responsible persons of the town will in all cases be demanded. It will be the endeavor of the Society to send out none but girls with good references, and who are represented to be of good character.

C. L. BRACE, *Sec.*

LECTURES.

THE long winter evenings are fast approaching, and still the question of a course of lectures, whether we shall have them or not, is unsettled. We are informed by the committee, that about one hundred dollars more is necessary than is now subscribed, in order to warrant them in going forward and making the necessary arrangements for a complete course of lectures. We know the times are hard; but because they are so, shall we deprive ourselves of either food for the body or food for the mind? There is scarcely a person of any grade of intellectual capacity, but would be instructed and amused double the value of the cost of a ticket. Every man who has a family should purchase tickets for them, and as we stated last year, no young single man can better show his liberality and gallantry than by purchasing tickets for *two*, and inviting a lady friend to share the mental feast.

We copy the above from the *Brockport Republic*, not because we suppose that village behind all others in the matter of instruction by lectures, but because we fear that many villages are behind that; and we say to parents, provide this instructive amusement, or amusing instruction, whichever you please to call it, for your children. Get some of the favorite lecturers. It is a great treat to hear an Everett, a Phillips, or a Symmes. But get more lecturers, who are sensible and sufficiently amusing, and will lecture these hard times at cheaper rates. Why should not all courses of miscellaneous lectures embrace at least two on agriculture and one or two on the mechanic arts? Surely these subjects are not without interest.—ED.

CLEANING SADDLES, ETC.

THE following is a good recipe which will give saddles and bridles a good polish, and be entirely free from all stickiness:—The whites of three eggs evaporated till the substance left resembles the common gum, dissolved in a pint of gin, and put into a common wine bottle, and filled up with water.

LEAVES AS MANURE.

No manure is so well worth saving in October and November as the now falling leaves of the season. According to Payne they contain nearly three times as much nitrogen as ordinary barn-yard manure; and every gardener who has strewn and covered them in his trenches late in the fall or in December, must have noticed the next season how black and moist the soil is that adheres to the thrifty young beets he pulls. No vegetable substance yields its woody fibre and becomes soluble quicker than leaves, and from this very cause they are soon dried up, scattered to the winds and wasted, if not now gathered and trenched in, or composted before the advent of severe winter.—*Ex.*

The value of leaves is rather overstated in the above. Nevertheless they possess a great value. Those about the premises should be thrown into the pig-pen or the barn-yard, or what is better, preserved for litter in the stalls. In an open forest, with no under-brush, they may be drawn into large heaps, with great facility, if taken when wet after a rain, by a yoke of cattle and a scraper made from a plank 10 or 12 feet long and one or two wide, and cleats nailed across for handles. An ingenious man will make such an implement while the boy is yoking the oxen. An immense quantity can be gathered in a day; and if a little lime be mixed with them, they will be ready to compost in the spring; but it should be remembered that the forest trees will suffer by taking off their natural aliment.—Ed.

GOOD ADVICE TO FARMERS.

The following beautiful passage is from George Bierce's late address at Twinsburg. His closing is peculiarly beautiful:

Let the farmer's motto be, then, "good farms, good stock, good seed and good cultivation." Make farming a science in which your heads as well as your hands are employed; let there be system and reason in all your operations; study to make your farms beautiful and your lands lovely; entice, by kindness, the birds to visit and cheer your dwellings with their music; I would not associate with the man or boy that would wantonly kill the birds that cheerfully sing around our dwellings and our farms; he is fitted for treason and murder. Who does not, with the freshness of early morning, call up the memory of the garden of his infancy and childhood? the robin's nest in the old cherry tree, and the nest of young chirping birds in the currant bushes? the flowers planted by his mother, and nurtured by his sisters? In all our wanderings the memory of childhood's birds and flowers are associated with our mother and sister and our early home. As you would have *your* children intelligent and happy, and their memory in after life, of early home, pleasant or repulsive, so make *your* farms and *your* children's home.

BE GENTLEMEN AT HOME.

There are few families, we imagine, anywhere, in which love is not abused as furnishing the license for impoliteness. A husband, father, or brother will speak harsh words to those he loves best, and those who love him best, simply because the security of love and family pride keeps him from getting his head broken. It is a shame that a man will speak more impolitely, at times, to his wife or sister, than he would to any other female except a low and vicious one. It is thus that the honest affections of a man's nature prove to be a weaker protection to a woman in the family circle than the restraints of society, and that a woman usually is indebted for the kindest politeness of life to those not belonging to her own household. Things ought not so to be. The man who, because it will not be resented, inflicts his spleen and bad temper upon those of his hearth-stone, is a small coward and a very mean man. Kind words are circulating mediums between true gentlemen and ladies at home, and no polish exhibited in society can atone for the harsh language and disrespectful treatment too often indulged in between those bound together by God's own ties of blood, and the still more sacred bonds of conjugal love.

RICE MILK.

Wash a pint of rice in two waters. Add half a pound of good raisins carefully picked and cleansed, and boil well; pour off the water, and mix one quart of rich milk with the rice by stirring. Put again on the fire, and allow it to boil again for five minutes, and mix with it four table spoonfuls of brown sugar, and two eggs beaten light stirring well, and after the ingredients are thoroughly mixed, boil for five minutes longer, and the dish is ready to serve.

☞ Sunflower seeds are said to be the best known remedy for founder in horses. As soon as ascertained he is foundered, mix one pint of the seed whole with the feed, and an entire cure may be expected.

GREAT ENTERPRISE.

A GIGANTIC enterprise is now going on in Holland, being nothing less than blocking up two arms of the sea, and replacing them by a navigable canal for merchant vessels of the largest burthen. By this operation an extent of land of 14,000 hetares (35,000 acres,) of the finest quality will be gained from the Scheldt. This canal, which will be completed in the course of two years, crosses the island of Sud-Beveland, between the villages of Hanswert, on the western branch of the Scheldt, and Wemerdins on the eastern.

SOUP, BEEF TEA, MUTTON BROTH, ETC.

IN the preparation of these, our object is the reverse of that which has been previously considered. We desire to take the nutritive and savory principles out of the meat, to a liquid extract of meat, in the form of soup, broth or tea; the flesh is finely chopped and placed in cold water, which is then slowly heated and kept boiling for a few minutes, when it is strained and pressed. In this manner we obtain the very strongest and best flavored soup which can be made from flesh. Liebig says: "When one pound of lean beef, free of fat, and separated from the bones, in the finely divided state in which it is used for beef-sausages or mince meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and fibrin, now become hard and horny, we obtain an equal weight of the most aromatic soup of such strength as can not be obtained, even by boiling for hours from a piece of flesh." To make the best article it is desirable not to boil it long, as the effect is to coagulate and render insoluble that which was extracted by cold water, and which should have been dissolved in the soup. It is obvious from what has been said, that a piece of meat introduced undivided into boiling water, merely thickens and apparently enriches the soup. This is effected by the gelatin, which is gradually extracted from the tissues, bones and other parts, but in a nutritive point of view, this ingredient is a fiction, as will be shown. Soup making is a kind of analysis of alimentary substances used in its preparation —a part is taken and a residue usually rejected. Yet it is clear that we shall have the completest nourishment by taking both parts, as the fibre of meat and the softened peas and beans of their respective soups.

FORNWALDER.

THE true name of the apple which a correspondent in Upper-Merion asks for, and which he says is sometimes called Fall of Water, Fallawater, Polly Wolly, Fally Wolly, etc., is *Fornwalder*. It was originated by a man so named, near Reading, Pa.

☞ SANDY land is productive in proportion to the amount of fossils in the rocks of which the sand is made; but it is, in all cases, leachy, and requires lime, clay and ashes to puddle it; otherwise manure will soak through, and do but little good.

OUTSIDER IN.

IN a country playhouse, after the play was over, and most wretchedly performed, an actor came upon the stage to give out the next play. "Pray, what is the name of the piece you have played to night?" said a gentleman. "The Stage Coach, sir." "Then let me know when you perform it again, that I may be an outside passenger."

THE BERKS COUNTY (PA.) SHOW was a great success. It lasted four days, and more than *four thousand dollars* was received at the gates! It is spoken of as the best county fair ever held in the State. Bravo!

Monthly Review.

THE weather to this time, Dec. 27th, has been remarkably mild, with none or few storms. Here in New-York we should hardly know it is winter but for the almanac. As there are more of the improvident and the poor here than almost anywhere else this is a great mercy, and should be so regarded at this time of general depression, when employers are living, if at all, on past earnings, when many who have heretofore contributed to the general beneficence are utterly unable to give, and

when some, whose charities have been wont to flow in a broad stream, are now themselves almost the objects of charity.

But the times are brightening. Money is beginning to show itself. Business, though dull at present, will soon revive. The factories are letting on the water or steam, and setting the machinery in motion. Men out of employment will soon be earning their living, and contributing to the general wealth. If the signs of returning activity and confidence do not prove fallacious, as some predict, but as we hope will not be the case, it will be a remarkable proof of the energy of the American people; for if we can easily outride the tempest created by our exhorbitant issue of paper money and our consequent extravagance, and over-trading, and too fast living, it would seem as if we were equal to any emergency.

Crime, it must be admitted, is rife among us. No less than four men are now under sentence of death in this city, and we believe that if all who as richly deserve hanging were to experience it, the number would be forty instead of four. But when we consider what an asylum our country is for vagabonds from other lands, and that a large share of the atrocities over which we mourn are perpetrated by men trained under other forms of government and other religious arrangements than our own, the abundance of crime and rascality need not shake our confidence either in republican institutions or in religious freedom. It is doubtful whether crime, as confined to native Americans, those who have grown up under the influence of civil and religious liberty, is on the increase. We hope it is not, and that future developments will fully vindicate our institutions against the charge of a demoralizing tendency, which certain parties abroad would fix upon them.

There is always a tendency to compare the present unfavorably with the past. Homer's heroes at the siege of Troy could tell of greater heroes in a previous age. It has always been so; men were larger, stronger, better in the olden time. So tradition has always said, but has not always said it truly. We do not believe we are degenerating, growing old, decaying so fast as the *London Times* and some other foreign journals would have the world believe. There is some reason to suspect that they wish to have it so, and that the wish is father of the thought. Nevertheless we shall do well to heed the warnings. Every American citizen should feel that he has something to do in deciding our future, whether we are to be a virtuous, intelligent, moral and religious people, capable of self-government, or to be ignorant, immoral and debased, fit only to be the subjects of a despot. If one thing is more evident than another, it is, that without the just restraints of religion, without morality, without a high toned respect for integrity of life, no people can long avoid the pressure of a tyrant's foot.

England, as the intelligence of the last month has come in, stands fully vindicated on the score of bravery. But alas, that her men in power should have thought it necessary to be more revoltingly cruel than the sepoys themselves. That the latter deserved to be blown into shreds before the cannon's mouth, there is little doubt. But why should Christian England exercise such implacable revenge? Would she drink water, like her Druid ancestors, from the skulls of her enemies? Ler her remember that the East Indians have some reasons for hating her. We remember hearing it shown by one of her lords, in the House of Peers, that the excise on salt had been so high for more than twenty years that the people there were compelled to forego its use—were actually driven from the privilege of evaporating their own sea-water, and eating salt on their meat. There is something to be said for the rebels. Let England remember this. If her people do not raise one long, loud, distinct voice of dissent from the revengeful cruelties of her army, we shall be more glad than ever that we are far from the swoop of her power. Englishmen have often told us that the present, living England is not the same England that inflicted direful cruelties on our fathers, and that would have hung our best men as traitors if she could have got hold of them; and we have been inclined to believe it; but if her peo-

ple consent to the late doings of her brave army, we shall fear that England is not much better now than in the days of Lord North and George III., and we shall thank God more fervently than ever that we are not in her power. We confess to a disappointment in hearing no more signs of dissent from the people to the tragedies in the East after victory, but, perhaps, it is only because we have had little time to read the news. The English government is not the god of all India. Why do not the English people tell it so, loud enough for all the world to hear?

Agriculture has received a check for the present in the low prices of agricultural products. Our sympathies are with the farmers. The calculations which they made when putting in the seed will not be verified. But after all are they better off than others? Let them remember that not a few profit by lower prices than we have had for the past few years; and let them build their future hopes rather on cheap production than on high prices, and the present discouragement may in the long run redound to their benefit.

The people of this great city seem to be enjoying the holidays as if nothing had happened. Some will, undoubtedly, receive less costly presents than usual. Many, who have been accustomed to make princely gifts, will now be compelled to ask that the *will* be taken for the *deed;* and if there is good will—love and friendship sincere—it will be about as well, and all will be happy. May our friends be so all over the country.

Markets.

NEW-YORK STOCK MARKET.

The average number of beeves brought to the market of New-York weekly is 3548. Number for week ending December 15, 2972; for the week ending December 22, 2497. Prices, former week, from 6½ cents for the poorest to 10¾, for the best, averaging from 8¼ to 8½; for the latter week, from 7 for the poorest to 11½ for the best, averaging a trifle higher than previous week. Beef cattle were sold in this market by the weight of the four quarters, rejecting the fifth quarter, as it is sometimes called, the hide and tallow.

It is common here to estimate the weight of the four quarters, when cattle are sold by estimate, as 56 lbs. to 100 lbs. of live weight, in medium cattle, but more in those above medium and less in those below.

Thus, if an ox weighing 800 lbs. of beef, hide, 100 lbs., and tallow 100, if sold here for $100, would be quoted at 12½ cents, the price he brings per pound, reckoning only the four quarters; whereas if the same ox were sold in Boston or some other city, where a different practice prevails, for the same price, the hide and tallow would be reckoned in, and the quotation would be 10 cents per pound.

A person not acquainted with these facts would be led to suppose that beef in Boston was always from 2 to 3 cents per pound lower than in New-York, whereas it is probably higher in Boston, the average of beeves taken to that market, bring, we believe, a little better than of those brought to this.

Milch cows, with calves at their side sold last week for $25 to $30 for common; $40 to $50 for good; $50 to $60 for extras; and a trifle higher this week.

Veal calves sold last week at 4½ to 7 cents per pound, live weight, according to quality; this week at the same, or a trifle more.

Last week sheep and lambs sold from 6 to 10 cents per pound, net weight. A considerable advance upon the previous week. This week mutton is coming in plentifully, and prices remain just about the same as last week. Sheep will dress, if fat, 55 lbs., and sometimes as high as 60 lbs, 100 lbs. live weight. Usually about half.

The price of swine last week was about 5½ cents, gross, and from 6 to 6⅜, net, for corn fed. Market not as well supplied this week, and prices advancing.

Recent Patents.

CHURNS.—Benjamin Beers, of New-Fairfield, Conn.: I claim a rotating dasher with spring floats, constructed and arranged substantially as described, so as to churn the cream and work the butter, substantially in the manner set forth.

CORN PLANTERS.—J. H. Bonham, of Elizabethtown, O.: I claim a conical seed reservoir, G, in combination with the caps or disks, A, figs. 4 and 8, operated by the handle, x, and constructed and arranged in the manner and for the purpose set forth.

I also claim the conducting spout, F, in combination with tilting pins, I, and block or bottom, E, constructed and arranged as set forth.

CUTTING APPARATUS OF MOWING MACHINES.—Chester Bullock, of Jamestown, N. Y.: I claim first, The mode described of attacking the cutters to guard teeth, and to the cutter bar, in combination with the shortening lip, b, by which I am enabled to readily detach said cutters for grinding or for other purposes as set forth.

Second, A hollowed cutter, so arranged in connection with other parts as to present the same or nearly the same cutting angle in every part of the stroke, when the teeth are hinged to their axes, a, forward of the cutting parts as set forth.

TREATING HEMP, FLAX AND OTHER FIBROUS MATERIAL.—J. W. Burton, of Eye, England, and George Pye, of Ipswich, England. Patented in England March 20, 1856: We do not claim merely heating or boiling fiber in water.

But we claim the described mode of treating flax or fibrous matters requiring like treatment, the same consisting in subjecting such as described to the action of a press, and to water impregnated with Fuller's earth and heated or boiled.

SEED PLANTERS.—James Carroll, of Laporte, O.: I claim the employment of the handle, B, furnished with a discharge passage, in combination with a slide, f, which has a hand trigger, n, and with the peculiar conducting tube, A, which is furnished with shares, a a, substantially as set forth.

PLOWS.—Jarvis Case, of Springfield Ill.: I claim hinging the tongue to the beam of a plow, and extending a lever or lever seat, from one to the other, so that the driver mounted on the plow may, by said lever, throw the plow or plows out of the ground, as set forth.

I also claim supporting the front of the beam on the center of an axle, c, supported in wheels, c c, so that said beam may be raised or lowered on said axle, but not affected by the passing of said wheels over the rough ground, as set forth and explained.

AGRICULTURAL FORKS.—Charles Clow, Abram Clow, and Charles N. Clow, of Port Byron, N. Y.: We are aware that manure forks have been constructed with cast malleable iron heads, with sockets for the tines; but in all such forks the sockets have been parallel with the sockets in in which the handle was inserted, which can not be done with barley forks, for reasons heretofore given.

We therefore wish it expressly understood that we do not claim a fork constructed with a cast malleable iron head of itself considered, nor any such head in which the sockets for the tines are parallel to the socket in which the handle is inserted.

But we clain jointing the bow, E, on to the head, for the purpose and in the manner substantially as described.

PLANING MACHINE.—John D. Dale, of Philadelphia, Pa.: I disclaim all parts separately of the before described machine that are not hereinafter specifically claimed by me.

But I claim, first, The arrangement as described by which the support rollers. No. 17, and the feed roller, C, are raised, and the carriage, E, simultaneously secured, whereby I make a permanent bed and continuous feed, and by lowering the same, I make a reciprocating moving bed plate or carriage, and am enabled to change from one to the other, at the will of the operator.

Second, I claim the arrangement, whereby an adjustable cutting head, No. 37, is formed on the end of the movable carriage, E, for the uses and purposes as described.

Third, I also claim the combination and arrangement of the method set forth for attaching side cutters, by which they are both rendered adjustable in the manner specified and described by letters, G G, representing cranes supporting the side cutters hanging on arms, K K, supported and adjusted by guide braces, L L, and screw nuts, J J, all for the purpose and in the manner set forth and described.

Fourth, I also claim the particular arrangements in combination, by which the pressure bar, N, and the transverse bar, Q, are made to raise, and by which they are

made to correspond with the circumference of the rotary cutter by raising the superior feed roller, D, for the purpose as set forth.

MACHINE FOR BORING HUBS.—Zini Doolittle, Perry, Ga.: I do not claim the use of a shaft or a knife set in the shaft; neither do I claim the yokes, F F, or feed spring, H.

But I claim the employment of a hollow shaft, the rod, C, and the projection, a, with the nut, E, for the purpose of expanding the cutter, B, when the whole is arranged as shown, substantially for the purpose specified.

LIFE PRESERVERS.—A. J. Gibson, of Worcester, Mass.: I do not claim the belt, nor do I claim the construction of an inflated life-preserver with separate air chambers; neither do I claim of itself the use of buoyant paddles fitted and attached to the hands as an aid in swimming.

But I claim a life-preserver, composed of a belt, A, arm floats, B B, and buoyant paddles, C C, arranged and connected and furnished with straps or their equivalents to attach it to the person, substantially as described.

MACHINE FOR CUTTING METALLIC BARS.—Samuel Hall, of New-York City: I claim the employment of one or more revolving shear blades, fastened to the end or face of a revolving hollow cylinder as described, in combination with a stationary shear blade or blades for the purpose described.

PRINTING PRESS.—Charles W. Hawkes, of Boston, Mass.: I claim, first, The cam lever, C′, operated by a vibrating platen, substantially in the manner and for the purpose set forth.

Second, I claim securing carriage ways to the adjustable bed, so that when the bed is moved by altering the impression the roller carriage will move with it, and keep the rollers always in a proper position to roll the form evenly, in combination with the roller carriage, substantially as described and set forth.

Third, I claim the nipper lever operating in the manner and for the purpose set forth.

Fourth, I claim the trip, in combination with the nipper lever, substantially in the manner and for the purpose specified.

Fifth, I claim the combination and arrangement of mechanism specified, for receiving the cards to be printed, and delivering them after they are printed, substantially as described.

HARVESTERS.—Seymour and Leicester Johnson, Jr., of Avon, N. Y.: We claim the arrangement of the outer wheel, C, drive wheel, A, and inner wheel, B, in combination with the adjustable draught pole, R, and movable blocks, v v, the whole being arranged for joint operation, substantially as set forth.

PROPELLERS.—Almer Johnson, of Buffalo, N. Y.: I claim constructing propellers, which embody the distinctive features of my invention, substantially as set forth.

ARRANGEMENT OF LIFE AND TREASURE BUOY FOR VESSELS.—F. D. Lee, of Charleston, S. C.: I claim the arrangement of the buoy provided with the means and appliances set forth, in relation to the chest or safe and indicating buoy, and the decks of the vessel as and for the purposes described.

PLOWS.—Joel Lee, of Galesburg, Ill.: I claim the combination and arrangement of of the two wheels, E and E′, attached to the different sections of the beam swiveling quarter around in opposite directions, and bracing the plow as described when used in the manner and for the purpose set forth.

SEED PLANTERS.—Joel Lee, of Galesburg, Ill.: I claim the bevel wheels, D D, constructed, arranged and operated in the manner set forth, when combined with the swivel tube, C, for the purpose described.

STEAM BOILERS.—David Mathew, of Philadelphia, Pa.: I claim the arrangement of the draft plates, e and f, in relation to the inclined tubes or flues, D, as and for the purpose set forth.

SECURING HATCHES OF VESSELS.—Edward S. Keyser, of New-York City: I claim the securing of ship hatches, and making the joints water tight, by means of the hollow flanged ribs, B, and the rubber and plates contained within it, which are pressed down over the seams or joints by the screws, d, substantially as set forth.

BED HIVES.—Samuel Kelly, of Washington, D. C.: I claim the sliding frames, F, removable pins, I, and dividing zinc plates, B′, in combination with the movable passage ways, and the sliding valve, O, arranged in the manner and for the purposes set forth.

POTATO PLANTERS.—Stephen H. Strong, of Brunswick, O.: I claim the seeding wheel, B, armed with adjusting buckets, D, and checks, E, in combination with the hopper, C, and sliding bottom, R, in the manner and for the purpose set forth.

ICE-BREAKING BOATS.—James D. Foster, of Cincinnati, Ohio, and H. C. Foster and John Q. Miller, of Springfield, Ohio: We claim making the breaking bars detachable in the manner and for the purposes set forth.

SHINGLE.—Stephen R. Tenney and Asa Bennett, of Hubbardstown, Mass.: We do

not broadly claim the preservation of wood by carbonization.

But we claim a carbonized shingle, made substantially as set forth.

Reaping and Mowing Machines.—Henry G. Vanderwerken, of Greenbush, N. Y.: I claim the combination of the stationary and bracing gear, F, with the auxiliary frame, A', main frame, A, driving wheel, C, and pinion, H G, arranged as and for the purposes set forth.

Construction of Salt Pans.—William S, Worthington, of Newton, N. Y.: I claim the employment within a brine-evaporating pan, of a grating or perforated false bottom, C C, substantially as and for the purpose specified.

Machine for Sticking Pins on Paper.—Thaddeus Fowler, (assignor to the American Pin Company,) of Waterbury, Conn.: I claim the combination of the plate or form, A, with the slotted form, C, when constructed, and made to deposit the pins, substantially as described.

I also claim the combination of the sliding frame, E, with the slotted form, C, when constructed and used as described.

Reaping and Mowing Machines.—J. W. Brokaw and Thomas Harding, (assignor to Benjamin H. Warden, John W. Brokaw and Jonathan C. Child,) of Springfield, Ohio: We claim the peculiar method of regulating the hight of the cut, and relieving the draft on the joints of the tongue, by means of the bar, K, in combination with a tongue, I, hinged to the finger bar, C, or front of the main frame of the machine, both being constructed, operated and arranged in relation to each other, in the manner as described.

Steering Apparatus for Vessels.—Chas. Weed, (assignor to himself and Stephen B. Cram,) of Boston, Mass.: I claim placing the parallel screws, E and F, one immediately above the other, and connecting them by the gears, H and G, the steering wheel being attached to one of the screws, in the manner substantially as described.

Second, I claim the stationary guide bar, L, as arranged with the grooved nuts, M and N, and bearing blocks, D, as set forth.

Revolving Fire-Arm.—Ethan Allen, of Worcester, Mass.

Cut-off Valve Gear of Steam Engines.—Horatio Allen, of New-York City.

Adjustable Gage for Dovetails.—Juan S. L. Babbs, of Boston, Mass., and Amos H. Ray, of Providence, R. I.

Cultivators.—David P. Daggett, of Palmyra, N. Y.: I claim the peculiar construction of parts whereby the frame of the cultivator may be elevated or depressed in relation to the surface of the soil, either parallel to the plane of the surface or inclined thereto forward or backward at any desired angle by means of the lever beam, D, swivel wheel, I, swivel clevis, H, and adjustable wheels, C, combined, arranged and operating in the manner and for the purpose specified.

Machinery for Lifting Water.—Isaac C. Foster, of Union City, Tenn.

Corn and Cob Mill.—Harvey Hall, of Mansfield, Ohio: I claim the cone and meal trough, cast in one piece, for the purpose of strengthening the cone, and giving a firm base for its attachment, as set forth.

Corn Planters.—J. J. S. Hassler, of Ripley, Va.

Tubes for Seed Planters.—Joseph C. Haines, of Dublin, Ind.: I claim as new, in the described combination with the tooth of a grain or seed-drill, the tube or grain duct, I, composed of a close coil of wire constructed and applied as set forth.

Dress of Millstones.—Nelson Hayward, of Cleveland, Ohio.

Egg Beaters.—John B. Heich, of Cincinnati, Ohio.

