GREEN GRASS UNDER THE SNOW.

The work of the sun is slow,
But as sure as heaven, we know;
So we'll not forget,
When the skies are wet,
There's green grass under the snow.

When the winds of winter blow,
Wailing like voices of woe,
There are April showers,
And buds and flowers,
And green grass under the snow.

We find that it's ever so
In this life's uneven flow;
We've only to wait,
In the face of fate,
For the green grass under the snow.

—*Springfield Republican.*

A Segar Factory in Spain.

The segar factory presents a most animated and interesting sight. Imagine four thousand five hundred—such is the number at present employed—girls and women, of ages varying from about fourteen or fifteen, up to forty, but most of them young and pretty, women all dressed in the gay costume of their provinces, their rich black hair being their only head dress, the superintendents (most of them very pretty and lady-like young women) moving about among them in a vain attempt to keep an amount of silence and order.

Imagine such a gay, chattering crowd their nimble fingers working with the regularity, the swiftness, the whirlwind whirl of machinery, all crammed close together, their little baskets of food hanging over their heads, occupied in making paper cigarettes, puros, or government segars of various classes and paper bags for the cigarettes.

They sit in long corridors with open windows; the air is oppressive, but laden with tobacco dust like snuff, the Spanish tobacco being the triturated leaf, not the birds-eye and shag, which are unknown to Spanish smokers; as you pass along, joke after joke is levied at you; half a hundred baskets of salt fish, bread and fruit are proffered you; peals of laughter go up around you as you venture to inquire whether the close atmosphere is not prejudicial to health. Vain are the matron's remonstrances; the good-humored light-hearted, vivacious crew will not come to a halt until stranger, matron and all are fully convulsed with laughter. These girls, if skilful workers, can earn even as much as fifty cents per diem, but this is rare. About forty cents perhaps would be the average. Children, of whom they are scarcely any, it appears to me, earn a less amount.

The women are paid, of course, by the amount of work done—i. e., the number of segars or cigarettes turned out per diem. To convey a further idea of the magnitude of the trade, it may be noticed that 400 barrels of tobacco leaf from Havana lay in the court yard, each barrel weighing, we were told, 600 kilogrammes—i. e. about 1500 or 1600 pounds. The sheds below where 24 men, naked to the waist, their skin, beard, hair of a brown color, begrimed with sweat and tobacco dust, chop up and run through iron sieves the leaf, earning thereby from four pesetas to $1 per diem, are a study of themselves. One man had worked here for 24 years, and said that he found the work healthy and that the atmosphere had no effect on the lungs as a rule. These men, owing to the severe nature of the labor, work short hours.

Who Wrote "Damon and Pythias?"

This is a question which has been asked by some forty-odd correspondents within the past two weeks, but we have refrained from answering it, partly because we did not like to answer it definitely, partly because we thought these persons were trying to fool us, and partly because we did not know. This last admission the dramatic editor makes with a certain degree of quiet satisfaction, knowing that he has been in the same box with a good many people who ought to know better. He has found that out of fifty well-posted men in literary matters not one could lay their finger on the name of that illustrious obscure playwright. Such a well-known play! and no author to it. Everybody snaps a reflective thumb and finger at your head and says, "Why of course, I know who wrote that," and then ends up, like the second grave-digger, by the remark: "By the mass, I can not tell." Alas! what is fame? Here is a play which for nearly or quite one-score than seventy years, and only a book-worm can tell you who wrote it. Now, who wrote "Damon and Pythias?" Give it up? His humble name was John Banim, of Ireland, "who," says the introduction of the acting edition, "became celebrated by a series of novels under the title of 'The Tales Tara Tales.'" The famous Irish orator, Shiel, revised the play, and many have supposed it to be his production. The author acknowledges the assistance he received from Shiel, saying that his alterations and arrangements entirely pervade it, some scenes being entirely his. This piece was first produced at Drury Lane, London, with Macready as Damon, and Charles Kemble as Pythias, Miss Foote, who played Hermione, speaking the epilogue. It was first produced in America at the Park Theater, New York, in 1856, with Forrest as Damon and Dyott as Pythias.—*Chicago Inter-Ocean.*

English Funerals.

The British funeral arrangements are it must be admitted, in an unsatisfactory condition. It is not only the opinions are divided on the questions of cremation, burial in wicker coffins, and other modes of sepulture, but there is an agitation to be observed in the burial classes which is unusual and, to a certain extent, alarming. We hear of gravediggers suddenly throwing down their picks and shovels and refusing to work without higher remuneration, and now a strike of undertakers is reported from Gateshead. This "rather serious occurrence" as it is termed by the relieving officer in a report to the guardians of the union took place under the following circumstances. It seems that the Gateshead undertakers have hitherto, for a fixed charge, removed all corpses from the workhouse to the cemetery, but they now complain that the weight of some of the bodies which they have to carry is so unreasonably heavy that they cannot do it for the price. They therefore threaten that, unless the guardians make new and better arrangements, they will be compelled to refuse carrying any more bodies. The guardians have resolved to leave the matter in the hands of the relieving officer, with the view of coming to some compromise with the undertakers, and here the matter rests for the present. In the meantime, if it is really the intention of the undertakers to charge in future on the burial by weight system, persons with any consideration for their families should avoid as far as possible eating themselves to death. There can be little doubt that the dinner-table as a rule is more deadly than the battle-field, and that, if the history of the world were truly written it would be found that gluttony has been far more fatal than patriotism.—*Pall Mall Gazette.*

Books and Dinner.