Horse Rakes.—Valentine Hyatt, of Westfield, Ohio: I claim the combination of the lever, L, cross bar, C', levers, C C, and arms, G G, for raising the rake from the ground when not in use, as described.

Cooking Stoves.—Samuel Pierce, of Troy, N. Y.

Seeding Machines.—Charles C. James, of Dayton, Ohio.

Seeding Machines.—Hiram Kellogg, of McHenry, Ill.

Cotton and Hay Presses.—James Massey, of Thomasville, Ga.

Hubs of Carriage Wheels.—Cornelius Merry, of New-York City.

Seeding Machines.—Samuel Mills, of New-Castle, Ohio.

Portable Field Fence.—Thomas B. Page, of Laurel, Ohio.

Portable Sawmill.—T. T. Prosser, of Oconomowock, Wis.

Cheese Presses.—C. H. Robertson, of Middleport, N. Y.

Lubricating Oil Cups.—Enoch N. Roland, of Baltimore, Md.

Steam Cotton Press.—John Roy, of New-Orleans, La.

Bracing Springs of Vehicles.—C. W. Saladee, of Columbus, Ohio.

BAYONET FASTENING.—J. N. Ward, of New-York City.

DRAWING KNIFE.—R. N. Watrous, of Charlestown, O.

MACHINES FOR PEGGING BOOTS AND SHOES.—Wm. Wells, (assignor to Edgar M. Stevens,) of Boston, Mass.

SEWING MACHINES.—Henry Behn, (assignor to himself and Thomas Sewell,) of New-York City.

SEEDING MACHINES.—John Critcherson, (assignor to John Warren,) of Boston, Mass.

SNOW PLOWS.—Newcomb Demary, Jr., of Attica, N. Y., assignor to James Yates, of Philadelphia, Pa.

GRATE DAMPERS.—John O'Brien, (assignor to Owen Collins and John Dunley,) of New-York City.

STRAW CUTTERS.—Moses Clements (deceased,) late of Worcester, Mass.

WINNOWING MACHINES.—John Shipley, of Princeton, Wis.

FEET WARMERS.—Heber G. Seekins, Sen., and Heber G. Seekins, Jr., of Elyria, Ohio.

LIFE-PRESERVERS.—James E. Serrell and William Davis, of New-York City.

PUMPS.—Harmon A. Sheldon, of Middlebury, Vt.

MODE OF SUPPORTING REELS FOR HARVESTERS.—Thomas I. Stealy, of Middletown, Va.

BORING MACHINE.—La Fayette Stevens, of Elmira, N. Y.

INFANTINE EXERCISING CHAIR.—John Sawin, D. J. Goodspeed, and John H. Minott, of Gardner, Mass.

BAGASSE FURNACES.—Moses Thompson, of New-York City.

STEAM BOILER.—F. R. Walker, of Tully, Mo.

Advertisements.

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WILLIAM W. WILLIS.

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June, tf.

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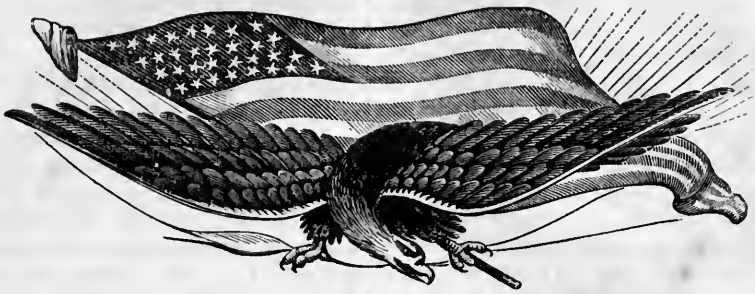

AMERICAN FARMERS' MAGAZINE.

VOL. XI. FEBRUARY, 1858. No. 2.

Agricultural.

HINTS FOR YOUNG FARMERS.

We are older in the business of practical farming than most of our readers; and although not a few of them may be wiser than we, there are others who think they have much to learn.

We have correspondents and many readers who are young in years, or young in their business, and have the good sense to think that the sober experience of a sober man, who has traveled the same path before them, is worth something. Some are young men who have just commenced farming. Others are retired citizens just turned farmers. Others again are mercantile men who have amateur farms at their country place—to help get rid of some of their city profits; and these classes are exactly the people for whom these articles are intended.

Our wiser readers will be willing that we should give a limited space to their brethren of less experience. We mean to tell them how to do every-day, common work, at the best time, and in the best way. There are as many ways of farming as there are of killing cats; and there is a wide difference at the end of the year, depending upon the time and way in which work is done. So all you wise men who know everything, turn over a leaf, while others, who want to learn how to make the pot boil and to keep it boiling, read on. We begin with

THE WINTER CARE OF STOCK.

Horses should be kept in warm but well-ventilated stalls, and apart from other animals, so as not to be offended with their breath. Pure air is almost as important for the lungs of a horse as for those of a human being. Early cut hay is not as important, perhaps, for the horse as for some other animals; but it should be well cured, free from must, having no smoke when handled. Oats are the best grain, and probably herdsgrass, cut when nearly out of the bloom, and thoroughly dried, so as not to have been heated in the mow, is the best hay for this animal. If a horse is fed on hay in the least smoky, it is better to sprinkle a little water on it, that the smoke may not rise and be inhaled. But we should be sorry to feed a horse on hay so foul as to require this precaution. Cut feed, with corn or oats, or a mixture of both ground and mingled together, with water to soften the hay or straw, is

better for horses that work constantly, because they will eat it sooner, and thereby get more time to lie down and rest. Corn is a better food for horses hard at work than for those that are standing much of the time idle. If a horse is fed partly on carrots, it tends strongly to keep his digestive organs in good condition, and to secure a perfect digestion and assimilation of all his food. Hence we believe that a peck of oats and a peck of carrots will go as far in sustaining a horse as two pecks of oats; not that the carrots, watery as they are, contain as much nutriment as oats, but because they secure a better assimilation. The floor of the horse-stall should be tight. Many a horse has caught the consumption from lying on a single floor with wide cracks, and with insufficient bedding. Unless the barn is well sheathed, there should be an inside lining around the stall, that no current of air may strike the horse when put, wearied and sweating, to his night's rest. Never allow a horse to drink cold water when hot, unless you intend to drive him again immediately, and then not too much. To leave a sweaty horse standing in the cold air is barbarous. We honor the piety of our fathers who built churches, but we think it was not the worst part of their piety that led them to build good warm horse sheds at the same time; and if there is anything that we fear these good men will never be forgiven, it is that some of them, we hope not many, built their churches on tall hills, heard long sermons on bleak wintry days, and left their horses tied to a rail fence the while.

In any climate but the mildest, horned cattle should be stabled by night, and have warm sheds to retire to by day. If the sun shines they will find it out, and will prefer the open air. Let them have water in the yard by all means. If they can have it in the manger, as is now practiced by some farmers, so as never to be deprived of it an hour when thirsty, it would be better. But this is perhaps more than can be expected in general practice. The stabling of cattle really adds but little to the labor of carrying them through the winter. Their manure, if plenty of absorbents are used, has a greatly increased value; much food is saved; and they come out in far better condition in spring. The stabling is of more importance to working oxen and milch cows, but is worth the extra labor for all. The ox is a patient creature; will endure uncomplaining whatever you put upon him, even if you leave him to sleep on snow in the cold wind after he has done you a good day's work. But is this a good reason why he should be left to suffer? Humanity forbids; interest forbids; the generous and the selfish in our nature alike forbid; and we believe the Creator of man and of the inferior animals will hold the former to a strict account for the treatment of the latter. The horse and the ox are grateful to man for his care of them. Shall man be ungrateful for their invaluable services? Cattle should be fed as regularly as possible from day to day. They know the time about as well as the old clock in the corner can tell you. If hungry, they will fret but little till the time comes, but are very uneasy if there is much delay after the usual time. The secret of thrift in cattle, with but a fair allowance of food, is quiet, contentment. Who does not know that a cow taken from her wonted home, will diminish her milk for a few days, even on better food than she had been used to? Almost any animal will loose flesh if removed to a new place. If the keeper is changed and less kind usage is experienced, the same place and the same food will not produce as much thrift. Neither cattle nor horses should be made to swallow their own breath. If hay is saturated with their breath, they loathe it. It is better, therefore, to feed twice in the morning and twice at night, and to give them a lunch at noon. A little

at a time, to be devoured before being much dampened by their breathing on it, is attended with less waste.

Early-cut, clean, well-cured hay can not be much improved by cutting, because it is perfectly digested without cutting; whatever nutriment it contains is assimilated; and nothing more than it contains could be extracted if cut ever so finely. With straw, corn stalks, coarse, late-cut hay, it is otherwise. If cut, these will be more perfectly digested, and the result will be more favorable. It has been asserted that forty per cent. is gained by cutting forage for cattle. This may be true, as an average gain. We rather think it is. But it can not be true of each kind of forage. We must throw our common sense overboard before we could believe that bright, June-cured hay can be much improved by cutting. The cattle love it without; it is tender, luscious to their taste, and they masticate it perfectly. Cutting can not enhance its value 10 per cent, nor 5. The buts of corn-stalks, on the other hand, may be 90 per cent better, if cut a quarter of an inch long and steamed, with the least possible sprinkling of salt, because in this state they are pretty good food for cattle, whereas, if left whole, the animals would about as soon perish with hunger as eat them. That the value of forage as a whole is increased by running it through the straw-cutter, there can be not doubt; but the idea that all kinds are equally improved is absurd.

Let the stables be kept clean, also the barn-floor and the open spaces about the barn, as well as the entrances. It requires but little more labor—some think less—to be neat, than to be slovenly. Tidy housekeepers, if they do not live as *easily*, certainly do as comfortably as untidy. It is so with the keepers of stock. Neatness outside of the parlor and kitchen are of some consequence. It is attended with comfort and adds not a little to prosperity.

Sheep should have a warm retreat, but should also be allowed at pleasure to run out and take the sun and pure air. Early-cut hay, or well-cured second crop, with a little corn, is their best food.

The pig-pen should be constructed with two apartments, one warm and dry, with dry nesting; the other such as to indulge the filthy occupant in his rooting, manure manufacturing propensities; and these propensities may be turned to a good account by throwing in plenty of materials for the pigs to work over and compost. In good farming, where the home manures are principally relied upon, ten loads to every swine will be carried out in the course of a year, not as active as Peruvian guano, but worth more in proportion to its cost. Corn, ground ordinarily fine and scalded, and then reduced in temperature to about blood heat, by the addition of skim milk, whey, slops, etc., is the most economical food for swine. In England pork is made mainly from barley, but would not be if that climate was adapted to the corn crop as ours is.

Hens should be laying smartly by this time, and if they are not, it is the fault of the owner. The true economy on the farm is, to keep a pretty good flock of hens and chickens, to have facilities for shutting them up certain parts of the year, when they would do injury out, but to let them run at large, to destroy insects and get for most of their living what nothing else would consume, when it can be done with safety to the garden and other crops, and when no broils will be created by their depredations in the neighborhood. When confined for security to crops or for the sake of peace among neighbors, let them have access to gravel and to carbonate of lime, in some such form as broken shells, ground bones, or slacked lime, sprinkled about their premises. The shell of the egg consists mostly of carbonate of lime; and the ordinary food does not contain enough of this to answer the de-

mands of the hen in laying time. Hens require a meat diet in part. Throw them bones to pick, and occasionally bits of meat useless for other purposes. In summer they will supply themselves with animal food in the form of grasshoppers and other insects, but should be supplied with it in winter in other forms, if you would have plenty of eggs.

February has the reputation of being the coldest month in the year, and surely the coming February will not have much to boast of in that line, unless it shall be colder than its predecessor, January, has yet been. Yesterday and this day, January 14th and 15th, have been like May or October days, strayed away from their proper place in the calendar.

ON THE SUBJECTS FOR A FARMERS' MAGAZINE.

BY A FARMER'S SON.

Mr. Editor:—You asked the other day my opinion as to the most desirable method of conducting a farmers' periodical. Your motive doubtless arose from your anxiety to supply your readers with the information most required by them; and although your own experience and good judgment can hardly be likely to hear from me anything new upon the subject, I shall be glad if any remarks of mine should suggest one hint to you that may further your views, and aid you in the arduous task that devolves on you, in common with others who seek to please or to instruct a large class of readers, distributed over thousands of miles of greatly varying climate.

The wants of many, I know I can lay before you; and the wants of many more, you doubtless already amply supply. But I need not tell you that readers of all classes and on all subjects, are often unreasonable and thoughtless.—They forget much you have told them already; and every reader too often takes up a magazine as if it had been written, or should as he thinks have been written, for himself alone. His own wants he knows; the wants of others he neither thinks of nor cares for. If he does not find exactly what he wants, or what he thinks it should contain, he throws down the number disgusted and annoyed, and vents his impatient displeasure on the "incompetency of writers," if not their ignorance; and "vows to take in such a milk-and-water thing as that no longer." Fortunately however for the publisher, before the gentleman's subscription runs out, some article in a subsequent number is lucky enough to please him, and then he forgets his ill humor, and on he goes with his magazine. Now this line of proceeding is foolish. It is unjust to editors. It is the way to remain in ignorance; and consequently the man who so acts is unjust to himself.

Magazines and periodicals of all descriptions are written each for some particular class; and to subjects connected with that class should be, and usually are, their contents directed. But when the individual of that class takes up such a paper, he should do so in the spirit, not of search for the special subject that happens to interest him at the moment, (for it is obvious that as *each* reader may do the same, the editor could not please all,) but, in the spirit of general research to see what he can glean from the pages that will add to his stock of knowledge. Taken up in that spirit, if he finds the subjects treated of bear a fitting relation to the character of the periodical, and that they are written in a fair, common sense style, he has no cause to complain if there are other matters that he would have preferred to see in the pages. The pearl fisher does not find a pearl in every oyster, but is content to open many fruitlessly for the sake of the one that has the pearl.—Readers of periodical literature may with advantage to themselves follow the fisherman's example.

But to be entitled to expect that course

of conduct in their readers, editors must also do their part; and if they can not fill their literary oyster with pearls, they must at least take care that their oyster is "full of meat." In short, the editor must provide always good substantial literary food for a hungry reader; but the *choice* of that food, provided it be digestable by the class for whom he writes, must be left to himself.

Now in the spirit, as regards editor and readers, that I have penned the above remarks, let us consider the subjects for a farmers' magazine.

The great failing in the farming community is a *proneness to routine.* As their fathers did, so do they. Distrustful of the discoveries of science, and I fear I must add, too little inclined to take the trouble of investigation, there is a disposition to go on in the same beaten track, heedless of the future, thoughtful only of present wants, and if not content, at least willing to drag on a listless existence if those wants are satisfied.

I know there are numerous exceptions to this picture; which many may suppose to originate in a feeling of superiority if not of conceit in the writer. That is not so. Let any man coolly reflect and compare the energy displayed in the life of a merchant or a trader in any large city, with the course of life pursued by the agriculturists, as a body, and then say if there is not far too much ground for the correctness of the character I have sketched above.

The old adage, that "We may take a horse to the pond, but we can't make him drink," is true. But we must take the horse *to the pond*, or he can not drink if he wishes. So the agricultural editor's first care should be to lay before his readers the improvements of the age. His first duty I think is to take care that all new discoveries, whether in implements to facilitate tillage, of new crops for culture, or of improved methods of cultivation, are explained in detail, so that the advantages of the several subjects are fully made known; and this as completely and sufficiently as may enable the farmer, without reference beyond the pages of the paper, to avail himself of the information. For it should always be borne in mind that the time of the farmer is valuable, and that much traveling is not properly within his province, and consequently unless the information is afforded him in a shape that he can either from the perusal of it or by letter, make it available, the benefit to him is only prospective.

The first requirement I set down, therefore, for the *farmers' magazine* is, *papers explanatory of new discoveries in agriculture.*

The subject next in importance appears to him to be, *to keep the farmers well up to their work for the season.* With this view there is much utility, especially in a monthly periodical, in having a good paper by the editor surveying the general work of a farm for the month, pointing out the kind of work requiring attention, and containing suggestions as to the most eligible mode of executing it, with reference both to cost and labor.

In furtherance of the same object, original papers on particular subjects, applicable to the season at which they appear, are also very useful, and in this the readers may contribute frequently to aid the editor and benefit their fellow-laborers in the agricultural world. It requires no literary skill to write an acceptable article. Plain, practical facts, the result of experience, is what farmers want; and these any farmer can express in familiar language.

In my opening remarks I alluded to the individual wants of particular readers; and although as I then said, it is impossible for an editor to anticipate these, there yet remains a mode in which they can be satisfied. Because whenever information is wanted by one reader, the chances are that many more stand in need of the same. Therefore

such being the case, a periodical paper is the precise channel through which to obtain it.

Let every farmer who is in doubt, or in want of information, write to the editor and ask for it. And this brings me to the next head of subjects for the *Magazine*, namely:

Correspondence, and discussion by means of it, relative to farming matters of all descriptions.

If the readers of any periodical will only take up their pens and discuss their opinions freely, but in the language and spirit of good humor, and a desire for knowledge, (as opposed to a desire for victory in a contest of words,) there is no department of a magazine that will become more useful and interesting.—Life and activity should pervade every page of a periodical, and correspondence of such a nature is precisely the element to impart that vivacity which it is difficult for a single individual, tied down to the monotony of the editorial chair, always to give to his effusions, however valuable they may be in substance.

Moreover, ignorance on subjects that our calling assumes we are acquainted with, is regarded by too many as preferable to the exposure of it to others. Hence we too often remain in ignorance which inquiry would speedily dispel. The pages of a magazine present the ready means for us to learn, without our identity being known, and consequently there is no better mode by which we can avoid remaining in a state of ignorance, which, when there is open a way to avoid it, is decidedly unjust to ourselves no less than to those dependent on our exertions.

My paper has, I fear, already exceeded useful limits; and having pointed out what appears to me to be the more important topics for agricultural periodicals I will close with the hope, not that *you* can derive information from it, but at least that your readers will aid you, by attending to my last suggestion, freely to communicate their own experience, and by their inquiries, point out to you their wants. I know well enough that your best exertions will then not be wanting to fulfill them.

ON THE TREATMENT OF MANURE.

BY A PRACTICAL FARMER AND GARDENER.

To talk intelligibly about manure, it is quite important to know what manure is. Manure, if intended to convey the idea of food for plants, is often a terrible misnomer. Fresh dung, or fresh urine, is never food for plants. There is no element in the fresh excretia of animals in the undecomposed vegetable waste of farms, such as straw, stalks, weeds, etc., or in the muck and peat of swamps that can afford sustenance to vegetation. Plants can never appropriate an element until it is prepared for them. They have no digestive organs, and the change in their food must be perfected in the soil, which is at the same time the granary and the stomach of plants. The waste of manures can take place only by two methods.

First. By solution in water, which may run off upon the surface or sink into the ground.

Second. By their preparation for food of plants prematurely, or in such positions that plants are not present to appropriate them, which preparation always reduces manures to gases. Now let any one thoroughly comprehend these positions, and he will never be at a loss to discover whether his manure is exposed to waste.

Until manure has undergone such fermentation as to produce sensible heat, there can be no loss of the essential elements of vegetation by gaseous escape. If manure lies upon an impervious bottom, there can be no waste by the soluble elements passing downwards into the soil, and if its position is such that no water can flow from it, no waste can take place by any amount of saturation.

While saturated with water the putrefactive fermentation can not proceed; and the offensive smell that issues from it is of no sort of consequence. The escaping gases from fresh or saturated manure form no part of the gaseous elements which are the food of plants.

The great objection to the too abundant saturation is not only the excessive weight to be removed, but that the preparatory fermentation, which is not exhaustive, can not proceed. When manures are removed to the soil they are intended to fertilize before fermentation has taken place, and partially spread so that the heaps are too shallow for it to commence. There is no essential waste during winter, except it may be by solutions from it flowing off upon the frozen surface before they can sink into the soil. The rains do not materially affect them while the earth is thawed, as what they dissolve sinks into it.

Professor Voelcker, of the Agricultural College of Circenster, England, and John Johnston, an extensive farmer of Western New-York, have almost from the antipodes simultaneously announced — one the theory and the other the practice of —this principle, and its seeming antagonism to the favorite sentiment has elicited great needless discussion. They have both asserted that there was no essential difference in the effect of manures carried in fall or winter to the fields to be fertilized, and those made under shelter or in heaps in the yard; and in this they are right, when they refer to manure uncombined with foreign substances, and exposed to fire-fanging or saturation. But when they assert the same regarding those manures combined with foreign substances which they reduce to a condition for pabulum, they are wrong. Manures removed to the soil from a yard saturated with water are not, nor ever can be, distributed equally over the soil. Clumps and pastey masses are flung around with dry and saturated stalks and unrotten straw, which not only afford unequal nourishment to the soil when prepared by putrefaction, but actually destroy most of the germinating seeds in their vicinity by the virulence and abundance of their first crude solutions. Now, Mr. Johnston's success and Professor Voelcker's truth consists in a condition being met which they had entirely overlooked. This condition I had observed twenty years before Professor Voelcker and Mr. Johnston announced the principle with which it is connected. During the winter the frosts and winds have disintegrated and dried these masses, until they admit by their pulverulent condition of being more thoroughly distributed over the soil. We then approach the annunciation of this maxim.

Manures, to produce their best effect, must be thoroughly distributed over and through the soil. Reduced to its finest and most pulverulent condition, each small particle of manure should be divided from its fellows by many particles of soil. How to do this without waste is the great secret, and the methods are various. 1st. By frequent turning. 2d. By composting with swamp muck, peat, straw, soil, and other crude materials. 3d. By returning the water that flows from a heap to its surface by pumping and otherwise. 4th. By combining the dung of different animals, as the easily heating dung of the horse, with the cold and unfermenting dung of cows and swine. 5th. And worst and most common of all, by allowing the dung and litter of the stable to decay undisturbed in heaps, heating and fire-fanging to ashes in the center, and wasting many times the value of that which remains. I do not propose here to analyze and compare these various methods, but simply to endeavor to clear away the mist which surrounds some simple principles.

Amid all the discussion of the value of manures and their treatment, their creative power of inducing the sustaining

principle of other substances, has never been treated of. No wonder is excited by the fact that a small piece of fermented bread placed in the center of a batch of dough will excite the vinous fermentation, and entirely change the chemical condition of the whole mass. In the same manner may a comparatively small portion of actively decomposing matter reduce a large bulk of inert and even poisonous substances to an active and valuable agency in fertilizing the soil. Many a man has laboriously hauled the muck of his swamp upon his field, and with disgust and chagrin beheld the death of every vegetable in its vicinity. The heat and active fermentation of dung mixed with muck would have excited a kindred fermentation that would have rendered it fit food for plants. All other inert or slow decaying or acid matter would have been treated in the same manner. The changes they would undergo are not a little remarkable and instructive. Let us trace them for a moment. The dung having in the intestines of the animal undergone partial decomposition, is more nearly ready for complete putrefactive fermentation, and commences to heat as soon as its superabundant water has been pressed out. The cause of the heating is twofold. 1st. The combustion of decay or absorbing oxygen. 2d. The compression or lessening of bulk as the heap settles down. As soon as the heating commences, the carbon, the hydrogen, and the nitrogen lose their hold upon each other, and are free for new associations. The carbon unites with oxygen, and carbonic acid appears. The hydrogen and nitrogen unite, and ammonia appears, for it is only until rotting or decomposition takes place that ammonia (that much talked of but little understood substance) is to be found. And now the game is opened, the mass of muck or other inert matter heated many degrees above blood-heat, is prepared by the expansion of its particles to receive a new influence. The tannic acid that has preserved its liquid and carbonaceous character so long, is met by the ammoniacal gas escaping from the rotting dung, and neutralized by this potent alkali to a harmless agent. The muck now greedily absorbs many times its bulk of ammoniacal vapor, and becomes not only a vessel for its preservation, but is itself rendered a soluble carbonaceous substance fitted for giving up its elements to living plants. Not a bubble of the precious nitrogenous vapors, not a drop of the liquid gold of the compost can now escape. But the muck accomplishes more than its hunger and thirst dictates. It operates as a divider to separate the particles of manure, and render them better fitted for complete division and distribution in the soil. Now, whether one very imperfect method of using manure is better than another very imperfect method, ought not to occupy the attention of any man. Whether John Johnston could obtain equal or even better results from fresh manure carted to his fields in winter than he could from it hauled from his barnyard half decayed in spring, or from the same source piled with care and frequently turned, but still so as to lose by that very turning a great part of its value, ought not to be the question; but whether he might not have employed his fresh manure to multiply itself many times, to render soluble and fit food for plants, inert and vicious substances. Of the second condition of loss of value in manures, not much need be said. As I have before stated, the four great gaseous elements of plants—oxygen, hydrogen, nitrogen, and carbon—are combined in such proportions and relations in disorganized plants, in ripe or dry vegetables, and in fresh dung, and half rotted plants, as to be totally unfitted for food for green and living ones.

Now the moment that fermentation, heating, or decay commences, these gases separate from each other, and are set free for new combinations. As they

occupy vastly greater bulk than before, they burst forth and escape, unless detained by some absorbing substance that would hold them until combined again. The carbon unites with the oxygen and combustion takes place, precisely like the burning of charcoal in a flame, and the result is the same—ashes. The ashes of fire from the hearth and the ashes of fire-fanged dung are precisely similar. By this fire fanging, the hydrogen and nitrogen which would have formed ammonia, have nothing to detain them, the carbonaceous matter which forms their natural storehouse has been burned up. There are but three methods of preserving manure from this species of loss: 1st. Saturation with water. 2d. Drying in the sun. 3d. Composting with considerable bulks of inert matter. All these are objectionable, but the last presents the vast advantage. That while the bulk is greatly increased the value is not diluted—that every pound of the compost is equal to a pound of the original.

I am convinced, therefore, that the whole subject of manure might be condensed into the following propositions:

1. Manure does not waste so long as it is unfermented and undissolved, and these conditions are effected by drying or by saturation, by spreading too thinly for heating, or by heating in contact with absorbing substances, (opposite conditions and yet not different.)

2. Fresh or unfermented excrement is unfit for food of plants, and requires a new combination of elements for which time and heat and moisture are requisite, and to which saturation and dryness are equally opposed.

3. Fermenting manure in contact with inert matter, has the power of neutralizing vicious properties, (as the tannic acid of peat and the peroxyde of iron,) and of dissolving and rendering soluble properties that were otherwise locked up.

4. The waste of manure is effected in only two ways—by the escape of its gaseous elements into the atmosphere when heating, and by the dissolving of its soluble salts in water that flows away. Any method that prevents these is valuable.

5. The creative or effervescing effect of unhurt manures is more valuable than the original matter, and is capable of multiplying its value many times.

6. The value of any manure is in the ratio of its division through the soil. And the golden rule of farming is, small quantities of manure well divided and intermingled with the soil, will produce better crops than large quantities not well divided.

For the American Farmers' Magazine.

EXTRACTS FROM THE JOURNAL OF A TENNESSEE FARMER.

Oct. 21, 1857.—This was the first morning this fall that Jack Frost showed his white teeth. Much of the Indian corn is yet unripe, and I venture to predict that if Jack's nip of the green corn proves as hurtful as I have known it in North Missouri, much complaint lies in store against him for this first visit to us on this mission. It is to be hoped that a sufficiency has been impervious and secure from his grip, for this crop almost failed in Eastern Tennessee last year on account of the continued drought. This year our farmers gave to its planting and culture unusual attention. The history of this corn is too well known to command but a passing notice now, having been found here in cultivation by the Indians on the discovery of the continent. No State wheresoever turns to moral account the production of this valuable cereal more than our beloved Tennessee; very little "*Tangle foot*" is manufactured from it, but fat hogs, mules, horses, and cattle revel and luxuriate in the bounty, whilst our farmers are content with the profit thus obtained. At one time our State stood first in the quantity grown, and it would, I think, be no exaggeration to say she grows

the *best* in the Union. We have nearly all known varieties except the new Peabody kind, now so much talked of in the prints. *It* is in our border for sale, and will soon be compared with the white flint in yield, etc. The name MAIZ, I believe more properly belongs to this grain to contradistinguish it from other corn. Will some one say what kind of corn it was that Joseph, governor of Egypt, sold to the people, and in seven years got all money, lands, and cattle, except that owned by the priests, by its sale? (It was the same cereal which our English brethren denominate corn, viz., wheat of some variety.—ED.)

November.—About the middle of this last fall month the cold weather militates against the almanac makers, and one would think on being here that by some freak of nature we are sojourning in the Arctic region. The ether in the thermometer is 8 degrees below 0, Farenheit. Our oldest people say this is an innovation upon their whole experience here.

December came in like a lamb, and up to this writing has passed with warm rains and sunshine, comparing favorably with April. Most of our farmers have gathered the greater part of their corn crop, and are sure enough complaining that Jack has damaged them. Some say one-half their corn is unfit for keeping uses, but must be fed away to stock forthwith. I went through my fields the 14th. I found on many stalks ears of corn that had dry, white mould on the stalk. That in the crib looks as yet good. I am confident my corn was as ripe as most of my neighbors when the frost came, and I am satisfied it is much injured by this. I premise a general loss of this grain in our district by early frost. My experience in growing this grain in Tennessee is, that if the grounds be well plowed in winter, cross plowed in the spring, planted about the first week in April, with good seed, thinned early and well cultivated after, no fears need be had of early frosts; but except the main features here named appear with our farmers, we well may always dread early frosts and freezes.

Dec. 18.—I had neglected in the proper place to name anything of my success in raising sorgum, or in making syrup from the Chinese sugar cane. The seed was sent me from the patent office last year by a friend. It was planted in good, rich soil. My health was too poor to superintend it, though it was cultivated as broom corn, the cultivation of which I think is fully understood here. When the seed had become of a dark brown the stalks were cut. We had no machine to express the juice. It was beat with pestles and put in an apple cider press, a very common one. The juice was boiled in a copper kettle to a good golden yellow syrup, equal, I think, in taste, to any we get in this country except the maple, which, I think, stands ahead of all syrups I know of. I have no doubt that if our farmers will pay a little attention to its cultivation, and manufacture into molasses, it will prove to be a shortening of expense in this article. Whether it can be made in such quantities as to compete in sale with other southern countries remains, I think, for the future. A great mania prevails for the seed. It is being very generally distributed in small parcels, and another year may give more reliable facts than this one has afforded in relation to the new article. So far as we tried it I do not think any sugar can be made of the syrup.

A. L. B.

MILL BEND, TENN., Dec. 1857.

For the Farmers' Magazine.

PROCESS OF SAVING CORN, &c.

THE old year is at its close. With us the Christmas week has been one of joy and mirth with the lads and lasses of our community. Everywhere in our favored Valley plenty abounds, and notwithstanding the monetary crisis which has passed over the land, there is, compara-

tively speaking, little or no real want in our community. The crops of the past season, if not abundant, have been ample, and there is some surplus for market. The corn crop was very fine, but owing to the early and severe frosts of November, and the warm, rainy, and damp weather that followed, much of the crop has been seriously injured, amounting to one-third, and in some places one-half the crop. Many of my neighbors have been under the necessity of removing the corn from cribbing too early, and have suffered loss. Where corn was cut up and well shocked, it has not been much injured, particularly where cut before the heavy frosts.

The process of saving corn has been so often commented on, that it would appear almost unnecessary for me to say anything on the subject. Yet, as I have saved my corn sound this year, I will give you my method, and if it is worth anything, make use of it.

I usually begin cutting as soon as the corn is glazed. This, with us, is usually about the 20th of September, this year the first week in Oct. When the crop is good, say 50 or 60 bushels per acre, I put 12 rows, to the row of shocks, cutting as near the ground as I can, so as to give the whole nutriment of the stock to the maturity of the grain.

We commence on one side of the field, a stout hand taking the lead, and forming the shocks by bending four or more stout stalks together, making half shocks or six rows, well set up, and secured by a good band of fodder, grass or straw. After going over the field in this way, let it cure two or three days, or more if necessary, and then complete the shocks by bringing the six additional rows, with a good band about the ears, and another at the top. If the shocks are well put up and banded they will stand all winter without injury. I have half my crop yet in the field, in excellent preservation, and shall only get it in as my cattle need provender.

The two past winters should admonish farmers to have better accommodations for their stock. There is much gain every way from having good shelter for cattle and stock of every kind. Less feed suffices, and what you give them they get the benefit of. The merciful man is ever merciful to his beast. The man who can hear his cattle and sheep bleating, his pigs squaling, and see his horses shivering in the fence corners, while he makes no efforts for their comfort, must be calous to the finer feelings of our nature. (It is so.—Ed.)

We often hear persons complaining about bad luck, but if you trace the matter, it is bad management. The careful manager, who has a place for everything, and keeps everything in its place, who divides his stock in such a way as to prevent the feeble from being run over by the strong, or driven from their feed, does not often suffer loss in this way. Good feed and careful attention, will generally keep man and beast in good health and condition. (Yes.—Ed.)

One cow well fed, is worth two or three poorly cared for. Keep good stock, feed well, and my word for it, you will find a proper return. (How slow the world is to find this out.—Ed.)

On Christmas day we had quite a snow storm, with wind from the east; since then the weather has been mild, with rain every alternate day. The snow is gone, and this day is wet, with deep mud everywhere. Where the land is good, wheat looks well, but to some extent it is an uncertain crop.

The crop of oats last season was fine, but owing to the scarcity of corn, much of it has been fed. The hay harvest was very good. Of potatoes about the usual crop. Apples scarce. Pork rather scarce and high, $7 being about the average price. Beef is not abundant, and is worth from $6 50 to $7, and will be very scarce before Spring, as the usual stock is not on hand. South Western Virginia produces very fine

cattle, but the supply from that quarter is less than usual. The graziers suffered much in their cattle last winter, from cold and short supply of provender.

I have written this letter rather hastily, correct errors if you give it a place in your valuable journal.

Wishing you the compliments of the season, I subscribe myself,

Your obedient servant,

HENRY B. JONES.

Near Brownsburg, Dec. 30, 1857.

The above remarks about shelter for cattle, implying humanity to brutes, (?) as well as profit to the owner, are quite to our mind, and we *think* and FEEL that they can hardly be too often repeated. Would not shelter for the food of cattle be well also? We ask this question without answering. It has been our lot to know little of so delicious a climate as the above writer may enjoy. In these boreal regions it is good policy to shelter our fodder as well as our cattle, and we can not but doubt whether the same would not be good policy for the greater corn growers and stock breeders of the West, the South-West, and even the South. But the farmers in these regions know perhaps of reasons for a contrary course, which we may not fully appreciate—ED.

SNOW AND VEGETABLE LIFE.

BY A FRIEND.

IN mundane affairs no one finds an excuse or an apology for ingratitude. A man may commit crime after crime against both life and property, but rare indeed is the instance, however henious the offence, in which the criminal does not find some people ready to palliate it or to extenuate its guilt. But nobody forgives ingratitude, even when not the object of it.

Why is it that we do not apply this to holier things? Why do so many people who profess to live, and who we believe mean to live a Christian life, participate, day by day and year by year, in so many blessings, *heedless* at all events, if not ungrateful for them? Why? For two principal reasons. Because being blessings enjoyed in common with all their fellow-men, they are regarded as "things of course." And because they do not *think*.

It may be thought a *cold* subject with which to stir up the heart. Yet, notwithstanding that, the winter's fall of *snow* should be, with every farmer especially, a cause of thankfulness and gratitude to our gracious Father in heaven. Yet so common is snow, and moreover, sometimes so unpleasant to our personal feelings and convenience, that it is to be feared it too often engenders grumblings rather than thankfulness.

Let us see why it is that we have cause for this gratitude; and, perhaps, the consideration may engender the feeling.

In the first place the snow protects the ground from the intense severity of frost, and thereby preserves vitality in the roots of may trees, and in the seeds that the ripening of the autumnal crops have sown in the ground; and many of which but for such protection would be destroyed.

That this is so has been proved by numerous experiments. It has been found that the temperature of the surface of the ground, beneath six inches of snow, was nineteen degrees of Fahrenheit's thermometer less severe than the temperature of the atmosphere at the time of the experiment. And as snow is a bad conductor of heat, there is little doubt that the surface would not have cooled more, even if the temperature of the atmosphere had fallen several degrees still lower.

The preservation of seeds by the combined action of snow and frost is very remarkable. Although the temperature of the winters in New-York State is much more severe than in England, there are many seeds of flowering and other plants that are of a tender nature, which are here preserved perfectly through the

winter, being self sown in the summer and fall, and which in the following spring make their appearance in the garden. In England the same seeds invariably perish. The balsam is one flower of that description. The reason is this. In England there is usually in mid-winter a temporary breaking up of frost for a few days, which is followed by a short season of severe frost again. During the thaw the genial warmth causes the tender seeds alluded to to germinate; but the return of frost arrests the process, which in a seed can never be renewed, and it dies.

Again, although many evergreen trees can endure a great amount of cold without destruction, their leaves require *light* at all times; otherwise the vital principle in the leaf could not be sustained. Now snow being white and opaque, the quantity that falls on a tree does not preclude the light from penetrating through it, and, consequently the functions of the leaf can progress, notwithstanding its winter covering, which at the same time protects it also from the intensity of the frost.

Independently of the foregoing benefits derived from the presence of snow, there is another of equal value, which is not probably so apparent to the casual observer. The effect of frost upon the organization of vegetables is principally injurious by rupturing and tearing apart the vessels forming their structure. This arises chiefly from the contraction of the water or sap whilst freezing within them. The tissue formed by these vessels is itself elastic; but to a greater or less degree in different families of plants. Now when frost is not severe, the elastic force enables the internal structure of the plant to conform to the altered position of the vessels forming the tissues—to some extent at least—and it is only when the severity of the frost is sufficient to exhaust this elastic power, that the organization of plants is destroyed, by these results of the freezing process.

But if the preceding paragraph is understood, the reader will perceive that it follows as of course, that the plant is liable to injury by the process of thawing as well as that of freezing. And such is the fact; for those who have investigated the subject have arrived at the conclusion that more plants are killed by the thaw than by the preceding frost. Because usually the thaw is much more rapid than the freezing process. Hence there is more time for the elastic force to be gradually brought into play *through* the whole fabric of the plant in the latter case.

We all know the effect of a hot *winter's* sun for a couple of hours at midday upon a frozen tree. And now the friendly snow comes into play. The white mantle guards the covered limbs from the direct action of the sun's rays, which first have to melt into water the snow on the branches, thus they become bathed with water of a temperature *just below* freezing point. It follows that the frost is thereby removed *gradually* from the tree, and frequently *that* saves from death many a plant that would have succumbed to the disruption of its tissues that the action of a hot sun on its frozen limbs, had they been uncovered, would have occasioned.

Many years ago the writer of these remarks, had accidently exposed a dozen or more succulent geranium plants to a severe frost, which so completely penetrated through them as to give their stems as well as leaves the transparent appearance of sugar candy. Knowing the above mentioned facts, he determined to see if it was possible to thaw one of them without the destruction of vegetable life. He therefore placed the plant with its whole head inverted in a vessel of ice-cold water, by supporting the flower-pot containing the frozen plant on sticks placed accross the top of the vessel, which was then put in a dark cellar, the temperature of which at the time was only three or four degrees above freezing point. In

this position the plant was left for two or three days, at the end of which time (but not before) the leaves and stalk by their change to their natural color, showed that the frost was all out of them. This plant lived. It is needless to say that the other geraniums were all killed before night of the day on which the experiment commenced, for the first rays of the sun disposed of them in an hour!

From the foregoing remarks it will be seen that vegetation is preserved by snow in a two-fold manner. The one, by preserving the vital principle from the effects of extreme cold; the other by preventing the destruction of the organization, by reason of its disruption by intense frost.

Are not these blessings? Truly of so great extent, that the sustenance of animal life, on large districts of the earth, *may be*—for ought we know—dependent on their presence. How grateful should we be then for them!

How many people live? How few amongst them THINK?

A CORRECTION.

GENTLEMEN:—In the FARMERS' MAGAZINE for January, just come to hand, it is stated, page 28, "The veteran editor of the *Massachusetts' Plowman* still affirms that his favorite Alderney cow, gives milk, four quarts of which will make a pound of butter." This is a mistake. He affirms in relation to his *Devon* stock, and *not Alderney*. We do not know that he ever had any of the Alderney or Jersey stock. We have seen his *Devons* —and they are very fine—though we were never satisfied that their butter-producing qualities were equal to his representations. We do not believe that any cow can be found, or ever has been found, that will yield a pound of butter to each and every four quarts of her milk. It is a good cow that will yield a pound of butter to *double this quantity*, through the season. On this point we speak with confidence, because we have examined it. We have said the same thing to the *veteran editor* named, who is but a few years older than ourselves, and who has boasted much of his stock, still we doubt whether he has seen more or better butter producing cows than we have.

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January 9th, 1858.

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We stand corrected. A Devon not an Alderney cow, is the mother of a pound of butter to four quarts of milk, and we knew it, and can not account for the blunder, but are glad to be put right.

Some cows, we all know, are remarkable for the quantity, and others for the quality of their milk. We believe it possible that a cow, giving naturally a very little and very rich milk, may be so fed and watered as to give still less and still richer; and if the editor of the *Plowman* says that four quarts of a particular cow's milk have made a pound of butter, we will not dispute him, for we believe him to be a truthful man; but if it was so, then that cow's milk, owing to some extraordinary characteristic in the animal, or to some peculiarity in the manner of feeding, or to a selection of the strippings instead of taking the whole, was about three times as oily as the avarage of cow's milk. It must have contained at least 10 per cent. of oil, instead of about four, as is usual.

The gentleman, who has kindly corrected our mistake, is, we believe, an admirer of the old red cattle of New-England. He knows, as we do, that the breeding has been bad; that the best calves have gone to the butcher; that males have been kept more for the purpose of rendering the cows fit for the dairy, than any other consideration. Is there any other race of cattle that would have been as good this day, as these same old reds, if through a long line of ancestry they had been as badly bred? We should like it much if that gentlemen would give for the FARMER'S MAGAZINE some account of these cattle, their history, their abuses and their excellent qualities after all. If we are not mistak-

en, he ranks them high; thinks it would be wise to breed from them, instead of relying on importations; and that by a rational procedure they can be made the foundation for a better stock than the world yet affords, at least for our Northern States. We suspect he may be right, and should like to have his reasons, though we have supposed that the country owes much to the importers of fine cattle, and that both importation and careful breeding from the best samples of our acclimated stock should go on parallel, in order to reach the best results in the shortest time, for the whole country, and for every part of it.—Ed.

A THEORY SPOLIED; OR ARE SOUTH-DOWNS PURE BLOODED SHEEP.

BY C. M. CLAY, ESQ., OF KENTUCKY.

Mr. Editor:—After all the accumulated science of ages applied to the preservation of health and the cure of diseases, one of the first physicians and teachers of Paris lately said to his students, very naively, "What do I—what does anybody know about medicine?" It was said of a learned traveler that he went from home a *goslin* and came back a *gander!* "Common sense" is not universal; learning can neither give it, nor take it away. Science has its fanatics as well as religion and politics; and in either case whenever one mounts his hobby, like a beggar on horseback, he "rides to the devil!" No wonder then that "book learning" is so much distrusted by *practical* men. In practical life false theory does not run long before it butts itself against some impossible law of nature, and is abandoned. But let a book man, or a *man of science* if you please, get hold of the tail of a thing, and he is dragged to starvation or death before he will loose his hold! Henry Coleman, Esq., the author of European Agriculture, tells us that pulverized granite and other insoluble substances produced with simple water unexpected vegetable life; but when they were all mixed together, just as we might suppose in nature and capable of the greatest results, it turned out that the product was less in combination than in individual separation. So much for chemical agriculture! Still we are no enemies of science, although we do not credit the report that silk has been produced by chemical processes without the aid of the worm from mulberry leaves. There is more truth than poetry in that verse:

"A little learning is a dangerous thing,
Drink *deep*, or taste not the Pierian spring!"

I have been led to these reflections by reading an article in the patent office reports of 1851-2, ("agricultural,") by D. J. Browne, LL.D. In that article, page 88, he says the South-Down sheep "is itself a hybrid, being a mixture of the *hairy* and wooly species." Now to this dictum I give in refutation theory and facts. Let us premise, however, that the learned doctor is led to this assertion no doubt incidentally by a theory, alias a hobby, which is that there are but *two* species of sheep, one having *wool* and the other *hair* exclusively, and that, *therefore*, all with mixed wool and hair are hybrids! Now, upon what data is this broad assertion made? Upon the inference, according to the Baconian Philosophy, of facts—a classification derived from individual ties? Not at all. For of the sixteen kinds of sheep (I will not say species) there laid down by him, whose wool had been subjected to microscopic analysis, none but the Saxon and Merino varieties, one species, had fine wool. Then if the doctor's logic be right, all the principal breeds of sheep in Europe and America are *hybrids*. Nay, more, as every sheep enumerated had some of the characteristics of "wool" in his pile, there is but one pure breed—the Merino—that is, one pure breed has been the progenitor of all the *hybrids! A reductio ad absurdum!*

From analogical reasoning the doctor

is just as wide of the mark. When told that change of climate reduces the hair and increases the wool, or the reverse, the doctor claims this as a proof rather than a disproof of his theory. What is there in the first place in the nature of things why a sheep should not have hair *and* wool? Nature is wiser even than so-called science; and common sense stands by nature. Wool is, in consequence of its eliptical form, *curly;* if it extended to the hoofs it would be continually catching against the many obstacles which the legs of every animal meet in locomotion. Thus, while nature for our benefit allows wool on the sheep's back, she very generally, and sensibly I think, with due deference to the doctor, supplies hair, which is *straight*, on the legs. It is the mass of facts which make a rule, so also is it the mass of facts which in their *invariability* and *universality* constitutes "species." Now if the mass of known breeds of sheep have wool and hair mixed, or separate, on the same body, then by what logic does the doctor infer that a mixed coat of wool and hair constitutes of necessity without other data of proof hybridity—an anomily—a departure from nature's unalterable laws? But to return to analogy. There are some animals which lose their fur in summer and regain it in winter; are they according to the doctor's reasoning hybrids returning to one or the other original types of their progenitors? Again, why may not a pure blooded sheep have hair and wool as well as a pure blooded fox or rabbit have both hair and fur? They are both, in each case, similar elements in dissimilar structure. Again the learned doctor makes a long argument to prove the trite and well admitted fact, that hybrids soon return to one or the other original types, or run out. Here then is the South-Down, traced in its characteristics to the times of William the Conqueror, the oldest authentic breed known, not excepting the Merino—the most *thrifty* and the most *prolific*—then by all the highest proofs as adduced by the doctor himself, *not* a hybrid, but a pure race.

Again the doctor quotes authority which he approves, that species do produce or may produce varieties, by which he attempts to account for the difference between the Saxony and the Merino, French and Spanish, which he claims are pure bloods of the same species. Now no man living who did not have it told him that the Saxon, and the Spanish, and French Merino were the same, would ever suppose that they were of the same species. If then the Pure Blooded Sheep, the Merino, has changed its type in weight, in size, in quality and quantity of wool and of grease, in hardiness, and in prolificness; then following the law of hybrids thus far, it is not a hybrid—*a fortiori*—how much the more is the South-Down which eminently preserves its characteristics in all countries and ages, not a hybrid, but a pure blooded species and race.

Another of the doctor's broad assertions is, that *wool* is the thing to be raised from sheep, and that wool only, and *not mutton*, must be always looked to, that *mutton* will follow as a consequence. The doctor does not condescend, however, to tell us lovers of mutton *how!* This is "pulling the wool over our eyes" with a vengeance.

Now it is too well known to require authority to support my assertion, that England, the greatest sheep-raising country in the world, having certainly the most intelligent agriculturists as a mass now existing, just *reverses* Dr. Browne's dictum. They have ceased to raise sheep for the *wool*, and look altogether of primarily to the *mutton*. The Merino and the Saxon have become almost extinct in England. The contest seems to be solely between the large, coarse wools, the Leicesters, the Bakewells, and the new Oxfordshires, and the smaller but superior flavored South-Downs. In what sense then does Dr.

Browne mean to impose this new idea upon us? Does he mean to say that "the finer the wool the finer the mutton," is a true maxim, and that no exceptional circumstances and characteristics are to be taken into account? Then is all Europe at fault in their taste; for all agree that the small, *coarse* wooled sheep of Wales and the Highlands of Scotland are the finest flavored mutton in the world. Whoever heard of the Merino being superior mutton in quality or quantity? We of Kentucky, (northwest of the doctor's ideal line of separation between the "hairy" and "wooly" sheep, (about which I shall say a word presently,) have tried the Merino, giving thousands of dollars for a single sheep, breaking men of large fortunes, and found him poor in flesh, and making us poorer in pocket. The Merino is a mean, ragged, diminutive, unthrifty carcase, but when got fat, tolerable mutton, with the fat and lean too much separated. The Saxony is no better. The French Merino has not been tried here, I believe, but he is "some more of the same sort."

In the Lexington and Louisville markets a South-down wether will bring from ten to twelve dollars dressed. A Merino would not bring much over "nine shillings" wool and all, and yet this learned doctor talks to us of wool, and about sheep-o-thermal lines.

The doctor's sheep line is, beginning at the south-eastern boundary of New-Hampshire, and running "diagonally," pursuing pretty much the line of tide water, and ending in Texas; that northwest of that the "*wooly*" sheep must be bred; and south-east the "*hairy*" sheep; if kept pure, they will do well; if not, they will prosper on neither side. Let us see, it must be the sea air which is to cause this seemingly artificial line. Now the doctor's Saxony and Merino are from and natives of Spain, a peninsular—the most peninsular of all Europe. At the world's fair in London thirty-two governments were represented as contestants for the prize for the finest wool; and yet that honor was borne off by Marke R. Cockerell, of Tennessee, U. S., south-east of Dr. Browne's sheep-o-thermal line. Let us leave *science* then and come down to practical "*common sense*." Dicta 1. Where wool is more valuable and more accessible to market than mutton, raise wool. 2. Where fine wool is more in demand and at a higher price than coarse, (or "hair,") raise fine wool; *and the reverse.* 3. In consequence of the modern facilities of transportation, the wools of all countries must of necessity be competitors in the same market; therefore, the rich lands and the poor lands are equalized to a certain extent; and therefore rich valuable lands must cease to raise wool, either *coarse* or *fine*, as a primary source of revenue. 4. As mutton is perishable, and therefore not capable of distant transportation, it may have a local monopoly of market, and consequently may command extraordinarily high prices. 5. As mutton is not only a necessity, but a luxury, good mutton, like South-down, will "pay better" than any sheep raised for wool. Witness the sales in Lexington and Louisville, and the recent importations of saddles of South-downs from England into the New-York market for the dinner parties of the wealthy. 6. As the demand for wool is substituted in a great measure by the culture of flax, silk, and cotton, its consumption by the human race must be retarded, whilst mutton, becoming more and more a necessity and a luxury, as the most healthy and the most palatable of butcher's meats, must become more and more in demand, and of consequence "pay" more and more.

Now, Mr. Editor, I am a breeder of "South-down sheep," especially tenacious of the idea of "purity of blood" in all animals, biped and quadruped. Mr. Browne, in riding his hobby of "pure" breeds, rode on to my hobby of "South-downs." I give him congratulation for

his demolition of that miserable *humbug*, "*improved crossed breeds*" on one side, and that equally false theory of "*in-and-in-breeding*" on the other side.