There is still a popular belief that it is less extravagant to spend $10 for a dinner than to spend $10 for a book. A festive person out on a holiday will spend 25 cents for a quart of peanuts which he did not need and which he eats up in an hour or two (to his inward damage) who would never think of buying for the same money some cheap edition of a standard book which would furnish him solid enjoyment for many days, and add materially to the value of his life. Such a reluctance is there to buy books, that a whole neighborhood, eager, perhaps, to read a new work by a popular author, (hungry for it,) will wait for months to borrow it, and snatch the reading of it, rather than spend half a dollar to own it, and satisfy the intellectual appetite at once. Every day, in the city, people spend $5 and $10 for elaborate lunches which they do not need, when the money would buy some fine edition of a work that would entertain them for a month or two, and enrich their minds forever. They are prodigal about eating and drinking, spending liberally for dyspepsia, but trust to chance and borrowing for what the mind wants. The sample room is more attractive to them than the news room, and they pass by the bookstore for the restaurant.—*Hartford Courant.*

The Youthful Sculptor.

One morning, more than a hundred years ago, there was a man in the little town of Posagno, in the ancient Venetian States, who was in as great perplexity as ever man could be. He was head cook in the household of one John Falieri, a mighty Senator of Venice. His master was to give a grand dinner that evening to a number of beautiful ladies and gallant gentlemen whom he had invited to his country-seat to pass the shooting season with him. He had charged upon his cook to do the very best and show himself a credit to his country.

The poor cook tried hard, because he was a faithful and conscientious servitor. But at last his invention had failed him. The table would not be complete without an ornamental centre-piece—patriotic and allegoric—and the cook, not being a man of much imagination, was sunk in the blackest kind of despair. He really did not what he should do. So he sat down and began to cry, as Italians often do when they are in trouble.

Just then a very small boy slipped into the kitchen. He saw the cook in tears, and stole quietly up to him to find out what the matter was. He was on very good terms with the lord of the kitchen, and many a nice bit of pastry had found its way between his two rows of shining white teeth through the kindness of the cook. In fact, he and his parents subsisted to a certain extent upon the crumbs that fell from John Falieri's table, for they were very poor. Antonio's clothes were old and torn, but he didn't mind that, because he was only ten years old, and had not yet reached the age of frivolity. Besides, he had his talent to comfort him, so that on the whole he was rather happy than otherwise.

"O, my dear Antonio," cried the cook, wiping his eyes with his sleeve, "I am in such trouble! If you could only help me now! I must have a grand ornamental centre-piece for the dinner-table to-night, and I don't know what to do about it. Just help me, like a good boy, and to-morrow morning I'll give you the nicest piece of frosted cake you ever saw, raspberry jam between the layers, too."

Antonio thought a moment in silence. "I ought to be able to help him," he said to himself. "If I could only turn my modeling and wood-carving to some account now! What's the use of knowing how to do things if you can't help other people with them? I have it! Hurrah!"

Antonio was decidedly inspired. He rushed though the door like a mad boy, crying only to the astonished cook, "keep up your courage! I'll be back in an hour!"

And all the cook did was to roll up his eyes and clasp his hands and say, "Mercy on us! That boy will be somebody yet!"

True to his word, Antonio came back in an hour, with a large lion carved in wood under his arm. The noble beast was reclining with his tail curled and the tablets of the Venetian law or the writings of St. Mark, whichever you choose to take them for, under his right paw. Of course you know that this was the emblem of the Republic of Venice, and therefore the most appropriate centre-piece imaginable for the table of a Venetian Senator. The cook was delighted with the model, and gave Antonio a red apple on the spot.

"Only, of course, you don't mean me to send up this wooden thing to the table? You must mold it in something eatable."

"Of course, stupid!" rejoined Antonio sharply. "Butter is the thing I want. Give me all the butter in the house. Before night you'll have as pretty a lion as any in Venice."

At dinner that night all the guests remarked the cleverly-carved centre-piece. They found it an excellent subject to fall back upon when conversation lagged, and at last the rumor of the admiration it excited reached the ears of the master of the house.

"Why it *is* a fine beast," said he, noticing it for the first time.

"Who can have done it? Can it be that my cook has developed a talent for sculpture? I must call him up and compliment him on it."

The cook was sent for and came. The Senator began to praise his work, inquired if it had cost him much time and trouble, and assured him of the satisfaction it had given him—John Falieri—in common with all his guests. The cook was overcome and began to cry. His nerves had been heavily strained by the excitement of preparing the banquet.