But he has by too much learning allowed himself to be "mystified," and become one of that ancient but still existent sect, "the blind leading the blind." I beg you will be careful how you let my name transpire, lest I should be exposed as intruding still more and more upon the doctor's domain, and have some learned corporation bestowing the title of LL.D. upon me.

For the Farmers' Magazine.

CORN IN NEW-HAMPSHIRE.

BY D. L. HARVEY, EPPING, N. H.

Mr. Editor:—With your permission, I will here make a statement of some improvement I have made on a piece of land the past year, and also the amount of a crop of corn grown on the same, thinking it perhaps would be interesting to some of your readers. I will endeavor to be as brief as possible.

Land one hundred and fifty rods. In 1849 the farm came into my possession. This piece formerly had been in a field, but had become exhausted and turned to pasture for some years; how many I do not know. In 1850 it was plowed in the spring and planted with potatoes without manure. The yield was small, not more than paying for the labor. The next year it was sown with barley with no better success. At the same time clover seed was sown, which set very well. The next year it was turned to pasture again.

In the fall of 1856 I thought of making another attempt to improve it by a fall plowing, and see what effect it would have on the soil or the crop. In November I applied twenty loads of compost, (a cart of forty bushels,) and immediately plowed it in with a side hill plow five inches deep. The middle of May last it was well harrowed, and the 23d planted with corn, five kernels in a hill, rows 3 ft. 6 in., hills 2 ft. 6 in. assunder. As soon as it was up I applied two bushels plaster to the corn. The cultivator was run through three times, and it was hoed twice. The middle of September the stalks were topped and well cured. It was harvested the 20th of October. The corn at harvest was as dry as corn usually is, dryer than most corn in our vicinity this year.

I have endeavored here to ascertain the difference between the harvest measure of corn and the actual dry or market measure.

I had ninety baskets of good corn, weighing 57 lbs. each, making 5,130 lbs., allowing 70 lbs. to the bushel, making 73 bush. and 2 lbs. I placed one basket on the 20th of October, spread thin, in a warm chamber to dry. The 12th of December I weighed again to see what the shrinkage was; whole weight Dec. 12th. 4,005 lbs. A basket was shelled, and made by measure 56 bushels and 1 peck of shelled corn. The corn was weighed and made 58 bush. and 37 lbs., allowing 56 lbs. to the bushel according to the statute of N. H. Weight of cob 8lbs. to the basket, making 720 lbs. of cob and 3,285 lbs. of corn.

I make up the account by weight thus:

Fifty-eight bushels of corn, .	$58 00
Top stalks and buts equal to two tons of Hay, . . .	18 00
Half-bushel beans and 1 load pumpkins, ...	2 00
Eight baskets small corn, . .	2 00
	$80 00
Whole expense of cultivation, interest, &c., ...	31 39
Balance, ...	$48 61

I have charged nothing for the manure in the yard, but the labor of drawing and spreading, and claim no better rent on the land, which now appears equal to fifty per cent. It will be sown to wheat and clover in the spring without manure. I have charged one dollar per day for labor, board included.

But some of your readers may wish to know the situation of the land. It lays on a northerly slope of a red oak hill, exposed to the north and west. When plowed in 1850 it was quite light colored, a mellow loam. In 1856 it had become a good deal darker, and quite mellow. It contains a few round stones, or boulders, and is underlayed with a kind of rotton stone or ledge, that, when detached with the plow, readily decomposes by the frost, rain and air.

The last winter it was blown clear from snow and exposed to the severe frosts of winter. I have no doubt but the frost penetrated to the depth of three feet, breaking the soil, which, in part, I think accounts for the change in the soil and crop.

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We like just such *particular*, yet brief statements as the above. Our Western and Southern friends will pity, perchance, our small way of farming in these Northern regions, when we talk about a single acre, but never mind, we have some good things which they have not, and we are bound to go a-head, and improve upon such advantages as we have.

Our correspondent, we think, should have charged his compost to that field, at its fair value. It must have cost him labor, if nothing more, previously to its removal; and we do not like any calculation which seems to imply that farm labor—all of it—is not to be paid for.

"Where there's a will there's a way," is as true of the farmer as of the merchant or the mechanic. Charge to the farm what you do on it, and if you read, think and improve, you will make it pay.

We can not endure the thought that farming should be regarded as an unpaid drudgery. It must pay, and pay a profit too, if you *work it right*, and that, although your produce should not always be so high that none but the rich can afford to use it freely.—Ed.

NEW OXFORDSHIRE SHEEP.

By John M. Larmouth, in the *Wool Growers' Reporter.*

Messrs. Editors:—Among the great advantages of the agricultural press to the farmer, is the rapidity with which it informs him of improvements or discoveries in his profession. The introduction of an improvement, formerly the work of a life, is now made known in a week, all over the land, by the omnipresence of printing. *Then*, the thoughtful farmer groped his way slowly by the light of his experience; *now*, the agricultural press brings to his aid the experience of millions of other minds; knowledge runs, and improvements, vital to the farmer's success, formerly restricted and hindered in their progress, now become the common property of the mass. The best modes of culture, the most recently improved implements, and the most profitable farm stock, are thus brought at once within the reach of the farmer; his best apology for thriftlessness is taken away, and his ignorance of his art shown to be no longer a misfortune, but fault. It is true that the good seed of agricultural truth, sown broadcast by the press, falls, like the blessing of heaven, upon the evil as well as on the good. Some falls on the frivolous and unthinking mind, too shallow for its sustenance, and it is withered. Some falls on the very hard and stony ground of fogyism, from which it bounds off and is lost; and yet some, very much, falls on the more congenial soil of honest, active minds, where, carefully pondered and judiciously applied to the business of life, it brings forth the appropriate fruits of agricultural prosperity. Many farmers owe their success, and some their fortunes, to some useful information, some valuable suggestions or happy thoughts from their agricultural paper. The grateful acknowledgment of such obligations on the part of the farmer, would be but simple justice to those who, in editorial labor, devote their lives to the advancement of his interests. I am myself under frequent obligation to your *Cultivator*, which I think, for fullness of information, reliability, and cheapness, unsurpassed. I often make it my guide, and it has never misled me. But my principal object in writing at present is to report to you the result of an experiment into which I was led by the *Cultivator*.

The raising of fine wool has long been

here, unprofitable, and while considering what stock I would substitute, I noticed occasional articles in the *Cultivator* from those who had recently purchased the sheep called the New Oxfordshire, describing them as just the variety I wanted. I had never seen them, but relying on the representations of them, at last determined to venture on a small purchase, and ordered from John T. Andrew, Esq., of West Cornwall, Ct., a pair of New Oxfordshire lambs. In due time they reached me in good order, and gave me an agreeable surprise. My highest expectations were more than realized. I had seen beautiful animals at our fairs, and noticed the sheep particularly, but had never seen anything approaching the appearance of these beautiful animals. They were only seven months old, and weighed two hundred and fifty-five pounds. They had great square forms, short limbs set wide apart, long, white, silky wool, small bones, fine little heads, large prominent eyes, and most intelligent countenances. They were perfectly gentle, would not roam, and loved to be petted. With ordinary care they grew rapidly through the winter, and on the 11th of April the ewe lamb, not then a year old, surprised me with a fine male lamb.

About the first of June my two lambs were shorn, and yielded twenty-one pounds of clean and beautiful wool, about a foot long, a specimen of which I send enclosed. At the shearing, my buck, a year old, weighed 168 pounds. The infant lamb, eight weeks old, weighed 48 pounds.

On the 21st of August they were weighed again. The yearling buck weighed 190 pounds, the nursing yearling ewe weighed 130 pounds, and their baby, four months and nine days old, weighed 100 pounds.

In the month of September I was obliged to shut them up at night on account of dogs, and they lost weight,—the buck 20 lbs., and the lamb 10 lbs.,—While attending the fairs they gained nothing. They now have their liberty, and are gaining finally. On the last of October last, they weighed, notwithstanding their confinement, the yearling buck 190 lbs., the ewe 160 lbs., and the little one 125 lbs.

I exhibited my lambs at our County fair, and also at the fair of Jefferson county. They took prizes at both.—They have a great many visitors, who pronounce them the finest they ever saw. I am fully satisfied with them, and intend to procure an addition to my flock. They are so large, hardy, prolific, and as objects of taste, so ornamental, that they must prove profitable.

From the New-England Farmer.

HAY CAPS.

We have used hay caps for several years, and have no more doubt about the *economy of such use* than we have about the economy of cutting the grass after it is grown, or of cocking it after it is cut. The abuse which has been heaped upon the use of hay caps is like that bestowed upon keeping manure under cover, or of gradual deep plowing, and springs from those miserable prejudices which some cling to as to life itself. Some of these persons stoutly aver that a piece of cotton cloth is no sort of protection to hay, that it will become wet through in a few moments, and yet they may be seen plodding about with an old cotton umbrella over them for hours together, with their heads as innocent of rain as they are of fairness and observation. There are few men but have had an opportunity of *seeing the effects of hay caps with their own eyes*, if they would but open them and look. A set of thirty hay caps will more than pay for themselves in a single summer such as the last was, on a farm where twenty tons of hay is cut.

An excellent hay cap may be made of *four* yards of twilled cotton cloth, a yard wide, by sewing two breadths together, which will give a cap six feet square, and that is sufficiently large to be handled comfortably. They should be well hemmed, and each corner turned over about one inch and sewed down; into these twine should be tied to form loops for the pegs. The pegs may be made of white pine, and should be at least fifteen inches long, and whittled out smooth and sharp at one end.

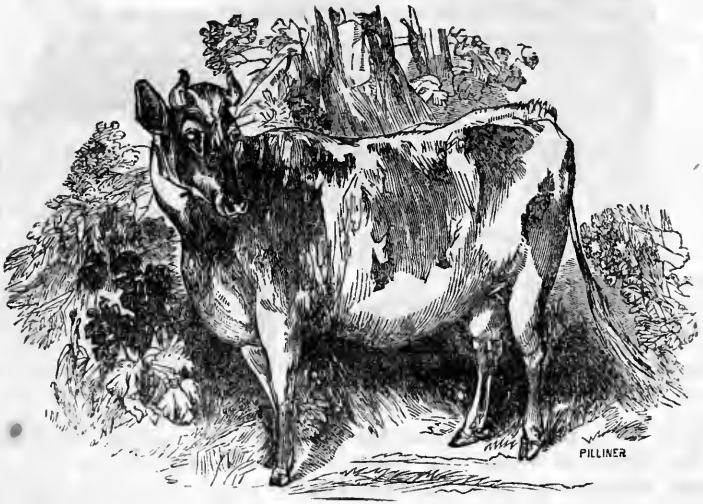
Such caps need no paint, and when placed on a cock of hay that is made up tall and peaked at the top, and the side well raked down, will almost entirely protect it from a rain-storm of three or four days; and we have known hay and grain kept quite dry with such a cap, when the storm had continued for *seven* days!

We have little sympathy with those who rail against the introduction of everything brought upon the farm that

was *not there* fifty years ago; but we have considerable for the animals under their care who are to subsist upon their fodder. "I object!" seems to be as natural to some persons as the breath of their nostrils; they do not stop to investigate, but as they *feel like objecting*, out it comes, "I object!"

Well, every weed, however useless it may seem to us, undoubtedly *has* its use, and serves some good purpose, though it may be hidden from our view—and these objectors may stand in the same category—so we will try to believe that some valuable lesson may be drawn from their *objections*, and exert ourselves to find out what it is.

BREEDS OF CATTLE.—DEVONS.



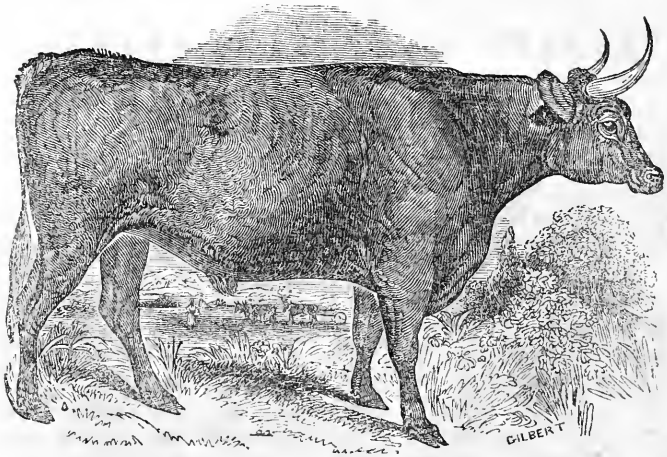
ALDERNEY COW.

Here is another Alderney, sister, we suspect, to the one we profiled last month. Bating our mistake, now corrected, in ascribing the richness of a certain cow's milk to the Alderney blood, when it belongs, for what it is worth, to another breed, we remain in statu quo as to the peculiar merit and the strong demerits of the Alderneys; and we reproduce the above *simulacrum* of the race, with the hope that our readers will gaze on it till fully satisfied to have nothing to do with them, except for the one-cow purpose of supplying the family with extraordinarily good milk at all times. For such as are willing to sacrifice all other good qualities to that one, the Alderney is the very thing. Whoever would commend them for any other quality, or would commingle their blood with our general stock, we think, should be voted an enemy to his country.

Below is represented a working-ox and a milch cow of the Devon breed. No matter whose they are; for we are grinding nobody's ax. Our object is to represent medium samples. These plates represent cattle thin in flesh, and in general appearance far inferior to North Devons, exhibited by Col. Capron, of Illinois, Mr. Osborn, of Otsego Co., N. Y., and many other breeders whom we could name. Our impression of them, made by what we have seen and heard, both in England and this country, is that for any region where the forage and climate are but ordinarily favorable, these are the best cattle that have yet

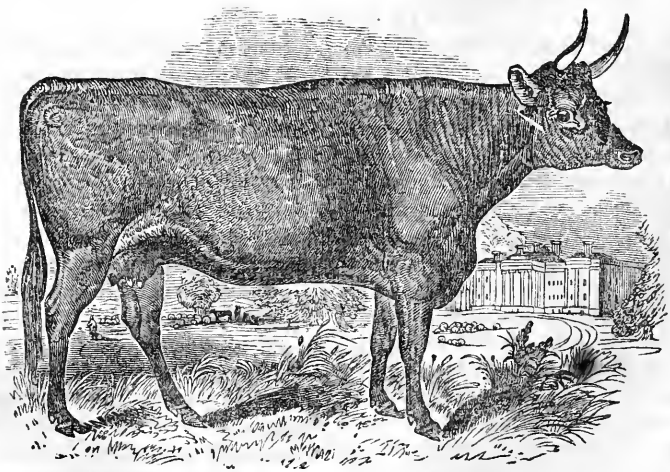
been imported. A general impression is that they are small. Col. Capron's cattle, exhibited at some of the western shows in 1856, demonstrated that with perfectly pure blood, and that perfection of form for which most of this breed are remarkable, size can be obtained; good size, large, we will say, though not as large, it is true, as with some other races. But we have yet to learn that the largest cattle are the best. We do not believe they are, except for peculiarly favored regions; nor are we yet quite certain that this exception need be made in favor of the Durhams.

It should be understood that our cuts



DEVON WORKING OX.

represent the general characteristics of the Devons at large. The North Devons, which, so far as we know, are much the most common in this country, are an improvement upon this, of finer mould, plump, clean, having all the im-



DEVON COW.

portant points admirably developed, beautiful as one could desire even were that the only object, and yet as hardy as the hardiest, and their blood so strong

as generally to predominate in any cross.

In milking properties we believe them fair, at least, but, like most other breeds, varying greatly. The Devon cow of Mr. Buckminster, which we unwittingly characterized in our last as an Alderney, is undoubtedly a remarkable milker. We have known others inferior. Our impression is that they are more remarkable for the quality than for the quantity of their milk, and are, on the whole, medium, or a little more, as milkers.

For the yoke nothing can exceed the Devons, unless it be the old red cattle of New-England. With these we have worked down many a summer's sun in the field; we remember them like old friends; and we hardly feel like admitting that anything can beat them.

It is enough to say that the Devons are like them, spry as horses, strong as giants, docile, always ready to do one's bidding. If there is anything for which man should be peculiarly grateful to the giver of all things, it is for the services of the horse, and, hardly less, for those of the ox.

CURE FOR SHYING.

If a lady's horse be addicted to shying, I will give her a sure and simple cure for the same; one which I have never known to fail. Let us, for instance, suppose the existence of a large heap of stones on the near side of the road. The horse sees an indistinct gray object, and prepares to shy at it. The moment he shows such symptoms, let his fair rider turn both her eyes on exactly the opposite side of the road, (*i. e.* the off side) and look steadily away from the offending heap, and I'll engage that the horse will walk quietly by.

For many years I have ridden horses of all tempers and dispositions, some of them much given to shying, and have never yet found this simple remedy to fail in its effect. Let those who scoff at me try it. The reason is this. The human eye, has, doubtless, a great influence on all animals, and there is a strong and secret sympathy between the horse and his rider; the horse sees an indistinct object and looks doubtfully at it; his rider becomes alarmed, imagining that the animal is going to commit some eccentricity; the fear is communicated to the animal, and he starts in terror from the object which has frightened him; whereas, if he finds that his rider sits unmoved and unconcernedly he regains his confidence, and goes on, "in the even tenor of his way." I believe that one-half of our horses are ruined for life by being "hit over the head" by grooms to cure them of shying.

HARD TIMES—YANKEE CONTRIVANCES—CHINESE SORGHUM—SYSTEMATIC FARMING.

BY JOHN A. MONTGOMERY, WILLIAMSPORT, PA.

Your January number is received, and although you have nearly deserted my business, yet I wish to see you once a month. Having often desired to write to you on various matters, I shall not promise to be short or long, knowing that when you get tired of reading you can stop. I had intended to give you an account of the lumber business of this section, but have not had time to collect reliable statistics, having been busy getting people in our debt, *trying* to collect, and fighting hard to supply our hands with clothing and food. The fact is the shops here shut up; but as I had found from experience that an idle man required food as well as one employed, I said to our hands that we would work on as long as we got food and clothing, and when one starved we all would, and I believe none have gone hungry as yet. But, sir, I can almost say, that so far as our usual business is concerned, "our occupation's gone," yet you know "necessity is the mother of invention," and "we three" being *Yankees*, and two of us of that miserable class called inventors, and seeing men's fingers doing what machinery should, we got up some little machines, (to surprise the Dutch,) and they sell.

Last spring, having no garden, I gave one of our hands seeds of the Chinese sugar cane, which he planted eight feet

by sixteen, and by using a pair of rolls we happened to have in the shop, he extracted the juice and boiled it down to a good, very thick syrup, which measured three gallons, or at the rate of one thousand and twenty gallons per acre. This speaks large, but it is true, I having seen the syrup myself. He made a little into tolerable sugar.

If I live I shall the coming season have a garden, and intend to raise a sufficient quantity of cane to test the matter fairly and make some sweetening. And I shall make this offer to others here: "If they will raise cane, I will make a three-roller mill and allow them to use it without charge." If "cotton is king," sugar shall not be, if I can help it. Let me suggest one thing; having seen several experiments, I am led to conclude that the cane should not be planted on very rich soil, for the reason that when so planted it does not sufficiently mature before frost.

Now, sir, I am going to be very presumptuous—to differ from Mr. Manny on the subject of steam plowing. In the first place I feel satisfied a good steam plow can be built at a fraction of the cost stated by Mr. Manny. In the next place I believe it would pay on many of our Western farms, but not on the patchwork farms on which that curse of the farmer (inside fences) are made to cover the best land. Now I am just so confident in the matter, that if I live I will probably try it, and can say, if I don't succeed, it will be the first time I have failed in inventing, except once when a boy. I used to be told I could lift myself over the fence by my breeches. Perhaps I can; I never tried.

I have often thought I would like to give you a letter on "Systematic Farming," and if possible induce farmers to try a plan I adopted in old Dutchess. In the first place make a map of the farm, numbering each lot. Next in a small book open an account with each lot, and then every night charge each lot with the labor, seed, manure, etc., which has gone on the lot, and credit the lot with what comes off of it. Then in the winter figure up and see what pays and what does not.

Again I would like to make a calculation as to the cost in all points of inside fences, and let the farmers look at it.

But I must stop or we will both be tired out. Put my thoughts where you please, not excepting the stove.

—

That is right; figure up the cost of inside fences, and show that most farmers have twice too many of them, and we will put it into the stove, or other where if it shall be adapted to enlighten our readers.—Ed.

SORGHUM AND IMPHEE.

As there has been considerable discussion as to the relative value of the rival sugar plants, the Sorgho and the Imphee, we give an extract of a letter from Governor Hammond, of South Carolina, now a Senator at Washington from that State, to a person in this city. Referring to the Imphee, he says:

. . . . "I think these seeds well worth distributing. They produce a sugar cane at least equal to the *Sorgho* in all respects, and some of them are twice the size. I am inclined to think we shall ultimately find several of them (ripening at different periods) *superceding the Sorgho* altogether.

"I plant this year sixty acres of the cane; of these four will be planted in Sorgho and the remainder in Imphee.

"Yours respectfully,

"J. H. Hammond.

"Washington, Jan. 13, 1858."

—

It is quite possible that the smaller varieties of the Imphee may be better for the north, and the larger for the south. We incline to the opinion that for northern latitudes the Sorghum will surpass the Imphee. But we would advise farmers to try these varieties of the

Imphee, of which there are some ten different ones, but in such a way as to cause themselves no serious loss if unsuccessful.—Ed.

DEPRECIATION.

A FARMER in Wilmington, says the *Vermont Phœnix*, has recently sold a pair of oxen, weighing about 3,740 pounds, at four and a half cents a pound, for which he was offered six in September. Another sold a pair for $150, being fifty dollars less than the same cattle were estimated to be worth three months since. Butter has been sold in the same town for fifteen and a half to twenty cents.

Horticultural.

CALENDAR FOR FEBRUARY.

FLOWERS.

Bulbs placed in pots and covered over as recommended last month, may be brought, some of them, every few days into the parlor or green-house to bloom. They should be kept as near the window as possible, if in the parlor; and the soil in the pots must be kept moist. As they advance in growth the quantity of water may be increased.

The Greenhouse. — For greenhouses kept only just so warm as to exclude frost, the directions in last month's Calendar apply equally to this month also.

Where it is wished to bring plants forward for early bloom, the temperature must not be allowed to fall below 45° or 50° Far., at night; and in the day the sun will raise it higher. In such a house flowering shrubs may be brought forward for bloom: as *Lilacs*, *Roses*, *Spiræas*, *Weigelias*, *Jasmine*, *Forsythias*, and many others; *Deutzia Gracilis* among them, being one of the most desirable. Syringing in the morning in sunny days, will tend to keep down insects in a warm house of this kind, and benefit the plants. Camellias and Azalias will expand their blooms also in such temperature. Give a little air at the top of the house in mild days for a few hours only.

Geraniums should be shifted into large pots to bloom. A compost of light loam and decayed stable manure with a little white sand will suit them. The old ball of earth should not be broken in re-potting them; and they will not require much water for three weeks until the roots get through the new compost. Only keep the soil moist. As they advance in growth tie out the shoots to sticks, so as to spread the head of the plant, and let light and air into the middle. Syringe them freely, daily, to encourage growth and keep down green fly. They are best kept at a maximum temperature of 50° for six weeks to come. After that rather warmer.

Fuchsias, towards the end of the month, may be treated in the same way. One third vegetable or leaf mould added to the Geranium compost will suit them. Treat them like the Geraniums.

Annuals, such as *Alyssum*, *Mignonette*, *Stocks*, *Candytuft*, *Sweet Peas*, *Nemophila*, and many others may be sown in pots, to bloom in them, or to turn out at the breaking up of winter in order to forward the bloom in the parterre.

KITCHEN GARDEN.

Lettuces, *Radishes*, *Mustard*, and other small salad, as well as *Cauliflowers*, and early *Cabbages* may be sown in hot-beds, or in cold frames, according as it is wanted to have them early, or for succession.

Rhubarb or Pie-plant may be forced by turning a large flower pot or a half barrel over the crown of the root, and then heaping upon the bed a quantity of manure, fresh from the stable yard. Put it a foot thick or more around and over the barrel; and watch after ten days for the crop, by raising the barrel every

few days. It will depend on the weather and the quantity of manure laid on.

Give air daily for a few hours to all *plants in cool frames* when the external temperature is above freezing; and remove any decayed leaves from Lettuce or Cabbage plants, stirring between them with a pointed stick to keep the surface soil open and to let it dry freely.

Grape Vines should be pruned the end of this month, if they were not done in the fall. Do not prune them during severe frost; but it is better to prune the Grape too early than too late in spring.

Currants and *Gooseberries* should be pruned. Keep the center of them open. Have a certain number of clean branches according to the strength of the plant; and cut in all side growths on these to within an inch, or rather more, of the branch. These will bear fruit spurs next year.

Apples and *Pears* may be pruned as soon as the severest of the winter's frost breaks up.

INSECTS, FLOWERS, LANDSCAPE GARDENING.

In copying the following extracts from a very able report of a Committee of the Massachusetts Horticultural Society, we are aware that we do injustice to the committee by severing these portions from others, but we do it with a view to present our readers with what we consider the most instructive parts. There is no more effective way of teaching how to do a thing, than to show how others have done it.

Landscape gardening is a beautiful art. Flowers everybody should cultivate. They are a living presence, connecting man with whatever is pure and elevating. Fruits! who would not have them? Health giving, they exhilarate but not intoxicate. Would that our country could be so full of innocent pleasures and harmless luxuries, as to diminish many fold the temptation to hurtful indulgencies.

What a paradise of delights is such a home as are some of those described below! The city is a mass of deformity compared with it. Those who have money to spend can make such homes, and lay the world under obligation to them for doing it. But what is a more comforting thought to us is, that the well-managed farm, with its orchard, its plot for vegetables and its little flower garden, its buildings, and enclosures all neat, though cultivated for profit more than for ornament, is nevertheless beautiful. Its flowers and fruits and tasteful arrangements do not render its staples less abundant or less valuable. They only add pleasure to profit. God and man have conspired to make the well arranged, highly cultivated farm beautiful, and *it is beautiful.* But hear what the committee say.

On Tuesday, January 6th, the committee visited the grapery of Mr. M. H. Simpson, in Saxonville. The weather was clear and cold, the thermometer standing at zero out of doors, and the change from the freezing atmosphere without to the genial warmth of the greenhouse could not fail to be agreeable, while the beauty and novelty of seeing at such an inclement season the clusters of ripe grapes hanging overhead, could scarcely fail to produce the most pleasing impressions.

The grapery of Mr. Simpson was built in 1848; the house is span-roofed, 66 feet in length, with a border inside and out; it is divided by a glass partition into two equal parts, each house containing twenty-two vines, thus enabling Mr. Simpson to bring the vines into bearing at different seasons. The vines grown were Syrian, Hamburghs, Muscats, Black Prince, Zinfindal, Frontignans and Macready's Early, and in vigor and luxuriant growth could not well be surpassed. The theory of Mr. Simpson is too well-known to need comment, and in the opinion of the committee the experiment he has so fully tried has been crowned with the most satisfactory results and complete success.

The time required to fully ripen grapes averages from four and a half to five months; and thus, leaving a month for the full ripening of the wood, a crop might be matured once in every six

months. Mr. Simpson's practice, however, is to allow the vine to grow naturally without forcing every other year, thus preventing any exhaustion which might ensue from continued forcing.

The committee can not but express their gratification at this visit, and trust that the time is not far distant when grapes will be as plenty in our markets, during the inclement winter months, as in the more sunny summer seasons.

Our next visit was on Wednesday, June 28th, to the estate of H. H. Hunnewell in West Needham. The situation is unsurpassed, being on the banks of Lake Wabaan, a beautiful sheet of water, which, unlike most of our New-England lakes, has high, bold shores, its banks being thus peculiarly fitted for residences. The estate consists of about two hundred acres, most beautifully laid out in garden, lawn, woodland and orchard. The house is approached by two avenues on either side of the lawn, each seventeen feet in width; the one bordered with white pines, silver maples and larches, the other with native deciduous trees, magnolias and Pinus excelsa.

Here a pleasant surprise awaited us; baskets of magnificent grapes, mammoth strawberries, the famous Stanwick nectarines, peaches and figs were set before us, and resolving ourselves into a fruit committee we did ample justice to the merits of the fruit and to Mr. Hunnewell's kind and liberal hospitality. Next, passing some thriving specimens of the magnolia in front of the house, and beds of roses, verbenas, and justicia, we visited the fruit garden and greenhouses, marked by the same characteristic neatness. Here we found the choicest strawberries, each variety in its separate bed; blackberries, currants, raspberries, and pear, apple and plum trees, growing most vigorously and fruiting abundantly. Taking a hasty view of the greenhouses, from which most of the fruit had been cut, we passed on to a peach house just erected, where we found the trees looking finely. In one of the graperies a peculiar manner of wiring is well worthy of note and imitation; the wire being fastened to one end of the house is drawn across to the opposite end and fastened to a large screw which is passed through the end wall; a small nut upon this screw permits the wire to be loosened or tightened according to the expansion or contraction caused by heat and cold; the neatness and simplicity of this arrangement are commendable. Stopping for a moment to notice some fine trees of the famous Stanwick nectarine, we turned towards a small building on the brow of the hill overlooking the lake, where we were shown a small steam engine of six horse power, by means of which the corn is ground, wood sawed, and water pumped from the lake into large reservoirs in the barn, whence it is distributed by pipes all over the garden, so that in a dry season the labor of watering is comparatively small. We were informed that in order to keep the place supplied with wood and water it was only found necessary to work the engine for a few hours each week; altogether this seemed the most perfect arrangement for saving labor and trouble which it had been our fortune to see. Thence we turned to view a noticeable feature of the place, far more interesting in a botanical or horticultural light; the choice evergreens and deciduous trees and shrubs imported by Mr. Hunnewell, and which, though as yet young, gave promise of a vigorous future.

In conclusion, the committee would not have it supposed that in a condensed report they can do justice to a place like Mr. Hunnewell's. What has been written can only show what can be accomplished in a short time, by care, industry, and judicious expenditure of money. Six years ago Mr. Hunnewell's estate was a pitch pine forest, the soil barren, and the place only possessing the advantage of situation. By the judicious application of manures, and the admixture of peat from a meadow near by with the native sandy soil, it has been brought into its present fertile condition; and the committee can not refrain from expressing their entire satisfaction, not only with the means employed, but also at the results, both apparent and perspective.

On Wednesday, July 8th, the committee, by invitation of Henry W. Fuller, Esq., Treasurer of the Board of Trustees, visited Woodlawn Cemetery in Malden. The ground already laid out consists of about one hundred acres, pleasingly diversified by hill and dale, and offering variety in wood and meadow.

Approaching the Cemetery from Chelsea we were at once struck with the neatness which marks the roads and avenues. The entrance is through a tasteful gateway, with porter's lodge on either side, and it is shaded by trees, the original growth of the place. Turning

to the right we were pleased to observe the attention paid to flowering shrubs; among which we noticed deutzias, mahonias, azaleas, wegelia, and rhodondendrons in great variety; the latter seem to grow in the greatest luxuriance, and intermingled with Kalmia latifolia, will soon in many places form large masses, the effect of which can not fail to be most striking and beautiful; and the committee can not but express their surprise that these two of our most lovely and hardy flowering shrubs, alike beautiful in foliage and flower, should be so rarely cultivated and so little known.

The trees of Woodlawn form one of its distinguishing features; they are of every species which our woods afford, and those of foreign birth which our severe winters permit to be naturalized. Oaks of many kinds, walnuts, maples, beeches and kindred trees mingle with the choicer foreign deciduous trees and evergreens. The tupelo, one of our most beautiful forest trees, also abounds, and forms clumps of great beauty in many places.

Paths and avenues of the most solid construction have been laid out in pleasing curves, each turn affording some new prospect; and what is most worthy of comment, the construction of all the walks is such, and so perfect is the system of drainage, that even in the most violent rains they wash but little, thus materially reducing the expense and labor of keeping them in repair. From many points most lovely vistas stretch through the wood, and small ponds with fountains, here and there interspersed, give new beauty to spots already lovely and attractive by nature. Rustic arches covered with native vines, growing with wild luxuriance, span the avenues; and arbors embowered in trailing climbers peep out at convenient points. The view from the higher ground is extensive and pleasing; we see the neighboring villages, each nestling in a canopy of wood, and catch not unfrequent glimpses of the distant ocean.

The committee can not but feel their indebtedness to Mr. Fuller for the kindness and courtesy with which he treated them, and most fully commend the good taste which characterizes every part of the grounds. In his labors Mr. Fuller has an able and zealous assistant in Mr. Cruikshank, the superintendent, whose judicious labors have done much to beautify Woodlawn.

A visit to Woodlawn can not fail to be satisfactory to all who love the beauty of nature, only so far fettered by art as to enable it to shine with truer loveliness; and the growing disposition in the community at large to render pleasing and attractive the resting-place of the departed, while it takes little from the sadness of bereavement, can not fail to exercise a salutary influence on the public mind. Well pleased with their visit the committee left Woodlawn feeling how much taste may accomplish towards making even the sad things of nature shine in lovely and attractive guise.

A pleasant ride of about an hour, on the morning of July 30th, brought us to the station at Randolph, where we found carriages in waiting to convey us to the place of C. S. Holbrook, Esq., which is situated in East Randolph, about two miles from the railroad.

In the fruit garden the dwarf apple trees appeared far better than any the committee had seen elsewhere; many of the trees being well filled with fruit. The greenhouses are three in number; one used as a peach house, connected with which is a pit for vegetables; the two others being appropriated exclusively to grapes.

The season of peaches being almost past, we only found two trees from which the fruit had not been gathered; the growth of all the trees was vigorous and the trees healthy. The vegetable house or pit has, during the present season, been used entirely for forcing cucumbers; and though the vines were, as we were assured by the gardener, long past their prime, yet the abundant fruit still clinging to them gave evidence of a flow of sap which would have done credit to younger vines. The two other graperies are each sixty feet long by twenty wide; one of these is divided by a glass partition into two equal portions, in order to force the vines at different periods. The principal grapes grown are the Muscat in variety, Hamburghs, Frantignans, White Chesselas, and Black Prince; the size of the berries was good, and their flavor excellent; the vines were in fine condition, being free from disease, with a clear rich foliage. Much credit is due to Mr. Walsh, gardener to Mr. Holbrook, for the skill and attention everywhere exhibited, and for the neatness and artistic merit of the flower garden, and the committee can not but think that were the same care bestowed

on flowers in general, gardening could not fail to acquire a new charm.

On Tuesday and Wednesday, August 25th and 26th, the Secretary, in company with another gentleman of the committee, made visits to the following places visited by the Committee in July.

A pleasant ride brought us to the garden of Galvin & Hogan in Somerville, where the growth of the trees and their healthy appearance gave good evidence of a rich and well cultivated soil. The flower garden was not in as fine condition as we had been led to expect, though the heavy rains of the preceding fortnight were mainly the cause of the disorder. The pears were in good bearing, especially the Easter Beurré, Louise bonne de Jersey, Bartlett and Duchess d'Angouleme; while a heavy crop of tomatoes gave evidence that in vegetables Somerville is not at all behind the neighboring towns. As a matter of course there was but little of interest in the flower houses at this season, all the plants being arranged out of doors; but an examintation of the camellias, ericas, epacris and azaleas, was fully satisfactory, and afforded proof of the care which produced such abundance of promising buds and rich luxuriance of foliage.

By a walk of half an hour we reached the well known establishment of the Messrs. Hovey, so often described in the reports of the Garden Committee. The pears were in full beauty and afforded no evidence of lack of attention of careful, well-directed pruning. In the greenhouse a fine collection of achimenes and some beautiful specimens of Cissus discolor were worthy of notice; we also found Psidium calleyanum in fruit, and were informed that from the fruit of half a dozen small trees a couple of boxes of guava jelley were manufactured last year. In the open border the Japan lilies were just bursting into bloom, and some fine new phloxs showed in full glory.

The well known country-seat of Jonathan French, Esq., was next on our list; and we need only say that in every respect it maintains its previous reputation; the greenhouse plants and flower garden were in fine order, and a collection of new seedling verbenas worthy of especial praise. We here saw some choice new petunias, fuchias, lantanas and salvias; but to us, with the exception of the Countess of Ellesmere petunia, they did not appear so striking as to recommend them above others longer and better known. Two noble Seckel pear trees, loaded with fruit, were noticeable objects, as the largest and finest specimens of the kind it had been the fortune of the committee to see.

The following prizes and gratuities, among others, were awarded:

For the best cultivated and most neatly kept grounds through the season, to H. H. Hunnewell, a prize of.....$20 00

For the same, to Wm. Whiting, a gratuity of..... 10 00

For the most economically managed, best cultivated, and most neatly kept fruit garden, through the season, to John Gordon, a prize of..... 20 00

For the same, to Ariel Low, a gratuity of..... 10 00

For the most economically managed, best cultivated, and most neatly kept flower garden, through the season, to C. S. Holbrook, a prize of..... 20 00

For the same, to William Wales, a gratuity of..... 10 00

For a well managed cemetery, in its keeping in accordance with the true principles of beauty and art, to Woodlawn Cemetery, a price of..... 20 00

To M. H. Simpson, for a novel and well conducted experiment in the culture of the grape, a gratuity of..... 20 00

To F. L. Harris, gardener to H. H. Hunnewell, for floral gardening, the society's silver medal.

To E. P. Hollis, for a well conducted vegetable garden, the society's silver medal.

HOW TO MAKE STRAWBERRY BEDS.

Two points must be understood, to grow the best strawberries: 1st, that the soil must be deep, and 2d, that it must be rich. If you look at the leaves of a strawberry, and because they are not very large, presume that the roots will extend but little depth, you are greatly mistaken. I have seen the roots of strawberries extend five feet down in a rich, deep soil; and those plants bore a crop of fruit five times as large, and twice as handsome and good, as the

common product of a soil only one foot deep.

And this reminds me of a capital instance of *strawberry delusion*, which most of our readers doubtless know something about, but which many even yet, perhaps, do not fully understand I mean the history of the "Washington Alpine Strawberry," which Mr. Stoddard, of Western New-York, advertised, and sold a great many dollars' worth of, some four or five years ago. Mr. Stoddard, I believe, was quite honest in the transaction; and yet the whole public were completely deluded by the "Washington Alpine," which was nothing but the old Alpine or Monthly Strawberry. The long and short of the matter was, that Mr. Stoddard had a corner of his garden which was *made ground*—a rich, deep, moist soil, (I think it had been an old bog, or bit of alluvial, afterwards filled up) not less than eight or ten feet deep. Mr. Stoddard had raised some seedling Alpine (which, so far as I know, always comes from the seed;) he had, by lucky chance, planted them in this corner of his garden, where the soil was so unusually rich and deep. There they grew so finely, and bore such enormous crops, that his neighbors could scarcely credit their senses. The story of the miraculous crop got into the papers. People came to see with their own eyes. In short, they bought, and carried away the "Washington Alpines," at extravagant prices, with the full conviction that "seeing is believing," and that such strawberries were never before grown, gazed on, or tasted. Well, great was their surprise to find, on planting and cultivating the "Washington Alpines," that there was nothing new or wonderful about them; and that, in fact, they all dwindled down to the old-fashioned Alpine Strawberry. Mr. S., naturally enough, now has as many hard names bestowed upon him for the fancied deception as he had before had hard dollars for really great crops. And yet, Mr. Stoddard sold his plants in good faith, and was probably as much deluded as the buyers. The whole secret of his unheard of crops, and the large size of his fruit, lay in the depth and richness of his soil; and as none of his customers had, like him, a rich ten feet mold to grow giants in, they had no "Washington Alpines."

The "moral" your readers are to draw out of this digression is, that they can not well make their soil too deep for the strawberry. Perhaps they can not afford to make it three feet deep, which is the right depth for an extra fine crop; but, at all events, they can make it two deep. And now, a word as to manuring it.

It is all very well to talk about composts and "well rotted manure." The real truth is, that in our careless country, not one gardener in a hundred has such things *ready for use* at the moment he wants to prepare his strawberry patch. What people have at hand, from one end of the country to the other, is fresh stable or barn-yard manure; and the question is, how to use that to the best advantage.

The true way to do this, is to throw out the soil where your beds are to be made, two feet deep. Fill up the bottom eight inches, or a foot deep, with fresh stable manure, mixed with the litter, treading it down firmly. Then cover this with two-thirds of the soil thrown out, rejecting the worst part of it. This will raise the bed four inches above the surface; and as it will settle about four inches, it will be about level after it is settled.

This is all the preparation which I give my soil, and it is all that any soil of fair quality needs; only that I would much prefer to have it three feet deep, than two feet, and to have sixteen inches of stable manure and litter at the bottom than eight, though the latter brings heavy crops in a good soil.

You may put out your plants in August (September in Ohio,) or April. The only difference is, that if planted in August, you may lose half of them by the heat and drouth, unless it is a rainy season; while in April, you are certain not to lose a single plant, unless it is unsound when you transplant it.

To my mind there is no way of growing strawberries half so complete as in beds three and a half feet wide, with three rows in each—the plants in the rows kept clipped of their runners, and the ground between the rows nicely covered with straw all the year round. The largest and finest fruit is obtained in this way, and the beds themselves will last many years; while if they are allowed to cover the bed, you can, at the most, expect only two crops, and, generally, the fruit is of little, or no value, after the first crop.—*The late A. J. Downing, in the Horticulturist.*

It may seem like intolerable arrogance

for us to take the attitude dissent from so universally and justly honored authority. But though one arise from the dead, we could not believe in burying fresh stable manure two feet under ground, much less three feet or three and a half. It might do on some soils, but not on all. That it operated well in Mr. Downing's grounds, we have not the least doubt; but his success was owing partly, it is probable, to a natural adaptation of his soil to such treatment, but more to a perfection in his cultivation which few will reach. We presume his soil was often stirred, and that to a great depth the air was let in; and under its influence that manure was first *decomposed*, and then *recomposed* into compounds fit to feed the strawberry.

With but ordinary skill in cultivation, and especially on compact soils, the elements of fresh manure, buried two or three feet deep, either lie dormant, or if decomposed, are again recomposed into compounds, hurtful instead of beneficial to plants. The influence of sun and air is wanted to secure the best operation of fresh manure.

B. V. French, Esq., of Braintree, Mass., tells a story in point. He once plowed in an enormous quantity of manure from one to two feet deep on a substantial, but not very heavy soil. The crop was not improved. He looked for that manure the second year. It did not come. He looked in vain for a good effect the third year, the fourth, and on; and he wonders whether there is science enough in the world to tell where his manure has gone, as he has never heard from it. The fact is, he had shut it out from the influence of sun and air, and it formed other compounds than those which nature designed as the food of plants.

No man shall outdo us in a high appreciation of the instructions of the late A. J. Downing; and we believe those of his son are destined to a like salutary, elevating, enriching and refining influence on the country. But we never can subscribe to a two or three feet burial of fresh manure, except in the lightest soils, and even for such we think a less depth better.

A better way of manuring for strawberries, if you have none but fresh manure, is to mix with it large quantities of leaf mold, well cured swamp muck, or other substances of a like nature, ten loads at least to one of the manure, and to incorporate well with the soil, from the very surface downward as deeply as you please. In the September number of the *Plough, Loom, and Anvil*, for 1856, at page 146, is an article on the cultivation of the strawberry, embracing all or nearly all that need be known for the cultivation of this delicious and health-giving fruit, in any and all quantities.

Before the proper time to commence a strawberry plot, we will revise and enlarge that article, and give it in an improved form to our readers.—Ed.

From the Magazine of Horticulture.

WINTERS OF '55-6 AND '56-7.

The winter of 1855 and 1856 was one of unusual severity at the West, doing immense damage to fruit trees of all kinds, killing, in many instances, plantations of many years' standing, and its disastrous effects will long be remembered. That of 1856 and 1857, though not, perhaps, equally severe, will, however, long be remembered by the cultivators of New-England, having been more injurious to trees than any winter since the memorable one of 1835. In Maine the damage to trees was very great, killing many outright of several years' growth; the Bartlett and other of the more tender pears suffering the most. What appears to be one peculiarity, so far as our experience goes, was the death of pears on the *pear* stock, the quince suffering little or none, showing conclusively that it is quite as hardy as the pear, and much better capable of sustaining frost in damp localities, where the pear invariably suffered. Another peculiarity was the almost entire exemption from injury of the peach buds, not-

withstanding the thermometer stood at 20° below zero. Heretofore it has been believed, and we have latterly given currency to the idea, that 12° below zero was the point at which the germ of the peach buds was likely to be destroyed. The experience of the past winter quite upsets this theory, evidently showing it is not the *intensity* of the frost that does the injury, but the condition of the weather before or afterwards, or the period of the winter when it occurs. The same trees which in 1855 and 1856 lost about all their buds when the mercury fell to 12° below, now produced a full crop.

As regards fruit generally, the season has not been very favorable. Apples in some localities bore tolerably well, but in New-England the crop has been very light. Pears were not near up to the average. Cherries suffered from the winter, and from the cool and damp summer. Grapes were a failure, the vines mildewing badly, and the crop not coming to maturity before frost. Of all the fruits the pear gave the best results this year, as it did the last.

From the Magazine of Horticulture.

HORTICULTURAL LITERATURE.

THERE have been very few publications during the year. The only work of note has been The Fruits and Fruit Trees of America, revised by Mr. C. Downing, and noticed in our last number. The first number of the third volume of The Fruits of America has appeared, and other numbers will soon be published. The Patent Office Report for 1856 is a considerable improvement upon the preceding ones, both in the character of the reports and general information, and in the typographical execution of the volume. The Transactions of the Massachusetts State Board of Agriculture for 1856, by Mr. C. L. Flint, the secretary, has been prepared with unusual labor and care, and contains very minute descriptions of all the principal grasses, with engravings; and will prove a most acceptable work to all interested in agriculture. New editions of McMahon's Gardening, Allen's treatise on the Grape, and some other works have been published. The illustrated annuals, from the officers of the *Albany Cultivator* and the *Genesee Farmer*, are both small works of much interest to all who can not readily obtain more complete treatises on the same subjects. The agricultural papers have been improved considerably, and the *Ohio Farmer*, one of the best, is to appear in a more convenient form for preservation.

OBITUARY.

In addition to the record we have already given we have to add the name of James D. Fulton, nurseryman, of Philadelphia. He died very suddenly, in New-Jersey, in his 43d year. Mr. Fulton was one of the most intelligent nurserymen. He served his time with Messrs. D. & C. Landreth, was subsequently foreman of the establishment, and after the relinquishment of business by Mr. T. Landreth, became a partner with his brother. Mr. D. Landreth. At the closing up of the business of this firm a few years later, Mr. Fulton established a nursery on his own account, and at the time of his death had considerably extended his grounds, and enjoyed a lucrative trade. His loss will be deeply regretted by all who had the pleasure of his acquaintance.

For the American Farmers' Magazine.

MR. ED.:—I would be pleased if you would answer the following question under your head of *Interrogatories:*

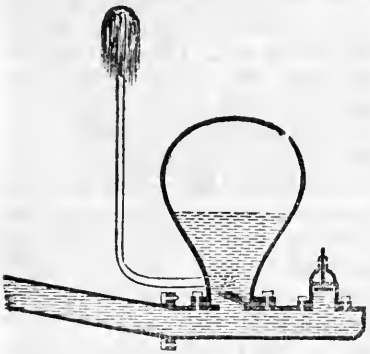
My residence stands upon a slight elevation, about sixteen feet above the level water of a clear stream. Now, I should like to know whether I could, by means of a "Hydraulic Ram" and leaden pipes, force the water into my yard, a distance of about forty yards from the body of aforesaid water? The current is very slow, being only about one mile per hour. An elucidation on this subject would much oblige a constant reader. Will you recommend a work from which I can gain knowledge on this subject?

R. J. F.

Answering the last question first, we know of no book to recommend but "Ewbanks' Hydraulics." This contains all you want, with much more which you might not care to pay for. It would be $2 50, if sent post-paid from this office. Very possibly the common School Philosophies, found in almost every

family, would explain all you want to know on that subject.

But we have procured a rough engraving for the purpose of illustrating the principles of the hydraulic ram, because we believe that many of our readers will feel an interest in this subject akin to yours.



In this cut you will readily distinguish the drive-pipe by its sloping position, and the lift-pipe by the water issuing from its top. The water passes down the drive-pipe, and by its force lifts the valve opening upward into the air-chamber, but will rise in the air-chamber no higher than the fountain from which the drive-pipe is supplied. This is on the simple principle, that water seeks its level—will rise in the spout of the tea-kettle as high as in the kettle itself, but no higher.

To the right of the air-chamber is the escape pipe, through which the water is discharged, and wastes till its velocity becomes sufficient to raise the valve of the waste-pipe. The effect of the shutting of this valve is to suddenly stop the whole body of water in the drive-pipe. The downward flow of this water is overcome; but we know that the tendency of a heavy body, once moving, is to keep moving. If you strike a nail with a hammer, the hammer stops, but does not stop the instant it hits the nail, nor till after it has settled the nail a little into the wood. So this body of water in the drive-pipe stops, but not till after it has forced a little water into the air-chamber and thence into the lift-pipe, raising the water in the lift-pipe somewhat higher than the fountain. The valve in the lift-pipe shuts by the weight of the water above it, and prevents a reflux. This done, the valve in the waste-pipe falls open of its own weight, and remains open till the water down the drive-pipe acquires a new motion sufficient to raise the valve again in the escape-pipe. As soon as this rises, or shuts upwards, the whole body of water in the drive-pipe is again stopped, but does not stop till it has forced another portion through into the air-chamber, and thence onward into the lift-pipe.

Thus alternately the rushing of the water through the escape-pipe shuts the valve leading into it, and the sudden stopping of the downward flow in the drive-pipe opens the air-chamber valve and forces at each time a portion of water through, till the lifting-pipe is filled to the top and overflows. The object of the air-chamber is to equalize the upward motion, as without it the water, instead of flowing regularly, would flow irregularly—a little at each closing of the valve, then to cease till another closing of the same valve.

A fall of at least two feet is necessary to a reliable action of the hydraulic ram, where the elevation is as great as the one above described; and it is evident that a large amount of waste water would be required in such a case. A greater fall would be desirable if it could be obtained. The distance from the water to the yard is not objectionable. Your only question is, can you, by damming the stream, or cutting a race-way, or both, get a fall of two feet or more, and at the same time keep clear of back water? If you can, then the hydraulic ram affords the best means of carrying that water into your yard. Otherwise, a pump connected by a lead pipe with the brook would be preferable.

A. W. Gay & Co., 118 Maiden Lane,

are selling a pump which would probably answer the purpose well, as also a self-adjusting wind-mill, adapted to the drawing of water for cattle. See their advertisement on our advertising pages.

The query of another correspondent relates to a similar subject. He has to draw water for a large stock of horses, cattle and sheep from a very deep well, and asks, "Would it be good economy to sink a tank, and turn into it the rain water from the barn and sheds?" We think it would. No water is better for stock than rain water, properly preserved in a clean tank. If filtered, it is the best water in the world for all purposes. But we have not at hand the means of estimating the expense of a tank of sufficient capacity for a large stock. One thing we can say positively, and that is, it is more economical to construct a tank, at whatever the expense may be, or even to draw water from a deep well, than let your cattle stray abroad for water. In many cases a tank might be sunk on ground a little higher than the yard, and the water be drawn from it without the labor of pumping.