"Why, what is the matter?" asked the Senator. "Are you crying for joy?"

"No, my lord, but for grief to think that I do not deserve the praise you bestow on me."

"What? You did not carve the lion?"

"No, my lord."

"Who did, then?"

"A little peasant boy, my lord—one of your lordship's subjects, called Antonio. Everybody about the place knows him."

"Send for him, then. My lords and ladies, would it not please you to see the little prodigy?"

Antonio was called up from the kitchen, where he had been regaling himself with cold fowl with a pleasing consciousness of having earned his supper. He was not at all frightened when he heard that he was to appear before the mighty John Falieri. Your true genius never doubts himself. He only took the time to wash his face and hands upon the motherly suggestion of one of the women-servants. Then he went up stairs into the room full of glittering lights and jewels and fine clothes with a proud a step as though he had been a king. So in truth he was, king of the realms of genius.

"Are you the person who carved this lion?" cried the Senator, much amazed at the sight of such a very small boy.

"Yes, my lord."

"And how old are you, pray?"

"Ten years."

"My lords and ladies," cried the Senator, rising and filling his glass, "we pray you, bear witness that we take this youthful genius under our protection henceforth. Let us drink to the health of him who twenty years from now will be the first sculptor of the age."

Antonio was not abashed—he was only overjoyed: and as soon as possible he ran home to tell his parents of the good fortune that had befallen him. His patron procured admittance for him into the studio of the first sculptor of the time, where he made rapid progress. Two years after, he carved two baskets of fruit, in marble, for his kind friend, which still adorn the vestibule of the Falieri Palace in Venice.

As he grew up, he received orders for statues from the rich and distinguished of his own country and of others. Every gallery sought to possess a specimen of his handiwork; every academy of art was proud and happy to offer him a membership. It is said of him that he received more honors than any other sculptor or painter since the time of Raphael.

Opposite the window at which I am writing at this moment there stands a house which bears the following inscription: "Antonio Canova, the prince of sculptors, breathed his last within these walls, and consecrated them to immortality, A. D. 1322.

Fish in China.

The Pang tou you, or perch, measures 35 in. long, 13 in. girth, and weighs 7 lbs., but it often attains a weight of 20 to 24 lbs., and 4ft. in length. Its flesh is rather coarse and flavorless, which is the chief complaint of most Yangtsze fish. It is sold here at this season of the year (May) for forty cash, say one and three-quarter pence, per catty, equal to a pound and a third. This is, of course, river caught fish. Keui yn (perch) or "Mandarin fish," as "boys" often call it, from the fact of its being the best fish to be found in the market almost at all times of the year, grows to a large size, and is of excellent flavor and very firm if full sized. The prices range from forty to sixty cash, equal to two pence to three pence per catty ($1\frac{1}{3}$ pound), according to season and time of day; but even at the latter price "Mandarin" fish would not be a very expensive luxury, yet the lower classes seldom indulge in it. After the Keui yu the Lien yu bream ranks next, being a rich and firm fish. It often grows three feet long and 20 lbs. in weight.

The Huen yu, though a coarse-looking fish, has an excellent flavor, and in the proper season is a very acceptable change at one's table, after the ever-lasting perch with which our cooks continually supply us. The fry of the Shih yu, or shad, which ascends the river in May, to spawn does not appear to be caught or bred in ponds or lakes. It is greatly esteemed by the Chinese, and is undoubtedly the best fish of the rivers. The season for it is soon over, lasting from about the middle of May to the third week in June. In former years this fish used to be taken from Nanking to Pekin for the Emperor's table, but the amount of labor in getting it there fresh was so trying to the people engaged to carry it that the Emperor was induced to forego this luxury, and the practice was discontinued. The pike of these waters grow to a very large size.

The First Rail Way.

The 27th of September, 1875, will be long remembered in South Durham. It was a day of holiday-making and festivity; and from all parts of the north of England, as well as from places more distant, crowds of well-dressed people, bent on making the occasion memorable, poured into the district. It was the greatest gala day Darlington had ever known. Fifty years before, the first railway on which the locomotive engine ever traveled had been opened in the district, and the jubilee of the railway interest which have developed into such colossal proportions, had come. A new force, the power of which was but feebly estimated by the most sanguine, had then arisen, creating new industries and developing old ones a hundred-fold, calling towns and villages into existence, and changing the whole face of the country. The little Stockton and Darlington Line, opened on the 27th of September, 1825, was the herald of this revolution, and the people of the North felt it was fitting they should celebrate, with all the emblems of local rejoicing, the greatest landmark in our modern industrial history—a landmark which the world owes to the sagacity and perseverence of a handful of north-country Quakers. The idea of celebrating the fiftieth anniversary of the opening of the Stockton and Darlington Railway originated with the Directors of the North-eastern Company, whose system is the direct result of the little line. Its twenty-five miles, constructed with a capital of £125,000, and bringing in a revenue of £18,305, owning two locomotives, the carriage, and a few wagons, was the nucleus of an agglomeration of local and other lines now extending over fifteen hundred and eight miles, and having an authorized capital of £57,322,804. The one engine which first started, baptized "Locomotion" by its maker, George Stephenson, and known as "Puffing Billy" to the simple country folks of South Durham has grown into thirteen hundred, and the passenger carriage and wagons have developed into seventy-seven thousand nine hundred and forty-nine carriages and wagons of all sorts and sizes, which if spread out in a straight line would extend over nearly two hundred miles. The success of the North-eastern system was heralded by that of its first progenitor, which paid a dividend the first year, and after ten years was returning fourteen and fifteen per cent. to its shareholders. Like the rest of the railways, the north-eastern has had its evil day: and in the times when the over-sanguine "King Hudson" controlled its fortunes, they were at a sufficiently low ebb; but it has long since taken its place as one of the best paying and best managed lines of the United Kingdom. In voting £2,000 to help to commemorate the opening of the first railway, the Directors of the North-eastern were, therefore, only mindful of their due responsibilities. Their suggestion was warmly seconded not only in South Durham, but throughout the North of England, and the interest of the railway jubilee spread far and wide. It would have been strange had it been otherwise. In fifty years the railway system, of which the foundations were laid in the Stockton and Darlington, has attained enormous proportions, and by its conquests over time and space, has, with its relative, the electric telegraph, revolutionized the manufacturing, commercial, and social conditions of the civilized world. In Great Britain the twenty-five miles of 1825 had become, in 1874, more than sixteen thousand miles. The same year the United States could boast of over seventy-four thousand miles. All the countries of Europe, in greater or less degree, have followed suit, and the iron horse and iron road have won further triumphs in Asia and South America. The railways of the world embrace a total mileage of more than one hundred and sixty-four thousand miles, the construction of which has been estimated by Sir John Hawkshaw to have cost £3,200,000,000, or about four times the amount of England's national debt.—*Good Words.*

A Practical Joke on Henry Clay.

The Carlisle (Ky.) *Mercury* has this story: "A relative of Governor Metcalfe has furnished us with the following incidents, which will illustrate the habit 'Old Stonehammer' had of playing practical jokes. Some time before the introduction of railroads Governor Metcalfe represented in Congress a district of which Nicholas county was a part. Mr. Clay was Secretary of State under President Quincy Adams. It was the custom to make the trip to the National Capital in private conveyance. It was in advance of Mr. Clay's greatest popularity that the two distinguished politicians agreed to travel to Washington in Governor Metcalfe's carriage, and all the arrangements perfected, they started together from the latter's 'Forest Retreat' home in this county. While passing through the State of Pennsylvania Mr. Clay told Governor Metcalfe that he had received intimations that in a certain town they were approaching he would be honored with an ovation by the citizens (they like thousands of his fellow countrymen, loved him, but had never seen him.) Just before coming to town Governor Metcalfe, who had all along been driving, suggested to Mr. Clay that he take the lines and drive, as he himself was tired. Mr. Clay readily consented, whereupon the Governor took the back seat in the carriage. The honored statesman drove the team successfully into the town and they were met by a large concourse of people. Governor Metcalfe alighted from the carriage and being asked whether he was Mr. Clay answered yes, that he was glad to meet them, etc.; and at this the crowd fairly hoisted him upon their shoulders and triumphantly started with him to the place of reception. Looking back at Clay, who still sat in the carriage, somewhat nonplussed, the Governor cried, 'Driver, take those horses to the stable and feed them.'"

The Frailty of Modern Art.

The old masters made their own colors. The material which entered into their pigments came to them unadulterated, and the excellence of the paint depended on the brain mixed in it. Hence, their paintings to-day, though lacking somewhat freshness of color, have a mellowness which age can only give to pigments of the highest excellence. Modern pictures will not ripen, their colors fade, and the mellowness of the old masters is unattainable. Holman Hunt, of England, has called the attention of lovers of the fine arts to this deplorable fact. And the reasons are given. The artist's colors are no longer made by himself. Their manufacture is a business from whose secrets he is shut out. Artist's colors are subject to fearful adulteration. Even the oils cannot be genuine, as things go. The materials of which they are made go to the maker in a sophisicated state. Linseed and poppy-seed are adulterated before they reach the oil-makers's hands. So too, is it generally with the crude material for the pigments. A high-priced vermillion from an eminent dealer, upon analysis, yielded twelve per cent. of red lead. So the artist, who puts his whole life and soul into a painting that should be "a joy forever," has this immortality of art quenched by the use of dishonest paint.—*Popular Science Monthly.*

True Wisdom.

To comprehend a man's life it is necessary to know not merely what he does, but what he purposely leaves undone. There is a limit to the work that can be got out of a human being and he is a wise man, who wastes no energy on pursuits for which he is not fitted, and he is a still wiser man who, from among the things he can do well, chooses and resolutely follows the best.

AGRICULTURAL.