Another correspondent asks our opinion about the different breeds of cattle: "Which are the best, all in all, for the various objects the farmer seeks to obtain, as working, milking and fattening?" Hold still a little, friend; we are trying, from month to month, to tell you something about that, not that we are over confident in our opinions; but you see we have invited all the world to come and refute us on our own ground, if we get on a wrong track. It will not be long before we shall run foul of somebody's opinions, or tread on somebody's corns, or dash against somebody's interests, and then there will be "light on the subject" struck up in these pages, beyond a peradventure.

A lady reader puts us some tough questions of a culinary nature. Alas! our better half has gone into the country, and we can not answer such questions just now. When she returns there is no knowing how wise we shall be in these matters.—Ed.

Ed. Farmers' Magazine:—Some three years since I saw in a lady's flower-pot a plant of remarkable luxuriance, and thinking it might be a valuable accession to our field grasses, proposed to her to let it ripen and I would pay her any price for the seed. I have not been disappointed. Its growth in the garden was ten feet high, foliage very thick and fine, large pendant heads a foot in length, full of heavy *seed* resembling millet. The last spring I had several bushels of it, and sold Breck and Nourse, seedmen of Boston, each a bushel, which they circulated in small parcels, hoping to have it spread through the country. They asked me what name they should *give* it. Not knowing its origin, I said perhaps *Chinese Millet* for the present. It being an object to get all the seed possible, I have cut none early for *fodder*. After gathering the ripened seed, I have fed the dry stalks to the cattle. They eat it as well as those of the *Chinese sugar cane*. Having read an article in your *Farmers' Magazine* for January, on *Hungarian Grass*, it struck me that mine *might be* a superior *variety* of *that*, while yielding more *fodder* and more than twice the quantity of seed.

Yours truly, Benjamin Willard.
Lancaster, Mass., Jan. 7, 1858.

GRAPES.

A writer in the *Louisville Journal* says:

I keep my vines about 6 feet in height for convenience in gathering the clusters. All kinds of animal substances are good for our vines. Street manure is excellent for them. They ought not, however, to be stimulated too highly, for then they become profuse in foliage, and the fruit mildews and rots. An even regular growth ought to be kept up. Rotten sods mixed with barn-yard manure is good for vines. Blood is good. Long Island might, by means of the fish called Manhaden, be made one beautiful

vine-yard. Take the fish in June, make a hole near the foot with a crowbar, push down a fish—there will be no smell from it, and it is an admirable manure for grapes.

Composts of sea-weed, black earth, and cow and horse dung are good.

Ashes are excellent on sandy lands, where their prosphates are leached off by rains.

Prune in March; they bleed, and my bleeding vines present a magnificent spectacle in the rays of the sun. Slight bleeding does not hurt them a bit. The bud starts the better for it. The Germans say "if the juice runs out of the vines, we know we shall have a good crop." In France and Italy, however, they do not prune so as to bleed their vines.

SCATTERING SALT ON APPLE TREES.

Dr. E. Sanborn, of Andover, sends to the editor of the *Advertiser* of that town, a specimen of Porter apples gathered from the tree on the 19th of November, which he thinks were kept on the branches by throwing salt on them. The editor, after having tasted the apples, remarks, that, "whether from the salting or the late gathering it imbibed such a delicious flavor, we do not know; but this we do know, that it was one of the best Porter apples that we have ever tasted. We think the experiment worth a further trial."

Mechanical.

From Newton's London Journal.

IMPROVEMENTS IN AGRICULTURAL IMPLEMENTS, ETC.

An improved method of purifying water, by Henry Medlock, *of Great Marlborough, London,*

This invention consists of a method of purifying and rendering more wholesome and useful water which either contains in solution only organic matter or the products of its decomposition, or which may also contain in solution inorganic matter, by separating and removing from the water a portion of such organic matter, and rendering the remainder of such organic matter innocuous; and in case the water also contains in solution inorganic matter, by separating and removing from the water a certain portion of such inorganic matter, and by rendering innocuous any phosphides or sulphides which the water may contain in solution, by converting such phosphides into phosphites or phosphates, and such sulphides into sulphites or sulphates respectively.

The water, previously to its filtration, is placed in a vessel or reservoir of convenient size, and there allowed to remain, in contact with certain solid bodies of metal or other substance presenting a sufficient extent of surface to the water, for twenty-four hours or longer, according to the quantity of water as compared with the exposed surface, or until the precipitation of organic matter, occasioned by such contact, ceases, after which, any of the precipitate occasioned by the aforesaid process, which may remain suspended in the water, should be removed by filtration in the ordinary manner.

The solid body preferred to be used is iron, (on account of the little injury the water sustains by contact therewith,) and in the form of scrap-iron, iron turnings, iron wire, or sheet-iron.

The following is the mode of applying the invention:—Suspend in a tank or reservoir containing the water to be purified, by means of iron rods passing across it, iron wire of about one-sixteenth of an inch in diameter, loosely packed in bundles or coils, and in the proportion of about one pound weight of such wire to every one hundred gallons of water. Allow the water to remain in contact with the iron wire from twenty-four to forty-eight hours, according to the rapidity with which the precipitation of organic matter, occasioned by such contact, takes place; and then pass the water through any kind of filtering medium now in use, which is capable of retaining the precipitate formed. For the filtration of water in large bulk, the ordinary sand filter may be used.

The effect of the contact of the water with the solid bodies above described, when the water contains nitrogen in any form, is to decompose or oxydize the organic matter, and the ammonia contained in the water whereby a certain part of

the organic matter and ammonia is converted into nitrious or nitric acids, or both of them, by which the rest of the organic matter is rendered insoluble. The nitrous and nitric acids finally combine with the iron or other solid bodies above described, or with some of the inorganic bases, if any, contained in the water; and the organic matter rendered insoluble is precipitated, together with some part of the inorganic matter, if any, contained in the water; and any phosphides or sulphides which may be contained in the water are converted by oxidation into phosphites or phosphates, or sulphites or sulphates, respectively, which are comparatively harmless.

Improved machinery for cultivating land, by ALFRED VINCENT NEWTON.

This invention relates to the cultivation of land by spades, operated by locomotive power as the machine progresses in the field; the machine will also more thoroughly break up, disintregate, and turn over the sward than can be done by ploughs. The entire machine is propelled in the field, in any direction required, and turned at the will of the attendant; and the same power which does this, operates a series of spades, which enter the land, each in succession, and cut into it in the arc of a circle, and, after cutting down to the required depth, suddenly throw up the cut slice against a shield plate, so as to reverse it, and at the same time to break it up, so that, when it falls down, it will be thoroughly disintegrated; the forward movement of the machine determining the thickness of the slices to be cut by the spades.

Improvements in giving motion to ploughs and other agricultural implements, by JOHN FOWLER, Jun., *of Havering, near Romford, Essex, Eng.*

Heretofore when ploughs and other agricultural implements have received motion by means of ropes wound round capstans or drums, driven by steam or otherwise, two of such capstans or drums have usually been mounted on the same horizontal axis, or on axes parallel to each other, which arrangements are in practice found to be inconvenient. Now this invention consists in mounting such capstans or drums on separate axes, placed at an angle to each other.

The invention also consists in moving the pulley anchors along the headlands by the power of the engine acting through the same rope as that which draws the plough. The rope from the winding apparatus passes first over a stationary pulley and then over the moveable pulley on the headland, from which it passes at right angles to the plough. To overcome the tendency which exists, when the strain is on the tackle, to draw the anchor of the moveable pulley towards the fixed pulley, the anchor of the moveable pulley is secured to an additional or supplemental anchor, which prevents it from moving while the plough is traveling; but when it is wished that this anchor should be drawn along the headland, it is only necessary to slacken the tackle which secures it to its supplemental anchor, and then the strain on the rope which draws the plough will cause it to move forward.

The invention also consists in a method of supporting and carrying the rope by which the plough is drawn, so as to prevent the rapid wear of the tackle which takes place when the rope lies on the land.

An improvement in ploughs, by WILLIAM DRAY, *of Swan-lane, London.*

This invention relates to such ploughs as are provided with a share in the form of a pointed bar, and consists in the means of securing the bar in its position after having been pushed forward, as required from the wearing away of the point thereof.

The patentee claims the "construction of ploughs, which are provided with moveable share bars, in such manner that the share bars can be tightened or slackened by means of an excentric roller or collar, or by more than one roller or collar, as described."

Improvements in machinery for delivering manure for agricultural purposes, by ROBERT REEVES *and* JOHN REEVES, *of Button, Westburg, Wiltshire, Eng.*

This invention has for its object improvements in machinery for delivering manure for agricultural purposes. For this purpose the manure is placed in a suitable box or trough, mounted on a proper carriage. The box or trough is formed with a curved bottom, and may be made with any number of openings for the passage of the manure; and over each opening is a slide or cover. At the lower part of the box or trough a rotating axis works, and on this axis there are fixed inclined blades or portions of screws being each of such a width as to move the quantity of manure

desired; and the peculiarity of the invention is, that the inclined blades or portions of the screws which are to bring up or move the quantity of manure to an opening, are inclined to the axis in opposite directions. The manure, after it has been caused to pass through the openings of the trough or box, may be deposited or distributed on or in the earth, as heretofore, or in any other convenient manner.

Improvements in horse hoes, by JOHN NAYLOR, *of Winterton, near Brigg, Lincolnshire, Eng.*

The object of these improvements in horse hoes is to render each of the hoes capable of being moved to and from its neighbor, in order to admit of varying their distance apart, and yet allow the whole series of hoes in the machine being moved laterally, according to the requirement for the time being.

ARTIFICIAL FIRE CLAY.

COMMON clay is very fusible; this is owing to the presence of lime, iron and magnesia in it. By removing these substances, it can be employed for making very refractory vessels, such as crucibles, to withstand a very high degree of heat. The way to do this, is to steep the clay for some hours—(from six to twenty-four, in dilute muriatic acid, according to the quantity of these substances in it) —then washing it with water, and drying it afterwards. The muriatic acid takes up and dissolves the substances named, which are removed with the washing.

TELEGRAPHIC IMPROVEMENTS.

EDWARD HIGHTON, C. E., of England, has just obtained a patent for, firstly, sending telegraphic messages *both* ways through one and the same wire, at the same instant, without interfering in any way with each other; secondly, for preventing the destruction of a wire in the sea or underground; and, thirdly, for mending a telegraphic wire in the ocean without raising it out of the mud.

PATENTS.

SEED PLANTERS—H. F. Baker, of Centerville, Ind.

SEWING MACHINES.—D. W. Clark, of Bridgeport, Conn.

FLOURING MILLS.—Edwin Clark, of Lancaster, Pa.

HUSKING AND SHELLING GLOVE.—Emil Cohen, Washington, D. C.

RAKES FOR HARVESTERS.—SamuelComfort, Jr., of Morrisville, Pa.

SEEDING MACHINES.—I. H. Conklin, of Rockford, Ill.

RAILROAD CAR COUPLING.—J. M. Connel, of Newark, Ohio.

HYDRANT.—Richard De Charms, of Philadelphia, Pa.

LIME KILNS.—H. R. Fell, of Texas, Md.

FLOUR BOLTING.—David Geib, of Mifflintown, Pa.

ATTACHMENT OF ADJUSTABLE FOOT BOARDS TO SPLINTS.—John Gruol, of New-York city.

SEED PLANTERS.—Marshall Hunt and J. H. Haines, of Rising Sun, Md.

OPERATING TELEGRAM KEYS.—John J. Hayden, of Rising Sun, Ind.

BIT HOLDER.—B. B. Hill and S. W. Adams, of Chicopee, Mass.

HYDRANT.—John Hyde, of New-York city.

MEASURING THE SUPERFICIES OF BOARDS. —S. C. Kennerd, of South Newmarket, N. H.

SHINGLE MACHINE.—Robert Law, of Portage City, Wis.

CHURN.—S. F. Lefler, of Racine, Wis.

DOVETAILING ROTARY CUTTERS IN THEIR HEADS.—G. H. Mallary, of New-York city.

PROCESS FOR DYEING SILK.—Nicholas Mary Aine, of Philadelphia, Pa.

WASHING MACHINE.—Samuel P. Mecay, of Killburne, Ohio.

BENDING TIN.—George W. Merk, of Leavenworth, K. T.

CONSTRUCTION OF BROOMS. — Abner Mitchell, of Eaton, Pa.

METAL TIPS FOR TOES OF BOOTS AND SHOES.—George A. Mitchell, of Turner, Maine.

COTTON GINS.—James F. Orr, of Orrville, Ala.

ELECTRO-MAGNETIC SPEED GOVERNOR. —George M. Phelps, of Troy, N. Y.

CONSTRUCTION OF SHIPS.—John Reeves, of Brooklyn, N. Y.

ATTACHMENT FOR LIGHTING LANTERNS. —Albert C. Richard, of Newtown, Conn.

MANUFACTURING PAPER. — Stephen Rossman, of Stuyvesant, N. Y.

Shears for Cutting Bank Notes, &c.—Stephen P. Ruggles, of Boston, Mass.

Lightening Sea-going Steam Vessels.—John C. F. Salomon and George W. Morris, of Baltimore, Md.

Harness Saddles.—Henry Sanders, of Utica, N. Y.

Turning Lathes.—William D. Sloan, of New-York city.

Rails for Railroads.—Levi B. Tyng, of Jersey City, N. J.

Potato Planters.—H. Wainwright and S. T. Williams, of Farmingdale, N. J.

Harvesters.—Jesse Whitehead, of Manchester, Va.

Mathematical Dividers.—John E. Earle, of Leicester, Mass., (assignor to himself and Samuel Shepherd, of Nashau, N. H.)

Lathe for Turning Wood.—Amander N. Wilcox, of Watervliet, N. Y.

Oscillating Steam Engines—Adam Wood, of Pittsburgh, Pa.

Sewing Machines.—George Fetter, (assignor to himself and Edward Jones,) of Philadelphia, Pa.

Hominy Mills.—Ezra Farhrney, of Deep River, Iowa, (assignor to John Donaldson, of Mount Morris, Ill.)

Scientific.

CHEMICAL.

SUPPLY AND EXHAUSTION OF CARBONIC ACID. ITS USE IN AGRICULTURE.

Animals, including man, inhale such atmosphere as happens to be where they are.

The atmosphere, in a normal state, is made up of about 79 parts of nitrogen to 21 of oxygen, with about one part in 2500 of carbonic acid, and something like one in 10,000 of ammonia.

These gases are inhaled in about the foregoing proportions; but are exhaled in very different proportions. The oxygen of the air comes in contact with the carbon of the blood, and forms with it carbonic acid, by a process in the lungs very similar to combustion.

Burn a wisp of hay; it creates heat, its carbon combines with oxygen and forms carbonic acid, it entirely disappears with the exception of a little ash.

Give that same hay to an ox; it creates heat, its carbon combines with oxygen, and it disappears, with the exception of such portions as are entirely indigestible. Thus all animals are constantly supplying carbonic acid to the atmosphere.

We have already explained that combustion effects the same result. All our fires then, our lights, every burning body is constantly throwing carbonic acid into the air. This is one of the reasons why open fire-places are healthier than close stoves;—they carry the carbonic acid, generated by the fire and the lights up the chimney. It shows also why strong gas lights are unhealthy—they fill the air with this acid.

A third source of supply is decaying matter. When you put a stick of wood on the fire, the largest part of it passes into the air in watery vapor, carbonic acid and a little ammonia; and a small portion remains as ash. But decay is much the same thing as combustion in a slow way.

Throw another stick of wood into the field. In a few years it will have disappeared. What has become of it? Much the same as if you had burnt it. Most of it has gone into the air as watery vapor, carbonic acid and a little ammonia; and what would have remained as ash, if it had been thrown upon the fire, has been dissolved, and washed into the ground.

All decaying matters, then, whether vegetable or animal, are incessantly supplying carbonic acid to the air.

In many parts of the globe, where there are extinct volcanoes, carbonic acid oozes from the ground, or issues from

caves and crevices in the rocks, generated, as is supposed, by subterranean fires; and this same gas is, in part, a product of all active volcanoes; so that the volcanic action of the globe, past and present, affords a further source of supply.

All marble, limestone, shells of fish, coral, and many of the shields of insects, consist largely of carbonic acid. A pint of pulverized marble, or chalk, will give off, if heated, several gallons of carbonic acid. Now, if we consider what quantities of limestone, coral, shells, chalk, &c., are burnt into quick lime for agricultural and mechanical purposes, we shall find that this affords a very abundant source of supply. A large lime kiln, burning, would destroy every thing living near, if it were not for that great principle, or law in nature, by which gases are taken up by each other, and equally diffused.

With this law in operation, there is no more carbonic acid in a given region, after the burning of a lime kiln, than its due proportion, as compared with other regions; because, under the law for the diffusion of gases, it has become about equally distributed throughout the whole atmosphere of the globe.

These are the chief sources of supply: 1. Respiration. 2. Combustion. 3. Decay. 4. Volcanic action. 5. The decomposition of carbonates, as when we burn limestone, chalk, shells, or corals into quick lime. The fermentation of all vinous liquors, beer, cider, wine, &c., as well as the fermentation of composts, and the heating of hay and grain, produce this gas; and the bubbles escaping from mineral waters are, for the most part, nothing else.

With these sources of supply ever active, the question arises, why the air does not become overcharged with it. This leads us to consider the means of exhaustion.

In the first place, this gas is very absorbable by water. Every rivulet, brook and river takes a portion of it from the air and bears it along to the ocean. It is probable that the ocean itself absorbs it, as analysts affirm that over and near the ocean, the air contains slightly less than in far inland regions.

When mingled with the ocean, a portion of it goes to form the substance of fish; some to form the shells of shell-fish; and more to form the coral reefs and coral islands that are always in process of formation.

There is pretty good evidence that in remote periods past the air was more heavily charged with this gas. It is inferred by some, that, as it has diminished in past ages, it will continue to diminish, and that the time will come, when there will be too little to sustain a vegetation adequate to supply food, and that so, by a process, which is continually going on, the earth will become uninhabitable.

It is undoubtedly true that the waters of the globe are gradually absorbing it. And it is true also that much of it is being locked up in the form of submarine carbonates, such as coral rocks of vast extent, shells, &c., which can not be expected very soon to come to light. But it is true, on the other hand, that vast quantities of this gas, which for ages past have lain dormant in the mountain lime-stone, and in the coral strand, and greater quantities still, which have been locked up in immense coal formations, but which the spirit of commerce and manufactures in this age of steam is now unlocking.

It is true also that in every cargo of fish which is landed from the ocean, is the carbon for millions of gallons of this gas, and that it is thus being brought back to the land and made to resupply the air; and it would seem probable that the activity and enterprise of an increasing population may nearly or quite balance the absorption by the ocean; and the globe, including its atmosphere, continue as rich in plant food as at present. We have an impression, strong,

though we might not be able to support it by reasoning, that this globe is to become better, not worse, for the sustenance of man and those animals designed for his benefit. At any rate, we shall not yet give in to the fear that the resources for man's sustenance and comfort are likely very soon to be exhausted.

But, in the second place, plants, by their growth, are the chief means for exhausting the air of carbonic acid; as, by their destruction, they are a prominent means for supplying it. They are the great regulator. If by any means the atmosphere were overcharged with carbonic acid, they would grow more luxuriantly, and thus bring it back to its normal state. If it had less than its normal proportion, they would grow less luxuriantly, and so leave the carbonic acid to accumulate from its various sources of supply.

A tree grows; the mineral elements —a very small part of the whole—only what constitutes its ash, when burned—comes from the ground. All the rest comes from the air. Suppose it to be a sturdy oak. It may have been a hundred years in growing. The solid matter of its roots, trunk and top might weigh, when perfectly dried, 6,000 lbs. At least half of this, or 3,000 lbs., is carbon. But it should be remembered that 6 lbs. of carbon are equal to 22 lbs. of carbonic acid, in as much as the composition of carbonic acid is 6 lbs. of carbon to 16 lbs. oxygen. The accumulation of 3,000 lbs. of carbon, then, during the growth of that tree, must have taken from the air 11,000 lbs. of carbonic acid, an immense volume, since the weight of this gas is but once and a half that of common air.

But sooner or later this tree is destined to restore that carbonic acid to the air. If consumed as fuel, it would restore it in a short time; if left to decay on the ground, in a few decades of years; or if wrought into the carved works of the most magnificent building, in a few centuries; and then that same carbonic acid that fed the oak will go into other plants, will thus become food for animals, only to be soon released again, and so to go on in successive rounds.

To get some idea of the amount of carbon drawn by growing plants from the air, let us consider the immense amount of vegetable growth for a single year. At dry weight, about half of all this is carbon. Now if we multiply half the dry weight of all the vegetation of a year on this continent by $3\frac{8}{3}$, it would give the weight of carbonic acid drawn from the air over this continent in a single year.

The rounds which this gas takes are in some cases very slow, as, for instance, when a panel from an old English oak got into the ceiling of White Hall in London seven hundred years ago, and is there yet undecayed. But in other cases it is very rapid; as if an ox in a clover field should clip forage in the morning, exhale its carbon at noon, to be taken in by another plant, and that plant to be devoured by another ox before night; in which case the same carbon would have been food for two plants and for two oxen in one day.

We do not think this is an extravagant supposition. The transformations of nature are very rapid; and probably there is at this day no food for man or beast, the identical particles of which, some of them at least, have not been consumed as food a thousand times before. An enterprising farmer, near a large city, once said to a living man in it, "Give me your dead horses this week, and I'll bring them back to you next week in the form of as fine butter as you ever ate." He contemplated dissolving them by a chemical process, to be applied to dairy pastures in a diluted state; and there is reason to believe that in that way his promise would have been verified to the letter.

Soils, however rich in the mineral in-

gredients of plants, require, in order to their highest productiveness, carbonaceous manures.

By carbonaceous manures are to be understood those which consist largely of decaying vegetable matter, such as *turf*, the *roots of former crops* left in the ground, *green crops* plowed in, *swamp peat*, *decaying leaves*, *leaf mould*, and *barn-yard manure.*

The action of these manures is twofold:

1. *Mechanical*, to vary the condition of the soil by mingling a lighter substance with it, to separate the heavier particles from each other, and prevent their so compacting as to exclude a free circulation of the air.

2. *Chemical.* Air and moisture, having access to the carbonaceous matter in the soil, cause it to decay rapidly. The oxygen of the air combines with the carbon to form carbonic acid; and the carbonic acid, when formed, produces at least three distinct effects:

1. It produces a further mechanical action. As when yeast is put into dough, the carbonic acid generated from it, by its expansive force, pushes the particles of dough apart from each other, and makes the bread light and tender; so that, generated in the soil from carbonaceous manures, exerts an expansive force upon the soil, making it lighter, more pervious to the roots, and more accessible to air.

2. It is dissolved in water, and the water, by absorbing it, is rendered capable of dissolving several mineral substances in the soil, and rendering them fit for plant food, which are insoluble in water not impregnated with this acid. Lime, for instance, is nearly insoluble in pure water, but dissolves to a considerable extent in water impregnated with carbonic acid.

3. It becomes food for the growing plant, a portion of it being taken in by the roots, dissolved in water, but more being seized by the leaves as it oozes from the ground and seeks to mingle with the air.

Plants, so far as their carbon is considered, are, in the first place, fed from that carbonic acid which is always in the air in its normal state, this being taken in through the leaves; and then, in the second place, in a well manured field, they receive extra food from that which is generated about their roots, by the decay of carbonaceous manures. The latter, there can be but little doubt, is taken in both by the roots and leaves.—Ed.

METEOROLOGICAL.

CHAPMAN'S PRECALCULATIONS.

FIRST DEPARTMENT.

EXPLANATORY.

THE TERM POSITIVE is here given to conditions abounding *more* with *vital electricity*, inspiring *more* health, vigor, cheerfulness, and *better* feelings for business, intercourse, etc., and consequently *greater success*, *enjoyment*, etc.

THE TERM NEGATIVE is given to those conditions which *abound less* with electricity, and consequently *are more unfavorable* to health, feelings, business, social intercourse, etc.

¶ Indicates Sundays.

SECOND MONTH, (February,) 1858.

Tendency.	*Time o'clock*
1st,	Negative, from 1 to 8 morn.
	Positive, from 8 morn to 1 eve.
	Mixed, from 2 to 12 eve.
2d,	Positive, from 1 to 11 morn.
	Negative, from 12 noon to 12 eve.
3d,	Negative, from 1 morn to 6 eve.
	Mixed, from 6 to 12 eve.
4th,	Negative, from 2 morn to 12 eve.
5th,	Mixed, from 1 morn to 4 eve.
	Positive, from 5 to 12 eve.
6th,	Mixed, from 1 to 9 morn.
	Positive, from 10 morn to 12 eve.
7th,	¶ Mixed, from 1 morn to 1 eve.
	Positive, from 8 to 12 eve.
8th,	Positive, from 1 to 10 morn.
	Negative, from 11 morn to 12 eve.
9th,	Negative, from 1 morn to 6 eve.
	Positive, from 7 to 12 eve.
10th,	Positive, from 5 morn to 12 eve.
11th,	Positive, from 5 morn to 4 eve.
	Negative, from 5 to 12 eve.
12th,	Negative, from 1 morn to 12 eve.