STALL FEEDING CATTLE.—Stall feeding, when one is prepared for it, is about as profitable a branch as one can undertake in winter. The requisites are warm, well ventilated, well lighted stalls; plenty of room, fresh bedding often, and food that is clean and sweet. Corn-meal and hay cut early, should form the principal food, varied with a few roots, bran and barley meal. Of course, there must be preparation before hand. It is well to start in a small way. There are doubtless thousands of farmers who could feed a few animals to a large profit who will sell off their farms hay, corn, roots, etc., which ought to be converted into manure and meat on the farm.

It is a fact that that those who undertake stall feeding cattle and sheep, very seldom give it up, because the profits are so large, both in fertilizers and cash. There are farmers in Connecticut who have been in the regular practice of stall-feeding cattle, sheep and horses, for their whole lives since they began business for themselves. According to the Springfield *Republican* Geo. W. Jones, of old Deerfield, has how in his stables forty-seven head of oxen, all Durhams, and so large that they can hardly move their great weight. The heaviest yoke weighs 4,600 pounds, the whole lot averaging 4,000 pounds to the yoke. They are each fed eight quarts of meal and bran daily, and all the hay they want. Water is supplied in the mangers in pipes. About Christmas these will go to Boston, and then Mr. Jones will stock up for the winter, his usual number being about eighty to ninety cattle, 600 to 700 sheep, and about a dozen horses. Last year he cut 250 tons of hay, which with seventy-five tons purchased, he fed out.

It is plain to see that where so much is fed out to strong, fattening animals a farm may be very soon brought up to a maximum condition of fertility and productiveness. The cattle occupy a basement well ventilated. If it was not, the great heat generated by so many animals would make the place oppressively warm. The sheep are fed on the floor above, and Mr. Jones uses all the enormous quantity of manure produced at the stables. He is also a tobacco raiser to the extent of twelve to fourteen acres annually, and the tobacco he grows brings a better price than that grown by using commercial fertilizers. Here is one farmer who has found that farming pays.

STORING APPLES ON SHELVES.—I see that writers recommend keeping apples on shelves during winter. This will do where the air is not too dry; but it generally is too dry, even in cellars, and the fruit will therefore shrink and become tough and spongy, though its keeping qualities are enhanced. I have for many years kept apples in barrels in the cellar with perfect success in almost all cases. The exceptions were where the temperature varied, or the fruit was grown rapidly, either through the agency of manure or showery, growing weather. If I can afford a cellar low temperature, but avoiding the frost (and that does not exclude the actual presence of a little frost in the cellar), I consider myself safe—only, however, when the fruit is sound and dry when stored away. A little bruise will not hurt an apple, provided the skin is not broken so as to give access to the spores, which will thus enter and destroy the fruit. Hence the lid can be pressed down well, flattening the fruit some, yet without harm leaving only a small, dried, leathery spot where pressed. In barrels there will be sufficient moisture to prevent drying or shrinking the fruit. When there is an excess of humidity, of course fruit is not intended to be kept. As to the looking over of fruit, thus necessitating the handling of it, I have never practised it during the winter or spring but with bad results. Handled carefully when dry, and with dry hands, there is less harm. The slight coat of oil, which is a protection to the apple, should not be disturbed, and yet the wiping of fruit is indulged in. An apple with the outside intact is safer among fruit affected, even if considerably rotten, than if removed and the fruit wiped or only handled. Where the air is sufficient moist, and not in excess, so there is no drying or shrinking of the fruit when placed on the shelf, the shelf plan is prefrable, because the most convenient way, and is also reveals the fruit and makes perceptible the aroma. The pleasure of entering a cellar with the fruit in view and the old-time fragrance present, making a spot of summer in winter, is something, and may induce to the keeping of some of the fruit in this way, even with the chance of shrinking a little.—*Cor. N. Y. Tribune.*

SEEDS GERMINATING IN ICE.—Highly-interesting results bearing upon the germination of seeds have recently been developed by certain experiments conducted by M. Uloth. Grooves were cut in a cake of ice, into which seeds of various species were placed and then covered over by plates of ice. The whole was then removed to a cool cellar and allowed to remain from January until the May following. At this time it was found on examination that many of the seeds had sprouted and penetrated the ice with their roots. It is the opinion of M. Uloth that the heat needed for the process of growth was generated by the seeds themselves in the progress of their development, and that this heat was sufficient to melt the ice about the roots, and permit them to extend their axes. The subject has given rise to much controversy and opposing theories.

WATERING POULTRY.—It is the belief of the writer that many of the diseases incident to poultry are due to neglect in providing them with pure water; particularly do I believe such to be the case in the majority of instances where chicken cholera prevails. The omission to furnish fowls with suitable drinking water is one of the worst features of cruelty to animals. It is a neglect that is decidedly adverse to success, hence tends to diminish individual fancy for fowls, and works detriment to poultry interests. Those whom we occasionally hear say that "there is no profit in poultry" are not qualified to have the management of the same, and in their attentions may be classed with the thriftless and neglected parties who keep fowls that get drink when it rains.—*Fanciers' Journal.*

STRAW AND HAY.—Good clean straw, carefully stacked, is supposed to represent a value in comparison with the best meadow hay, of three to one. That is, an animal must eat three pounds of straw to get the same subsistence as would be afforded by one pound of hay. Now, since it is required that cattle must consume all the hay they can eat, to bring them through the winter in the same condition they were in at its commencement, it is evident that if wintered largely on straw, they must subsist largely upon the fat and flesh previously stored up; but if fed with corn or other concentrated food, the case becomes widely different, since it acts as a divisor to the other food, and at the same time furnishes whatever nutriment it may possess to the animal.—*Western Farmer.*

FALL PLOWING.—A correspondent of the *Rural Home* argues thus about fall plowing: If land where there is no sod is plowed in the fall and a heavy snow comes upon it before being frozen it is found about as hard as land not plowed and no good comes of it; but if a clay soil is plowed when dry in the fall, and is frozen hard during winter it will be finer, and work up lighter for spring seeding. Clay soils not well drained and so situated that the surplus water cannot get off will be injured by throwing them up loose in the fall, for the rains will so saturate them that they will be as hard as a bed of dried mortar, and no after culture can bring them into condition for a spring crop. But with good drainage the opposite conditions prevail.

SAVE hog manure now, as it is especially valuable from fattening hogs. As nearly all the nitrogen of the food is contained in the liquids voided, none of it should be allowed to waste. Litter the pens with an absorbent—dry earth or muck, or cut straw. Much of the net profits of stock comes from the manure, hogs included, and yet not one farmer in ten saves half the hog manure made. This is the kind of economy that makes hard times. It is estimated that if all the manure a pig makes was saved properly, it would add, on an average, about two cents to the value of each pound of pork.—*Ohio Farmer.*

SCIENTIFIC.

Microscopic Eggs in Rain.—During a rain storm in the vicinity of Kenosha, Wisc., drops of a jelly-like substance fell in quantities varying from fifty drops on a square foot to a depth of an eighth of an inch. The drops were about the size of a large currant, and remained upon the ground some time. A quantity was gathered by P. W. Howes, Principal of a school, who, by examination under the microscope, found that each drop of the singular substance contained what appeared to be eggs. He sent a specimen of the substance in a vial to the editor of the Chicago *Inter-Ocean*, in order that it might be submitted to some scientific investigators, and it was accordingly divided among several gentlemen of that City, one of whom, Dr. R. U. Piper, has succeeded in hatching out the eggs. The larvæ are of two kinds, having the same general form, but differing in some particulars. They resemble very much the larvæ of the mosquito family, though many times smaller. Dr. Piper says he has discovered some larvæ very like them in form and size in stagnant water in Chicago. He is unable to determine what the creature really is, but is not disposed to think that they have come from any other sphere. His opinion is that they are of mundane origin, taken up, perhaps, by a whirlwind, and carried with the rain-cloud until they came down in the shower. The subject is one that might be studied by naturalists with profit.

New Method of Removing Hair from Hides.—Until quite recently the usual method of removing hair from hides as preliminary to tanning, consisted either in inducing a slow putrefaction, which loosens the epidermis and renders the hairs easily separable, or else placing the hides in a large vat containing milk of lime. After a number of days the hair was readily removed by a blunt scraper. At present, however, in many parts of Europe, these methods have been abondoned in favor of one in which the sulphide of lime is the main agent—this salt, in a crystalline form, being now manufactured for the purpose in Germany. Sometimes, when it is desired to remove the hairs as quickly as possible, as in the case of sole leather, the hides are painted with a paste consisting of one part of crystallized sulphide of sodium and three parts of lime. The hides are covered with damp matting to prevent the drying of the paste, and in 15 or 20 hours the process is complete, and the hair can be removed. In other cases, when more time is allowable, the skins are steeped in a solution of sulphide of sodium—1 pound to 100 quarts; the effect being accomplished in two or three days. Where the hair is to be removed from the hides by the hand, it is necessary that they be well rinsed in water; and the men employed in laying on the paste usually wear india rubber gloves while handling the hides.

Experiments with Steel.—Some important investigations made in France into the nature and force of steels have been made, with a view to ascertaining, more definitely their different adaptations to industrial purposes. Fifteen bars of steel, divided into five series of three each and differently carbonized, each received a peculiar temper; they were then magnetized to saturation, and their magnetic force determined by the method of deviations. A bar containing .950 per cent of carbon and tempered in cold water gave a maximum deviation, represented by 47; another bar, with a similar percentage of carbon, but tempered in boiling water, gave 44; and a third bar, with a like precentage as the preceding, but tempered in oil, at 50 degrees Fah., gave 43.

The effect of the proportion of carbon contained in different bars was also very marked. Thus, a bar containing .950 per cent. gave a maximum of 47; another, with .250 per cent., gave but thirteen. By describing the curves of variations for the different series of bars, the influence of the carbon and of the tempering liquid becomes clearly apparent. The remarkable fact appears, that the curves of elasticity and the magnetic curves of the bars are closely similar, carbon seeming to give elasticity to the steel, and at the same time to increase its magnetic capacity.