13th, Positive, from 5 to 10 morn.
Mixed, from 11 morn to 12 eve.
14th, ¶ Negative, from 1 morn to 4 eve.
Positive, from 5 to 12 eve.
15th, Positive, from 1 morn to 7 eve.
Mixed, from 8 to 12 eve.
16th, Positive, from 1 morn to 3 eve.
Negative, from 4 to 12 eve.
17th, Mixed, from 1 morn to 1 eve.
Negative, from 2 to 12 eve.
18th, Positive, from 1 morn to 12 eve.
19th, Positive, from 2 to 11 morn.
Negative, from 12 noon to 12 eve.
20th, Negative, from 1 morn to 12 eve.
21st, ¶ Positive, from 1 to 9 morn.
Negative, from 10 morn to 12 eve.
22d, Negative, from 1 morn to 1 eve.
Positive, from 2 to 12 eve.
23d, Mixed, from 1 morn to 12 noon.
Positive, from 12 noon to 12 eve.
24th, Mixed, from 1 to 8 morn.
Positive, from 8 morn to 12 eve.
25th, Negative, from 1 morn to 4 eve.
Mixed, from 5 to 15 eve.
26th, Negative, from 1 morn to 12 eve.
27th, Negative, from 1 morn to 5 eve.
Positive, from 6 to 12 eve.
28th, ¶ Positive, from 1 morn to 4 eve.
Mixed, from 4 to 5 eve.
Positive, from 6 to 12 eve.

SECOND DEPARTMENT.

In this department the first letter of each colored ray is given, instead of the word in full, after the words morn, eve. *They* show the angles of the solar spectrum in which the current of reflected light that produces the condition is intercepted.—*Thus*, R for the red ray, O for the orange, etc. *Currents* intercepted in the angles of the Y, or R, or G rays tend to a warm and usually fair temperature. R, sometimes showery; V or I to cool and damp; three or four times out of five, cloudy or wet. B, and often V, to electrical, and more or less wind stirring. O to variable—in most cases cloudy or wet; but when dry to sultry or exciting. *Single* letters show single currents. *Double* letters show combined currents, which usually operate longer and with greater force; often so superceding the effects of passing single currents that the latter become only modulations in a long dry or wet, warm or cool period, induced by the former. They can not be calculated so accurately as the single currents, but seldom vary many hours.

Combined currents ending with V or I tend to longer, more prominent cool periods. *With* R or G, to warm periods. *When ending* with B, V, I, or O, to windy, or cloudy, or stormy periods. *Periods* of greater electrical deficiency tend more to vegetable defection, or blight, to the cholera, etc.

All the combined currents tend more to electrical disturbances, earthquakes, auroras, etc.

Periods, (.) in the place of letters, show currents under investigation. *Double periods*, (..) combined currents. *Hyphens* (-) after letters show confluent currents. *Commas* (,) after the letters show positive—*apostrophes* (') negative condition. See second department.—They also show the force of the intercepted current. One comma or apostrophe shows weaker, two commas or apostrophes (,, '') stronger currents.

Many of the weaker changes are perceptible only by instruments. Those instruments are the Prism, Thermometer, Barometer, Hygrometer, and Electrometer.

The changes are four minutes *earlier* for each degree of longitude (60 miles) west. Difference of latitude in the same meridian is immaterial. The dry conditions are fair, and the damp conditions cloudy or wet, at least three or four times out of five in the average. When fair, the damp conditions diffuse a cool, damp sensation through the atmosphere.

Blanks indicate very weak, or mixed, or uncertain conditions.

¶ Indicate Sundays.

SECOND MONTH, (February,) 1858.

Time o'clock. *Ray-angle.* *Tendency.*

1st, At 1 morn YO'' damp, windy.
At 6 morn G' warm.
At 8 morn R' warm.
At 9 morn I,, cool.
At 1 eve V,, cool, damp.
At 6 eve Y' warm.
At 12 eve R, warm, dry.
2d, At 8 morn I, cool, damp.
At 11 morn G,, warm.
At 5 eve V' cool, damp.
At 12 eve GR'' warm, dry.
3d, At 9 morn V' cool.
At 6 eve I'' cool, damp.
4th, At 1 morn . ——
At 5 morn G' warm.
At 11 eve R' warm, dry.
5th, At 4 morn G'' warm, dry.
At 11 morn O- ——
At 4 eve Y'' warm, dry.
6th, At 2 morn B,, wind stirring.

At 5 morn I,, cool.
At 9 morn V" cool, damp.
At 10 eve G, warm, dry.
7th, ¶ At 8 morn Y, warm, dry.
At 11 morn I' cool, damp.
At 1 eve BI" cool, damp, windy.
At 11 eve G,, warm, dry.
8th, At 10 morn Y,, warm, dry.
At 7 eve R, warm.
9th, At 5 morn GO" damp, windy.
At 8 morn G' warm.
At 9 morn O ——
At 6 eve Y' warm, dry.
At 12 eve BV,, cool, damp, windy.
10th, At 4 morn V' cool.
At 11 morn .. warm.
At 4 eve O,, ——
At 12 eve .
11th, At 4 morn I" cool, damp.
At 9 morn V,, cool.
At 1 eve B- wind stirring.
At 4 eve O, ——
12th, At 11 morn R" warm, dry.
13th, At 4 morn O" damp.
At 10 morn G- warm, dry.
At 5 eve Y- warm, dry.
At 6 eve V" cool, damp.
At 7 eve .. warm.
At 10 eve R, warm.
14th, ¶At 2 morn YV"cool,damp,windy.
At 4 eve I' cool, damp.
At 8 eve R,, warm.
15th, At 3 morn V, cool.
At 12 noon O ——
At 7 eve I cool, damp.
At 11 eve R' warm.
At 12 eve V,, cool, damp.
16th, At 3 eve B,, wind stirring.
At 9 eve GV" cool, windy.
17th, At 8 morn O,, ——
At 9 morn Y' warm, dry.
At 1 eve B, wind stirring.
At 12 eve I" cool, damp.
18th, At 8 morn G,, warm, dry.
At 1 eve Y,, warm.
At 5 eve, end of the zodiacal period, or natural month.
At 10 eve GR, warm, dry.
19th, At 1 morn .. windy.
At 5 morn R- warm, dry.
At 5 morn G, warm.
At 8 morn I, cool, damp.
At 11 morn Y, warm, dry.
At 12 eve O" damp.
20th, At 9 morn V- cool, damp.
At 4 eve G" warm, dry.
At 10 eve Y" warm.
21st, ¶ At 9 morn B,, wind stirring.
At 5 eve BR" windy.
22d, At 1 eve B' wind stirring.
At 3 eve O, ——
At 12 eve G,, warm, dry.
23d, At 11 morn ..
At 12 morn V' cool.
At 1 eve R,, warm, dry.
24th, At 1 morn OI,, cool, damp, windy.
At 4 morn G' warm.
At 8 morn I- cool, damp.
At 9 morn O" damp.
At 2 eve V,, cool.
At 9 eve G, warm, dry.
25th, At 4 eve R" warm, dry.
26th, At 2 morn B" wind stirring.
At 2 eve YI' cool, windy.
At 5 eve V" cool, damp.
At 12 eve GI' cool, damp, windy.
27th, At 4 eve G" warm, dry.
At 5 eve Y" warm.
At 9 eve R,, warm, dry.
28th, ¶ At 4 morn .. cool, damp.
At 7 morn YG- warm.
At 4 eve I,, cool.
At 8 eve O,, damp.
At 11 eve R' warm.
At 12 eve V,, cool.

GENERAL REMARKS.

Cool Periods, longer and more prominent, are more liable near the 14th, 26th.

Greater tendency to windy, cloudy or stormy periods, or gusts, near the 1st, 7th, 9th, or 10th, 14th, 17th, 21st, 24th, 26th.

Periods more prominently negative near the 1st, 3d, 7th, 9th, 14th, 17th.

Periods of greater electrical deficiency, 1st to 9th, 11th to 21st.

Natural tendency of the zodiacal period from the 1st to 18th, damp. From the 19th to 28th, the same tendency.

The electricity supplied by the reflected light of the moon in her increase, is more positive. During her decrease, more negative. Hence, fruit trees should be pruned and vegetation maturing above the ground should be sown, etc., between the first quarter and the full moon. Esculent roots, potatoes, etc., should be planted in the decrease of the moon.

☞ Valuable Discovery.—About three miles from Clear Lake, Napa Co., California, and near the Borux lakes, is a sulphur bank from twenty to thirty acres in extent, and supposed to be thirty feet thick, sufficiently pure for the use of the mint at San Francisco. The sulphur seems to be constantly forming from a dam, steam rising over the whole surface continually.

FOR THE AMERICAN FARMERS' MAGAZINE.

THE WEATHER.

APPEARANCE OF BIRDS, FLOWERS, ETC., IN NICHOLS, TIOGA CO., N. Y., IN DECEMBER, 1857.

By R. Howell.

Place of Observation, 42 degrees North, on a Diluvial Formation, about 40 feet above the Susquehanna River, and 800 feet above tide, according to the survey of the New-York and Erie Railroad.

Dec.	6 A.M.	1 P.M.	9 P.M.			REMARKS.
1	42	40	36	N. W.	Cloudy.	Hard rain before day.
2	22	41	32	South	"	
3	36	38	32	West	"	
4	27	32	23	"	"	
5	28	39	26	S. & N.	"	
6	29	36	38	S. E.	"	Light snow in the morning. Rain in P. M.
7	28	48	32	West	Clear.	Clear till 4 P. M.
8	42	56	39	S. W.	Cloudy.	Light rain A. M.
9	41	45	48	S. E.	"	Rain at intervals all day.
10	35	38	27	West	"	Light snow in the evening.
11	24	30	14	N. W.	"	
12	13	27	14	North	"	
13	14	41	26	South	Clear.	
14	25	50	29	"	Cloudy.	
15	24	45	36	North	"	
16	32	44	36	South	"	
17	37	44	40	"	"	
18	47	48	40	S. W.	"	Quite hard rain in morning before light.
19	32	36	27	West	"	
20	26	30	18	North	"	Small Aurora seen at 9 P. M.
21	12	38	31	South	"	
22	27	35	32	North	"	Rain all night. Light rain.
23	24	38	34	South	"	About one-half inch of snow fell.
24	35	35	24	West	"	
25	19	24	18	"	"	Light snow.
26	16	23	12	North	"	
27	18	33	21	South	"	
28	29	39	34	"	"	[P. M., 3 inches.
29	31	41	33	North	"	Snow commenced at 7 A. M., and continued till 4
30	32	38	34	South	"	Drizzling snow between 6 and ten A. M. Light rain at 3 P. M., continued all night.
31	33	36	32	S. & N.	"	Quite hard rain A. M.

Literary.

TO OUR READERS.

IN our last number we promised to enliven our pages with a variety of new matter, that should be at once amusing and instructive; and we are now about to introduce, with that object, a new feature into our journal.

Information for the farmer has ever been the leading feature in our pages, and will continue for the future to be the primary object of it.

But if improvement in agriculture should be the chief aim of an agricultural journal, there is another subject equally dear to the farmer's heart, as it is also of equal importance to the happiness of himself and his family. We allude to the literature which is sought for and read by the younger members of his family.

The influence, for good or for ill, of that which constitutes the lighter literature of the day, is too well known to need comment. We fear we must with regret add, that too much of that which finds the easiest access into families

throughout the length and breadth of our land, is of a character little calculated to improve the morals, or to tend towards the cultivation of a high standard of self-government, in the young of either sex.

This consideration is not, however, new to our age; and the weight of it has from time to time induced men, whose literary attainments have rendered them luminaries in the world of letters, occasionally to endeavor to introduce a better class of works, which, whilst they amuse the mind, at the same time tend to lead the morals in the direction of rectitude and virtue. To such praiseworthy efforts do we owe some of that literature which has now become part of the classics of our language.

Having by good fortune had a proposal of similar character made to us, and feeling that the ladies of our farm-houses have some claim upon our pages, as well as on our gallantry, we propose to devote a portion of our journal each month to this object. And we doubt not that the arrangements we have made to secure the aid of talent of a high order for this department, will insure for it a welcome from the farmer's wife and daughter that will amply reward our exertions.

THE HERMITESS OF SOUTH SALEM.

AN ORIGINAL TALE OF THE REVOLUTION, FOUNDED ON FACT.

On a bright summer's evening of the year seventy-six, a group filled the porch of an old farm-house not many miles east of New-York Bay, on the shores of Long Island. The elder member of the party was a farmer, whose help-mate had not long before been removed from the turmoils of time, to enter upon the peace of eternity. Beside him sat his two daughters, in whom were centered all his hopes and fears. For those were times when hopes and fears bore, in these parts, close relation to each other. A stalwart yeoman of thirty years danced on his knee the first pledge of the love, which a glance at the joyous countenance of the elder daughter told she bore her husband; and the anxious look of the only remaining person in the circle, a young stout countryman just entering upon man's estate, bespoke the interest which the other daughter excited in his bosom, although she seemed advanced beyond his age by some few years.

The farmer seemed musing o'er the past, and maybe o'er the stirring events of the present; and ever and anon a tear was seen to fill his downcast eye, and trickle down the furrows by which his care-worn cheek was channeled.

After a prolonged silence which none of the party appeared inclined to break, as if some weighty matters were the subject of discussion, the son-in-law at length exclaimed:

"'Tis better, father, I am sure, that you and Sally should return home with us. Hannah has now our boy to see to, and Sally will, I know, like to help her. Our house is big enough for all, and now these parts are sure to become battle-fields: for our sakes you should come amongst us."

"No, George, no," replied the old man; "I can not leave the old homestead where I was born and bred, and where so many years of blessings have been showered down upon my head. My girl's mother, my sainted wife, loved the place, and I will breathe my last where she died. For battles I have no fear; if my arm was younger, my country should have my strength. As 'tis, my weakness is not worth the keeping. You, George, will take care of the girls; that is if John here does not relieve you of part of the trouble. But Sally will not leave me whilst I live. You, my boy, must to your farm; and by-and-bye when these storms of war are past, we

may yet spend some hours together in this old house."

The next day separated the friends. George Vortin, with his blooming wife and child, returned to his Connecticut homestead, leaving Butler and his daughter in their island home.

John Frazer, the accepted lover of Sarah, being the son of a neighboring farmer, was perfectly satisfied with the old man's decision; for belonging, like most of his age, to the militia, his duties were of too imperious a character to afford him much opportunity for "sparking," and he consequently would by no means have approved of the removal of his ladylove to a distant abode; and he knew full well that her beloved father's word, to her affectionate heart, was law. Frazer's duties for the time, however, formed no insurmountable barrier to the indulgence of his inclinations, for Gen. Washington, expecting New-York to be attacked, was then making his dispositions to meet the anticipated event. Although aware of the proximity of danger to those so dear to him, Frazer knew that he should have early intelligence of the movements of the enemy; and consequently he felt no distrust of his power to give them timely notice to remove from the scene in the event of serious operations supervening.

Some weeks passed on after the separation of the friends, and the excitement of anticipated troubles had nearly subsided into the confidence of security, when in the haze of early morning the heavy tread of distant footsteps alarmed the dogs that guarded the homestead, and awoke Sarah Butler from her morning's dream. Throwing open her window she looked out to speak to them. Her well known voice the dogs obeyed; but their silence revealed to her ear the cause of their vigilance. Friends or foes, she knew not which, but *strangers were at hand.*

Scarcely had Butler, aroused by his daughter, glanced at the men who now had approached within a short distance of house, when the full measure of the misery that awaited him was disclosed. They were a party of the enemy's troops. A hurried parley confirmed the worst fears of the inmates; the door was burst open, and the half-mad soldiers brutalized the once happy home!

The wail of female anguish, the aged cry for mercy, were answered by the ribald jest and withering jeer. A bayonet was raised to pierce old Butler through, when a musket shot from without suddenly laid low the arm that held it. The soldiers rushed out as quickly as they had entered, and for a few moments Butler and his daughter were left alone with the dead body of the fallen man.

"Daughter," said the old man, "I feel my hour is come. I see Frazer without; doubtless he has brought us this relief; they will not kill you, and Frazer will protect you. I must shortly fall, if only to avenge the dead at our feet. Grieve not for me—I shall be happy; but trust in God my girl through life; and ——"

A shot from outside performed its deadly office, and Butler fell and breathed his last.

At the same moment Sarah Butler found herself in the grasp of one whose regimentals showed him to be of that rank that should indicate the character of gentlemen, a protector of innocence, a lover of mercy. Was he this? No—*that he was*—'tis not in language to tell. Savage he was not, for he was civilized. Slave he was not, for he was free. Brute he was not, for he was man. Devil he was not, for he was human. WHAT WAS HE? Let heaven declare, for words can not at that day when

"We shall know even as we are known."

* * * * * * *

* * * * * * *

The sun rose in its full majesty upon a cloudless sky on the morning following the dread day that closed the life of honest Butler. The sound of man's

cursed artillery was unheard, and the young birds of the last spring rejoicing in their youth, carolled forth the song of pleasure and of love.

Awaking from a swoon, o'erwhelmed with shame, half conscious of existence, poor Sarah Butler found herself stretched upon the straw of her homestead barn. Weighed down by misery and grief, the anguish of her soul almost unnerved her from the power of motion. Mistrusting her distracted and confused recollection of the occurrences of the preceeding day, and doubting each phase, save *one* of the scenes in which she had borne a part, she dragged her weary limbs to the window that looked on her cherished home! Could she believe it? A smoking pile of blackened walls and half charred timbers only remained of the house in which she first saw the light of day. An involuntary shriek burst from her lips, and she again sunk into unconsciousness.

A few days after the preceding events, Washington saw fit to alter his tactics, and to withdraw his troops from Long Island; and rumor, with its many tongues, quickly conveyed to George Vortin and his wife the unwelcome intelligence that the enemy had carried fire and sword into the homesteads on the coast of Long Island. George forthwith sought the camp, where he learned from the lips of his friend Frazer, whom he found in hospital disabled by a musket wound in the head, the dreadful story of his father-in-law's death.

"And where is Sally?" cried George.

"Alas! I know not," replied his friend. "I fell insensible from this cursed shot-wound, whilst springing forward to rescue her from the grasp of a hellish officer who had seized upon her, and I know no more. As soon as I recovered my reason, I begged my comrades to go seek her, or ascertain her fate; but our troops having been withdrawn from the Island, their attempts were futile. My cup of misery is full. May God protect her!"

Resolved to learn something of his sister-in-law, George spent many days in fruitless inquiries and abortive attempts to communicate with friends on Long Island. In despair, he at length was about reluctantly to give up the search, when he chanced to meet an old acquaintance who was a fisherman on the Sound. He informed him that some days after the affray at Butlers, Sarah had been to his house on the coast when he was from home; and that his partner had at her request taken her at night across the Sound to the inland shore. Rejoiced at this intelligence, George not doubting that her object was to get to his farm, made his way home with all dispatch; having on his way afforded some consolation to poor Frazer, by communicating the information he had received.

Contrary to his expectations, Vortin and his wife heard nothing of Sarah. Each week that passed held forth to them hopes, only to be disappointed. By slow degrees Frazer, whose anguish of mind tended materially to delay recovery from his wound, at length was sufficiently convalescent to permit his removal from the camp, and Vortin took him to his home; for already did his wife regard him as her brother.

How mercifully is the future before us in this life, hidden from our gaze! How beautiful the dispensation which causes the slow course of time to assuage griefs that 'tis not in our power to avoid, or otherwise, to relieve. One by one come our joys; one by one our sorrows! Did either come in mass, poor humanity must equally break down beneath the burden. But when tempered by the calm self-possession of confiding hope in Him whose promise CAN NOT fail, how joyous pass the happy hours of prosperity—how serenely do we bow the head and yield submission to the blasts of adversity!

So it was at George Vortin's farmhouse. Half-expecting hope for many

months sustained the drooping and agonized feelings of Hannah Vortin, and the no-less wounded spirit of the wounded soldier: until at length they almost persuaded themselves that poor Sarah was released from her earthly trials, and though snatched from them, was then—at rest.

Time rolled on. George Vortin prospered. Frazer, whose wound, although healed, had produced a marked influence upon his constitution, was long in recovering his strength. The ties of friendship between him and his kind hosts had been sealed by events too appalling to be evanescent; and thence had sprung up bonds of affection which precluded the thought of separation. The children of the Vortins, which were now many, had of their own accord appropriated to Frazer the cognomen of "Uncle John"—an appellation which all appeared to approve. Still amidst sufficient prosperity to supply more than the wants of all, and the enjoyment of many of those cheerful hours which it is the peculiar privilege of children to impart to those around them, there was a pensive sadness that overshadowed the household, and told the observer that something yet was wanting to make that household happy. The truth was, the uncertainty attending the fate of Sarah Butler still weighed upon all.

* * * * * *

Thirty years and more had passed away, and some members of the family of the Vortins had grown up to man's estate. The eldest daughter, Hannah, was wooed and won by Jim Smithson, a young farmer at Ridgefield, twenty miles from her parent's farm. Settled down some months in her novel station, she urged "Uncle John" to visit her new home—an invitation which he was not slow to accept. For having given up all idea of married life himself, the children of his friend had long been regarded by him as his own, and he divided with their parents the cares and pleasures that attended them.

On a fair morning in the fall of 18—, Frazer set out on his old grey pony to pay his promised visit at Ridgefield. A small valise strapped behind his saddle carried his wardrobe; and at the pommel were sundry small parcels of creature comforts, intended as presents from "home" to the new married couple.

Since the Revolution, Frazer had been but little of a traveler. The ardor and elasticity of youth had been softened down at an early age by his physical and mental sufferings; and his time had been devoted to the service of his friend Vortin on his farm, and to the indulgence of the wishes and wants, whether real or fancied, of the wife and children. For in such occupations it was that he found the greatest comfort, and a relief from thoughts and regrets that too frequently would intrude upon his leisure hours.

Having thus remained almost constantly on the farm, out of the reach of the turmoils of the world, and of the excitement consequent on a more active life, he knew little of the scenes around him, save those disclosed by the weekly newspaper. Beyond the homestead circle, however, he had no wants; and the absence or presence of more extensive acquaintance with men and things was to him a matter of equal indifference.

Arrived at Ridgefield, Frazer was overwhelmed by the multitudinous series of welcomes that awaited him; for his young hostess was a warm-hearted creature, full of buoyant spirits, bright hopes, and affectionate feelings, which rendered it out of the question with her to receive her old friend without a reiterated reduplication of every endearing epithet that her vocabulary could suggest.

In those days, before railroads had solved the problem of annihilating space, and made modern philosophy doubt the truth of the axiom that nature abhors a vacuum, (since some are dreaming of a series of subterranean vacuum tubes as the best medium for locomotion)—in those

days, the entrance upon the duties of life of a new married couple in Ridgefield was no ordinary, every-day occurrence, but an event of importance ; one which, as soon as its possibility was bruited abroad, caused an excitement and commotion among the *middle aged* and *more aged* members of the female community there resident, which showed that at least *they* were deeply interested parties.

The recent wedding had produced a more than ordinary amount of this interest; for, the coterie of the district, that, by some invisible, but doubtless well organized authority, exercised a considerable control over the due coupling together of the juvenile branches of their generation, had been, for once, utterly at fault in disposing of the bridegroom to their satisfaction. If the truth must be told, he chose to select a wife for himself, instead of having one selected for him ; a circumstance which, contrary to the innocently ignorant conclusions of some people, was, by the Ridgefield Sociable-marriage-and-suitable-settlement Committee that constituted the coterie aforesaid, deemed to be subversive of that course which these ladies had, as the result of their united wisdom, chalked out for the onward progress of civilization.

True it was, that in many cases the committee declined to interfere to select, or recommend a partner for life to some poor wight. But then in all such cases the unhappy individual, somehow, always happened to be a *poor* wight! In no case within the legal memory of man, (which in English law means the time of good King Richard II., and in American law, that of some other period either before or after,) was the contingency known, of a young man, well to do, either present or in prospect, remaining a bachelor for want of being provided, through the care of the committee, with a "suitable partner."

The exertions made to secure this end were extraordinary ; and it can only be attributable to the continued perseverance with which they were prosecuted, that the result was attained. The system, however, was so well arranged, and the energy of the committee so unremitted, that miscarriage was usually impossible. Yet, like most unknown discoveries, the means employed were simple, and consequently less likely to become deranged in operation. A principal method was, the selection of matrons, as members of the Committee, who had themselves a great number of eligible daughters. For, so disinterested was the Committee in the performance of its self-imposed duties, that there was never an instance of any member refusing to consent to her daughter's union with the young yeoman assigned to her. Whether there is or not ground for supposing that in the development of their anti-malthusian practices, certain members allowed their feelings of self-sacrifice to urge the selection of their own daughters, in preference to those of others, for a youth whose numerous acres or recently acquired fortune pointed him out as requiring immediate provision, is doubtful. The best and most praiseworthy acts of us all are liable to misconstruction ; to say nothing of the malignant acrimony occasioned sometimes by disappointed hopes in others ; and it is not to be supposed that the benevolent exertions of the Ridgefield Sociable-marriage-and-suitable-settlement Committee should altogether escape calumnies and aspersions, to which all philanthropic efforts are exposed!

With such elements of concord and discord at work, it may readily be believed that the new married couple would not settle down into that peaceful quietude supposed to be the fitting phase of old married life, without their acts and deeds, their existing condition, and future prospects being fully and duly revised, considered, and adjudicated upon by the benevolent body to which the preceding paragraph refers.

The result of the Committee's deliberation on the subject can only be presumed from its effects, inasmuch as secrecy was a point that was deemed by this benevolent institution requisite to the success of its decisions. Nevertheless every now and then, through the confidential disclosures of Committee mamas to anxious and expectant daughters, inklings *would* eke out of the prospects of those who for the time, were the objects of the Committee's proceedings. Judging from rumors originating in such sources, the prevalent opinion was, that as the gentleman had slipt through their fingers, the Committee thought the better thing would be to make a virtue of a necessity, and admit the new married folks to take their place in the village circle, with the full enjoyment of the inestimable privileges to be derived from the countenance and sanction of the Ridgefield Sociable-marriage-and-suitable-settlement Committee. A resolution, the unanimous vote in favor of which, was said to have been specially influenced by the opinion expressed by one of the members, (whose great grandfather's brother had been a physician,) "that she should not think it likely that a poor, young creature like Jim Smithson's wife could live long, for she looked as white and liverish as a mushroom that was sick with chills and fever, and who could tell but Jim might afore long want another wife." Whether this dictum was the concentrated effusion of medical skill or not it is needless at present to inquire. Like all other legal decisions we have only to deal with it as we find it, without going into the reasons, if any there were, by which the tribunal in question was guided in arriving at it.