Discovery of a new Element.—At a recent session of the French Academy of Sciences, M. Wurtz presented a communication from M. Lecoq announcing the discovery of a new simple body, a metal analogous and allied to zinc and cadmium, and found in blende or sulphide of zinc in Spain. The existence of the substance was revealed by spectral analysis, two lines appearing which could not be traced to any other element. The lines are situated in the violet, the region in which the brightest zinc lines are found; one is very brilliant and takes, in the table of wave lengths, the 417th place; the other and weaker one has its wave length represented by 405. The new metal has not been reduced from its combinations, so that its physical characteristics remain undetermined. It has been obtained, however, in the state of hydrochlorate and sulphate, and its distinctive features have been so clearly recognized, showing its marked difference from either zinc or cadmium, that there is considered to be no reasonable doubt as to its existence. The discoverer patriotically names the new metal gallium in honor of France.

Effects of Heat on Steel Wires and Rods.—Professor W. F. Barrett has found that, if steel of any thickness be heated by any means, at a certain temperature the wire ceases to expand, although the heat be continually poured in. During this period also the wire does not increase in temperature. The length of time during which this abnormal condition lasts, varies with the thickness of the wire and the rapidity with which it can be heated through. It ceases to expand, and no further change takes place till the heat is cut off. When this is done, the wire begins to cool down regularly till it has reached the critical point at which the change occurs. At the moment that the expansion occurs, an actual increase in temperature takes place, sufficiently large to cause the wire to glow again with a red hot heat. It is curious that this after-glow had not been noticed long ago, for it is a very conspicuous object in steel wires that have been raised to a white heat and allowed to cool.

A Microscopical Soiree.—At the recent microscopical *soiree* of the British Association, 110 microscopes were arranged in classified divisions, devoted to crustacea, arachnidans, insects, marine and fresh water fauna, cilian action, vertebrate circulation, fertilization of flowers, cryptogamia, microspectroscopes, etc. The idea of practically illustrating Sir John Lubbock's "Fertilization of Flowers by Insects" was novel, and so far carried out as to give a vivid idea of the processes to those who were previously unfamiliar with them. The geological division included an exhibition of the pre-nennial *eozoon Canadense*, which must be exhibited again and again to live down the hostility to its animal nature.

A New Link in Evolution.—Prof. E. S. Morse, of Salem, occasionally turns from his specialty, the brachiopods, and amuses himself with the study of other recondite subjects in natural science. Some time ago he determined the fact that in embryonic birds there are four tarsal as well as four carpal bones, the presence of the *intermedium* being the main point. He has since discovered that there are embryo claws on two of the digits of the fore-limb, the index middle finger. Hitherto only a single claw has been known, and that in but few cases. These interesting results throw new light on the relationship between reptiles and birds which Mr. Huxley has insisted upon.

Conduction of Heat by Building Materials.—The coefficient of conduction for heat of various building materials has lately been carefully investigated by Lang, who, in his studies, has endeavored to exclude the influence of radiation, and has made measurements by means of the thermo-electric multiplier. He finds that the stones considered by him are much better conductors of heat when wet than when dry, and that various classes of stones, such as marble, sandstone, granite, &c., have approximately the same coefficients of conduction, while bricks of all kinds are much worse conductors than the natural stones.

LIFE cannot subsist in society but by reciprocal concessions.

DOMESTIC.

REMOVAL OF STAINS WITH MAGNESIA.—Carbonate of magnesia—magnesia that has been previously calcined is best—is dried in an oven and mixed with sufficient benzine to form a soft friable mass. In this state it is put into a wide-mouthed glass bottle, well stoppered, and kept for use. It is spread pretty thickly over the stains, and rubbed well to and fro with the tip of the finger. The small rolls of earthy matter so formed are brushed off and more magnesia is laid on and left until the benzine has evaporated entirely. Materials that will bear washing are then cleaned with water; on silks, alcohol or benzine should be used instead. The process may be applied to textile fabrics of every description, except those containing very much wool, to which the magnesia adheres very tenaciously. It may also be used for stains, old or new, on all sorts of woods, ivory, parchment, etc, without risk or injury. Ordinary writing ink is not affected by it, but letterpress ink quickly dissolves, owing to the absorption of the fatty matter in the ink.

BOOTS IN WATER.—A correspondent of the *Indiana Farmer* writes: "I have stood in mud and water two or three inches deep, for ten hours a day for a week, without feeling any dampness or having any difficulty in getting my boots on or off. If you would be equally successful, before wearing the boots give the bottoms a good coating of tallow and tar and dry it in; then oil the uppers with castor oil, about one tablespoonful will be sufficient. If the weather should be rainy or you are compelled to work in water during the day, wash your boots clean at night' hold them by the fire until quite warm, and oil them while quite wet, and you will have no trouble about your boots getting hard and shrinking up so that you cannot get them on. If the leather should become red, give a coat of ordinary shoe-blacking before oiling. The effect of castor oil is to soften the leather, while it fills the pores and prevents the water from entering.

PRACTICAL SUGGESTIONS.—Every little while we read of one who has stuck a rusty nail in his foot or some other portion of his person, and lockjaw has resulted therefrom. All such wounds can be healed without any fatal consequences following them. The remedy is simple: It is only to smoke such wound, or any wound or bruise that is inflamed, with burning wool or woolen cloth. Twenty minutes in the smoke of wool will take pain out of the worst case of inflammation arising from a wound we ever saw.

In caring for your fowls provide them with a vessel of lime water for an occasional drink. It is prepared by pouring hot water over quicklime, and after the lime is settled and the water covering it has become clear, pour it off. It will keep fit for use a considerable time.

WOODEN vessels for containing articles of food and wine, and wooden vessels for culinary purposes, may be rendered fit for immediate use by treatment with a solution of washing-soda. Thus an ordinary barrel should be half filled with water, and a solution of about two pounds of soda in as much water as will dissolve it; then head up the barrel and thoroughly mix the liquids by shaking the barrel, which should then be filled to the bung with water, and allowed to remain for twelve or fourteen days. Then after the discolored liquid has been withdrawn, it should be well rinsed and filled with pure water and allowed to remain several days, when it will be fit for use. Other wooden vessels may be treated with a similar solution of soda.

BOTTLING CIDER.—A writer in the *New England Farmer* gives this advice to bottle cider that will keep sweet and fine for years: Leach and filter the cider through pure sand, after it has worked and fermented and before it has soured. Put no alcohol or other substance with it. Be sure that the vessels you put it in are perfectly clean and sweet. After it is leached or filtered put it in barrels or casks filled, leaving no room for air; bung them tight and keep them where it won't freeze till February or March, then put it into champagne bottles filled, drive the corks and wire them. It should be done in a cellar or room that is comfortable to work in. The best cider is late made, or made when it is as cold as can be and not freeze.

CRACKED DISHES.—As soon as a plate gets a cracked part way across, crack it the rest of the way; don't wash it after breakfast, but cement it at once. I have found nothing better for this purpose than white lead mixed in oil. The prepared may be purchased in pound cans and kept always ready for use (after the can has been opened keep a little linseed oil on the surface to prevent the lead hardening.) Paint both edges of the parts with the lead mixed to a consistency a little thicker than it usually is when spread with a brush; bind the article closely, and allow it to stand until perfectly dry before putting into use again.

KEEPING THE HANDS SMOOTH.—A writer in the *American Grocer* says that glycerine is not used in the right way. She asserts that to preserve the smoothness and softness of the hands, keep a small bottle of glycerine near the place where you habitually wash them, and whenever you have finished washing them, and before wiping them, put one or two drops of the glycerine on the wet palm, and rub the hands thoroughly with it, as if it were soap, then dry lightly with a towel. Household work and bad weather will not prevent your skin from being smooth and soft, if this plan of using glycerine is followed.

MOUTH GLUE is made by dissolving, with the aid of heat, pure glue, as parchment glue or gelatine, with about a quarter or one third of its weight of coarse brown sugar, in as small a quantity of boiling water as possible. This, when perfectly liquid should be cast into thin cakes, on a flat surface very slightly oiled, and as it cools cut up into pieces of a convenient size. When required for use moisten one end. A piece kept in the desk or work-box is exceedingly convenient.

PARSLEY AND BUTTER.—Melt one ounce of butter, and add to it a dessert-spoonful of flour, salt and white pepper to taste; stir on the fire for a couple of minutes, add a little more than a tumblerful of boiling water by degrees, and a small quantity of parsley, blanched, and finely chopped; stir five minutes and do not let the sauce boil.

TO DRIVE away rats, an English journal gives the following recipe, which it says has proved very successful: Take some glass and powder with pestle and mortar, then mix with some lard into pills and drop into the rat-holes. It will drive rats and mice out of the place; they die of decline.

LAMB STEW.—Take half a shoulder of lamb, boil in two quarts of water for two hours, then put in potatoes, onions, turnips cut in quarters, two teaspoonfuls of salt, and pepper to the taste. Ten minutes before serving put in the dumplings.

FANCY CAKES.—Beat the yolk of four eggs into half a pound of white sugar, add a little less than half a pound of flour. Beat fifteen minutes; flavor with lemons, and add the whites of the eggs well beaten. Bake in small patties and put sugar plums on top.

DUSTING articles of steel, after they have been thoroughly cleaned, with unslaked lime, will prevent them from rust. The coils of piano wires thus sprinkled will keep them from rust many years.

FINE DOUGHNUTS.—Three eggs; two cups of sugar; one tablespoonful of butter; a large cup of sweet or sour milk; one nutmeg; scant teaspoonful of soda; flour enough to roll thin.

A CHEAP PAINT.—Coal ashes, sifted very finely, thoroughly ground, and mixed with oil, are said to make a good, cheap paint. Any coloring matter may be added.

PLAIN CUP CAKE.—Take 1 cup of butter, 1 cup of milk, 4 eggs