Jim Smithson himself was by no means unconscious of the solicitude that the Ridgfield Sociable-marriage-and-suitable-settlement Committee had manifest-
his behalf; seeing that having
own counsel, and courted his
rt at some distance from Ridgefield, unknown to the Committee, that body had, for some months previously to his marriage, commenced their preliminary attack upon his bachelorship. But these preliminary advances were, in this, as in all the proceedings of the Committee, made with the caution which from so accomplished a body of tactitians might naturally be expected. The modus operandi of attack was varied, both as regards means and persons; but the object was in all of them intended to converge to one point, namely, the working a conviction upon Jim's mind, that he wanted a wife. Had they been aware that Jim had himself arrived at that conviction, doubtless the ladies would have reserved their ammunition for use in the next step of their siege operations, and would have advanced boldly to the breach in his heart, with the view to fill it up with a wife that their mature judgment found suitable for him. Jim, however, saved them that trouble, and, moreover, was on one occasion heard to declare, when returning home late at night from a social party given by a near neighbor, to which he had gone upon a most pressing invitation, that the "canting old toads were an infernal set of scandal-mongers, and that if they thought to hook him they were confoundedly mistaken."

Whether this hasty but impetuously expressed opinion related to the ladies of the Ridgefield Sociable-marriage-and-suitable-settlement Committee or not, can not be positively asserted; or if it did, whether it took its rise rather in the effects of over-excitement, or an impudent advance upon him made by that body, than from a well considered review of the characters of the members forming it, is equally uncertain. However this may be, Jim Smithson went to no more parties from that day to his wedding day; and consequently it is to be assumed that he saw no reason to change, upon reflection, the opinion that his evening's potations had induced him to give utterance to upon the subject.

[TO BE CONTINUED.]

ENGLAND AND INDIA.

BY AN ENGLISHMAN.

Mr. Editor:—"*Audi alteram partem*" is a maxim which must be so familiar to you as a citizen of a country that claims to set an example of freedom to the world, that I conceive the bare reference to it is enough to secure for me the insertion of the following reply, although it be to obversations of your own; which I am free to believe had their origin in (allow me to say) kindly feelings rather than sound judgment. I should however not trouble you with this letter, did I not think and believe that anything that tends to lessen England and her citizens in the eyes of American citizens is, *if untrue*, a positive injury to *both* countries.

In the Monthly Review of the *American Farmers' Magazine* for January, you say in allusion to England, "Her men in power have thought it necessary to be more revoltingly cruel than the sepoys themselves." And you proceed to characterize the fact of sepoys being blown from the cannon's mouth, as an exercise of "implacable revenge" by "Christian England."

Now "implacable revenge," exercised by a "Christian" *individual*, is undoubtedly a very wicked and heinous offence, which even the impulsive outbreak of passion can not justify. How much greater, therefore, must it become, if it has been, as you assert, exercised deliberately, and by the authorities of a great nation?

Your accusation, then, is a heavy one indeed, against my country, and the land of your forefathers. You will not think me wrong, therefore, in seeking to satisfy you and your readers, that it is made in error. But first—one remark—you say "*more* revolting." Do you call to mind that the sepoys, who all admit have been well treated, and fed and paid *better* than either English or American soldiers are, commenced their proceedings by butchering their officers in cold blood? No one yet has contested the fact that the conduct of the European officers has uniformly been kind to the men. Let that pass, however, and assume the contrary if you please. Do you call to mind that they *more* than butchered their officers' *wives*, *daughters*, and children, and committed such atrocities upon the females, that language adequate to portray these facts could not be printed for the public eye? Would you think "blowing from the cannon's mouth" *more revolting* than such atrocities committed on your own wife or daughter. I need not tell you that the proper object of punishment for crime consists not in vengeance, but in inflicting such punishment on the criminal as, whilst it is not unjust to him, is the best calculated to *deter others from the commission of similar offences*. And this latter object, on reflection, you will perceive to be, in all communities, of paramount importance. That the punishment was *not unjust* to such demons in human shape, (which is not too strong an epithet for any man capable of such conduct to woman,) I take for granted, and you, in your remarks, admit it. Let us see, then, how it was calculated to effect the more important object of deterring others. And that leads me to the pith of my letter, and at the same time explains *why* that particular mode of punishment was inflicted.

The superstition of the sepoy induces him to believe that the burial of his body apart from the remains of others not of his own religion, is essential to his happiness in a future state. This mode of death rendered the probability of such a burial highly improbable, if not impossible; and for that reason it was selected. If in itself the mode of death inflicted was of a lingering kind, calculated to torture the criminal, I would condemn it as "revolting" and as cruel. But the one under consideration is not so. On the contrary it is more instantaneous and

less painful than even hanging or the guillotine. For although the latter of those two is instantaneous enough, that from the cannon's mouth must be unknown even by an instant's consciousness. And that in *anticipation* it may be feared or dreaded, appears to me, as a preventive to crime in others, to be a recommendation for its adoption. Whilst we know how fallacious are the sepoy's fears as to its effect on his future state, so far as the mode of death is concerned, we avail ourselves of those fears to operate upon the conduct of his fellows; and if in so doing we succeed in suppressing crime, a benefit of no insignificant amount is the result.

Mercy is a bright jewel in the crown of justice; but no injustice is so great as that which confounds the duty of the judge with the province of well-directed clemency. Stern justice towards *undoubted* guilt, is the surest pledge that can be given to insure the greatest happiness to the greatest number—an axiom which I should like to see acted upon by Americans towards miscreants from Europe, who too often require it in this country, as I would have it acted upon in India and elsewhere, be the offender of what country he may.

This son of England has defended his mother right gallantly, and we praise him for it. If any pen could maintain the honor of England his could. He has given us a pretty hard blow, but we are not knocked down nor stunned, nor are we fully convinced that he really meant to hurt us very badly. We even doubt whether he himself would not rather that England should learn the art of ruling and Christianizing the Indians without killing them first. It will be seen that the whole force of his argument turns upon the point of inflicting unheard-of severities for the sake of their moral influence. This looks a little too much like doing evil that good may come; and we have something to say about it. But as our thoughts may not be worth much, we defer them to a less prominent place in this number.—Ed.

Editor's Table.

OUR THOUGHTS ON VARIOUS SUBJECTS.

Invention.—"Wonderful," we often hear it said, "are the inventions of the age." With us the wonder is right the other way. Nature has a mighty store of resources and powers yet undeveloped, all capable of benefitting the human race, but as yet lying dormant for the want of an inventor, like Watt, Fitch, or Fulton to harness them and set them to work. But for fogy adherence to old ways, a witless reluctance to new, and a grin for all who strive after improvements, we should have made more progress than we have. Twelve years ago wise senators were afraid to give up the twenty-five cent postage and take the three cent; and some are so intolerably stupid that they would fear to give up the three cents and take two now. It took six thousand years for mankind to learn how to plow; and yet the problem is not more than half solved. They would have learned it sooner if they had been willing to try different ways, to see which was the best, or even to withhold their senseless laugh at any who were disposed to try something new.

"*I would not live alway, I ask not to stay.*" A beautiful old hymn is this. As pointing to an onward, higher destiny, we love it. But we do not believe there is much use in finding fault with our present state. This is a pretty good world after all. In fact it is an excellent

world, so long as there is enough to do. Man's happiness lies in action. Don't be grumbling, but go to work. If your own fortune is not yet made, go to work and make it. If it is, help somebody else. There are enough that need. Strike in somewhere, and do some good. The man that does good, gets the best part of the reward. To do good and to get good are about the same thing. Laziness is the greatest enemy, after selfishness, to human welfare. Fudge of the dignity of living without active employment of some kind—of the hand, or the head, or better of both; for yourself, or your friends, or somebody. To be useful is the only true dignity. It is the only way to be really happy. "Count that day lost," etc.

Moral Influence of Capital Punishment Illustrated.—"England," says the sepoy, who has learned a little *English* from his betters, "has compelled the East Indians to grow opium these fifty years, at a price too low to keep soul and body together. By the all-pervading network of her laws has she effected this, and is likely to effect it permanently. She has compelled the Chinese, at the cannon's mouth, to take this opium at an enormous profit, pocketing by the operation from thirty to fifty millions a year. Moreover she has taxed our privilege of making salt from our own waters, till we have long ago learned to eat our meat without salt. The poor Indians may not produce food fit for their own *stomachs*, but must produce what will fill Englands coffers. It is getting no better, but rather worse. Let us kill off a few hundred of the English, men, women and children, inflicting on them every possible cruelty and disgrace. This, it is true, is rather savage for a race so far civilized as we are, after a century of England's schooling; but then we do it for sake of the moral effect; it is that England may be driven home to attend to her own business and leave us to ours. Surely the end sanctifies the means."

England says, "These sepoys have outraged all decency; we must riddle them; stretch their necks; blow them up; avail ourselves of their superstitions to make vengeance doubly terrific; kill the king's sons to rid ourselves of a present enemy; let the king live, as he is too old to do us much harm, but butcher his grandsons, lest they should grow into powerful enemies. It is all for sake of the moral effect; it is that the 150,000,000 Indians may never again dare complain. The end sanctifies the means. Swing the match, let go the drop, bore the wretches with cold lead, and all India will be Christianized."

Which has the best of the argument? We say, the sepoy, by so much as he is the less educated and Christianized. We do not believe that God requires England to Christianize India, unless she can compass it by more Christian means.

We have spent much time among the English people, have enjoyed their hospitalities, seen their wonderful improvements in agriculture, heard their expressions of friendship for our own country, and we *thought* we loved them; but if they do not put forth a long, loud, unblanching condemnation of the late doings of their government, why then we don't love them so well as we thought we did. And if England can not govern India better than she has of late, or ever did, we do not want her foot this side of the Atlantic; and we would be a fillibuster, badly as we dislike to fight, not having an over stock of courage, to drive her off.

Lest our opinion of the manner in which England has governed India should seem harsh, we will refer the reader to that of a distinguished clergyman, Rev. Mr. Bellow, of St. Phillip's Church, Regent street, London, and late chaplain in Calcutta, one of the most popular divines in England. His sermon on the day of National Humiliation, Oct. 7th, has been printed, and is exciting attention on the short comings of England towards India.

"I speak now of us," says he, "as a nation; and I think it is impossible to say how far this terrible sound of battle and of great destruction might have been averted if we had earnestly fulfilled our moral and religious obligations towards our Indian empire. Possessing so great a realm, we have nationally been indifferent to it. We have left it for a century, regarding it as a mere mercantile interest, and forgetting that we had in charge the bodies and souls of millions of our fellow-creatures. To those interested in India, the one subject of interest has been Indian stock, and the one subject of indifference has been the Indian people. Verily, and indeed, we have sown the wind, and we are now reaping the whirlwind. England! what hast thou done for those children of the East? How has thou fulfilled thy mission there? By self-aggrandizement, by selfish appropriation and annexation. Year by year have we withdrawn millions of money from that land, levied by taxation upon the people, for which we have given them back—nothing!"

The above, we suppose, is not all to be taken as rhetorical flourish. It should be considered, however, that Dr. Bellow was addressing a London audience. Some of the government functionaries may have been on hand; and it is always better to say plain things in men's faces than behind their backs. Besides, Dr. Bellow's object was not so much to enunciate exact truth about the past, as to arouse the government and the people to a just sense of their duty for the future. But if we take as strictly true one-half of what he says, and we are willing to make that allowance in behalf of England, still there is enough left to confirm our bad opinion of British rule abroad, and to induce the wish that it may be very scarce on this continent.—Ed.

Book Notices, etc.—*Philips, Sampson & Co., Boston*, have just published Autobiographical Sketches and Recollections During Thirty-five Years Residence in New-Orleans, *by Theodore Clapp*, a book replete with personal incident and rich in historic reminiscences, adapted to interest and instruct. Buy it and read it, but do not adopt its religious views, unless you find them to accord with scripture and reason. Shutting our eyes and ears to all but what our own sect say is no liberal search after truth, and we Americans, liberal in other respects, ought to be ashamed of it. 419 pages, 12mo.

Philips, Sampson & Co. have also just published Why and What am I; the Confessions of an Inquirer; Part 1st. Heart Experience, or the Education of the Emotions; *By James Jackson Jarves.* This also appears to be a book well filled with anecdote, personal incident, and reflection. From a brief view of here and there a page, we should think it might be rather bewitching, but how instructive we can not say. 320 pages, 12mo.

Ticknor & Field, Boston, have issued Twin Roses; A Narrative, *by Anna Cora Ritchie, Author of "Autobiography of an Actress," "Mimic Life," "Armand,"* etc.; a sprightly and agreeable narrative, we should judge, from a hurried perusal. 273 pages, 12mo.

Ticknor & Field have also issued Stories and Legends of Travel and History, *by Grace Greenwood.* The name of the book encourages, and the soubriquet of the authoress quite assures us, that this is a good book, well worth the price and the time. 290 pages, 12mo.

The same firm has also issused The Plant Hunters; or, Adventures among the Himalaya Mountains, *by Captain Mayne Reid, Author of the "Desert Home," "The Yagers,"* etc., etc., etc. The student of geography can find much topographical information, and the student of human nature a pretty good share of fun in this book. 353 pages, 12mo.

The New-York Musical Review is published every other Saturday, by Mason Brothers, New-York, and presents a rich amount and variety of musical matter. Dr. Lowell Mason, Wm. B. Bradbury, George F. Root, and other of the

most eminent musicians of the country, are among its regular contributors, each number containing more or less from the pen of one or all of them. A very useful and instructive feature of THE REVIEW is its "Answers to Correspondents." All questions on musical subjects, as to its theory or practice, are carefully answered, often at length. THE REVIEW also collects musical news from all sources, and keeps its readers well posted as to what is doing in the musical world. Each number also includes several pages of new and popular music. In this department, it is announced in the present number, will be presented hereafter the gems from the modern operas performed in New-York. Terms of THE REVIEW: One copy per annum, $1; five copies, $4; eight copies, $6; ten copies, $7; twenty copies, $12.

PROF. MAPES' WORKING FARMER, 24 pages quarto, 3 columns on a page, and always filled with matter of a very high order, both the original and the selected, comes to us bright, readable, and instructive as ever, and we think a little more so.

Prof. Mapes and his once pupils, but now full grown co-laborers, Vail, Olcott, Lowe, Waring, and others, are doing a capital work for soil culture, and we have not a particle of that envy which can deter us from saying so.

A prominent trait in the *Working Farmer* is, that while it is largely and richly original, it republishes the best and most reliable articles from the agricultural literature of this and other countries, which is just as much as to say that its conductor has the good sense, when he has given his readers the best of his own and of his co-laborers' thoughts, not to keep his and their pens running, till they must needs run slops, but to give instead such of the masterly productions of other pens, as his readers would not be likely otherwise to see.

The price of the *Working Farmer* is one dollar a year, a trifle less perhaps in proportion to the amount of matter than ours, because we publish in a more expensive form. But we are bound to expend on ours its whole income; to enlarge it as soon as the pay will possibly admit; and to make it not only as good as any other, but at least as large in proportion to the price.

American Farmers want good journals of their business; they want them at a reasonable price, and we will do our part, as Prof. Mapes has, to meet their wants.

By arrangements made with the editor of the *Working Farmer*, we will furnish the current volumes of that journal and ours for $2.50 advanced to this office.

THE COLLEGE JOURNAL of Medical Science for January is on our table, well filled as usual with instructions for the prevention and cure of disease. It is a valuable monthly in its way. Cincinnati, O.

THE SCIENTIFIC AMERICAN greets us promptly each week, a work of great value to the mechanics of the cities and large villages, to whom we would heartily commend it, while we as heartily and as honestly commend our magazine to the mechanics of rural districts, who in addition to their trade, are cultivating a piece of land, however small. The sixteenth of an acre cultivated by a man who reads an agricultural journal well pays its price in extra produce. We mean not to omit mechanical matter in our future numbers. It is too important not to find a place in an agricultural journal; important even for the farmer. But were we a mechanic of a progressive spirit, with no land to till, we would have a work on our own business. It is with this spirit that we cheerfully commend our neighbor, the *Scientific American*.

DON'T BLAME US;

FOR we are receiving so many just such letters as the following, that we feel greatly encouraged, and want our

friends to enjoy with us the reading of one as a sample.

POUGHKEEPSIE, Jan. 6th, 1858.

MR. NASH—SIR:—Among the valuable agricultural works which we read, we think yours one of the most valuable and reliable; and we think it improves in value every year. Such articles as your "Division of Labor," in the November number ought to be read by every *man*, not merely every farmer, in the Union. It will be read by the readers of our political papers of this place.

But we have read all its articles for the last six months without having paid for the pleasure and profit derived from so doing, and thinking (as doubtless you do) that it is time to PAY UP, we inclose two dollars. Respectfully yours.

H. & J. CARPENTER.

ANOTHER.

MR. EDITOR:—I got yesterday your January number. When it was first put in my hand, the alteration in the title and general appearance from my old friend "the Plough, Loom and Anvil" induced me to think that a wrong journal had been sent to me in mistake. But the man plowing on the cover soon told me it was all right, and that it was my old friend with a new face.

Upon looking it over I found the alterations were not confined to the outside, but that the inside was not only altered but much *improved*, which is not, by the by, the case with all alterations.

Why, Mr. Editor, we country fogies do not pretend to be great critics, but we know what we like, and my friend and neighbor Smith and I used sometimes to say that we thought there was some old fogyism elsewhere besides with us. But *now* I find you have waked up with the new year, and some of your New Year's good cheer seems to be coming out through your pages; for somehow it seems to me and my friend Smith that there is more than one spice of Young America in some of your articles this month.

Well, go on friend as you have begun. I am going round to my neighbors, and if I don't get you some new subscribers in our village before this month is out, my name is not JACOB PATCHUM.

PUBLIC LANDS FOR AGRICULTURAL EDUCATION.

SUCH, in brief, is the voice of Michigan. She has laid broad and deep the foundations for an agricultural college. She has contributed nobly towards its permanent existence and wide-spread usefulness. It is already in operation; wise and earnest men have it in charge; and its fruits are even now demonstrated to be good. But with greater means, she could render the fruits more wide-spreading and more abundant. At this stage she petitions Congress for aid. Could a more fitting use be made of the public lands? We think not; and though we do not claim to be over and above constitutionally wise, we are sure that nothing in the tenure by which these lands are held by Congress can forbid their distribution for such a purpose; and we can not but hope that Congress will grant the prayer of Michigan, and that all the States and all the people will approve. Agriculture is our weightiest national interest; and nothing will so hasten its development as the thorough education of the future farmers of the country, *scientifically* and PRACTICALLY—just what the directors of the State College and farm at Lansing intend.—ED.

CHILDREN'S CORNER.—Where is it? If the children can not find it in this number, they will in the next.

Wonder if all the children can spell *wright*, *right*, *write*, and *rite* right; that is, *wright*, a mechanic; *right*, not wrong; *write*, to form letters; and *rite*, a ceremony.

One boy and two girls have written us solutions of the conundrum in our last, all agreeing that it is *American Farmers' Magazine*, in which they are right.

AN EXPLANATION.

Capt. Ralston, owing to unanticipated occurrences, has not been able to furnish us the promised article on the horse's foot and the requisites for shoeing this animal, in time for this number. It may be expected in our next.—Ed.

For the Farmers' Magazine.

If one end of a piece of wood or metal ten feet long, and of equal size from end to end, be made fast in a block and power applied to the other end so as to bend the piece, it will not bend all the way alike, but will bend most nearest the block.

Will some of the readers of the *Farmers' Magazine* give me a rule by which to find what *taper* or shape pieces of metal or timber must have, so that when one end is made fast and bending power applied to the other end, as above mentioned, the piece will bend *all the way alike*, and make a part of a circle? If such a rule was followed by mechanics, it would be the means of saving thousands of dollars yearly.

In most machinery I have seen, the builder put *more* material than was necessary, or put some in the wrong place, and a break may be the consequence. By such a rule much trouble, time, and material could be saved. Will some one send a rule to the *Farmer's Magazine* for publication, and thus confer a favor?

Merchant Kelly.

Bentonville, Ind.

Monthly Review.

Our own affairs are reasonably prosperous. We have shouldered pretty heavy responsibilities, and launched forth on the enterprise of giving our readers a better monthly than can be afforded at the price we ask without a larger number of subscribers than we yet have. We have done it with a full determination that, as soon as the number will permit, we shall either put our price down to one dollar, continuing the amount of matter about the same as now, or enlarge our work to the size of the three dollar magazines, and keep the price the same as at present—at any rate not to be beat in the value of our work, nor in the reasonableness of the price. So far our experiment is successful. New subscribers are coming in daily; old ones are expressing their high approbation; and we are satisfied.

Our readers, during the past month, have enjoyed mild, and mostly pleasant weather for the care of the homestead and and the prosecution of such farm work of the old year as may have fallen behind, or such as they are pushing on for the new, in order to be in readiness for the ensuing spring. January, we are sorry to say, has done but little to brighten the prospects of better prices for general farm produce. Cotton is, however, looking up; and we believe that farm produce generally will be in better demand soon. But the markets for the past few weeks would seem to indicate that the farmers of our country are to depend rather on good management, economy of production, and prudence in general expenditures, than on the expectation of either low prices for labor—a thing not on the whole to be desired—or extravagantly high prices for produce.

Of the wide world outside of ourselves and our readers, we know less than we should, but for the fact that we have been intensely busy in our own matters. Our own city seems to be the more busy the less it has to do; at least there is more running up and down, and men seem in greater haste than when business is good. It seems that business has to be done at a small profit, and so they are practising to do the more of it, to make the ends meet. In our national character is a great deal of the Yankee, which will do one thing, if it can not do another—do something—make a stir at least. And it is well that it is so,

well that we have the hope and the energy, when such a tempest, as that of the last four months, has blown over us, not to lie down in the furrow, but to try again.

Great Britain has fought and continues to fight bravely in India; but, as we have pretty plainly indicated otherwhere, she is tempering victory with less of mercy than suits our peace-loving notions. We would rather have the honor of taking a 100 bushels of corn, 40 of wheat, or 400 of potatoes from a single acre, than of saturating ten acres with *even* sepoys' blood, especially if shed after the fury of battle was over. The British Lion is also thundering about the walls of Canton. We hope for more humanity towards the *celestials*.

The monetary panic seems to be over in England. Money is there easy, and confidence is restored. In France, a relapse is threatened, but may not come. In Hamburg, where the crisis has been severe, things are now easy.

Present appearances are, that the Mormons are not yet ready to submit to wholesome laws, nor to quit the country, but that in conjunction with the Camanches, Cheyennes, and other Indians, they mean to fight, or at least to assume the attitude of resistance, and to make as much trouble as they can.

MARKETS.—Cotton, at the last moment of our going to press, Jan. 20th, is quoted at 10½ for Uplands; 10⅝ to 10¾ for Gulf.

Flour, from common to good superfine, $4 25 to $4 35; extra State $4 50 to $4 75; Southern fancy and extra, $5 to 6 70; choice extra family, $6 50 to $8; rye, $3 to $4; corn meal, $3 50; the grades of wheat flour range from $4 25 for the lowest to $8 for the dearest; and wheat, per bushel, from $1 15 to $1 68; rye, from 70c. to 72c.; buckwheat, from $2 12 to $2 25 per 100 lbs.

Hay, from ordinary to choice. 50c. to 75c. per 100 lbs. Hops in moderate request at 5c. to 10c. per lb. for common to best.

NEW-YORK LIVE STOCK MARKET, JAN. 20TH, 1858.—Average receipts of beeves weekly for 1857, 3,143. Receipts last week, 3,774. This week, 2,940; less by 834 than last week, and less by 203 than the general average.

Variations in price according to quality, from 6c. to 11c.; average of all sales, from 8¼c. to 8½c.; average advance this week over last, from ¼ to ½ cent per lb.

The trade in milch cows with calves is now (Jan. 20) dull. A fine cow can be bought for $40; pretty good, from $30 to $40, ordinary, from $25 to $30, and remarkably good for $50 or less.

There is not an overstock in the country at large, and we are quite confident this state of things can not last very long.

There has been a medium supply of sheep and lambs the past week, and prices have been slightly advanced. Sales from 7c. to 9c. per lb. live weight.

Arrivals of swine not as numerous as last week; stock nearly all sold, at from 5c. to 5¼c. gross, and 6¼c. to 6¾c. net, an advance of ¼ to ½ cent per lb. for dressed swine.

Reports from the Philadelphia markets are not as favorable this week to the farming interest as those of this city.

It would seem by the following from the *New-York Times* as if we were enormous meat eaters here in Gotham, and yet it is probable that some of our population would eat more if they could get it.

MONTHLY TOTALS.

	Bullocks at market.	Bullocks sold.	M. Cows rec'd.	Veals rec'd.	Sh'p & La's rec'd.	Swine rec'd.
January.....	8,139	12,607	725	1,200	28,448	27,522
February.....	6,590	12,182	985	1,681	33,598	11,800
March.....	8,513	12,597	1,341	2,448	21,210	17,029
April.....	11,373	15,105	1,703	4,905	17,401	26,806
May.....	9,186	11,914	1,475	4,135	16,329	24,894
June.....	8,564	10,765	1,138	3,808	30,285	16,356
July.....	13,257	16,503	1,185	3,806	55,492	15,406
August.....	9,342	12,245	940	3,263	46,873	9,047
September.....	13,923	19,279	1,112	3,467	65,284	18,231
October.....	10,180	12,955	613	1,794	44,291	23,571
November.....	8,883	13,221	688	1,598	44,995	33,501
December.....	8,596	12,970	945	3,013	39,830	64,821
Total.....	116,546	162,243	12,840	34,218	444,036	288,984