

On the Cicada Septemdecim.

This destructive insect is not a true Locust, but derives its popular name (seventeen year Locust,) from its fancied resemblance to the Locust of the East, which belongs to the family of grasshoppers, (Locusta.)

The Cicada Septemdecim appears in June every seventeen years. When they emerge from the ground they are grub-like in form, destitute of wings, and covered with a tough shell, a proper and convenient coat, that effectually protects them while in their earthly abode. The evening and early morning hours are best suited for them to undergo their change from the grub to the winged form; and accordingly as soon as the sun disappears, they might be seen creeping from the earth in countless numbers, crawling to the nearest tree or shrub, which they climb until they reach a convenient spot to grasp firmly. There, with their heads always upwards, they await the change, which begins by a slit opening in the back of the shell, and the fly gradually draws itself out, the body enlarges, the wings expand, and the creature assumes new life and energies, though it always continues heavy and sluggish. They live in the winged state about three weeks before they deposit their eggs, subsisting on dew and moisture found on the leaves of the trees. The female has a strong and curiously contrived piercer, with which she carefully slits the back of the twigs of trees and shrubs, and deposits her eggs in pairs, side by side, but separated by a portion of woody fibre, and placed obliquely, so as to allow one end to point upwards; from ten to twenty eggs are deposited in this slit. She then removes a little distance, and makes a new nest; when a limb is sufficiently stocked, she removes to another, until her store of eggs is provided for, when she becomes exhausted, falls to the ground, and soon dies. One female will deposit four or five hundred eggs. The eggs require forty-two days to mature in the branches of the trees; they then burst the shell and appear a minute fac-simile of the larval state, requiring but a few moments to stretch their limbs and prepare for labor, before they unloose their hold of the twig on which they had been deposited, and fall to the ground, when they immediately disappear in search of food, which they find in the roots of the parent tree. When first hatched they are very small and white, but soon change to a yellow brown. They exist in separate tribes, occupying a different section of country, making their appearance in different years, but invariably after the same interval of time. For a year or two before and after the appearance of the main body a few scattered individuals will generally be found.

Their favorite trees appear to be the oaks and fruit trees in general; avoiding the Fir, Walnut and Hickory tribes, though they will occasionally deposit their eggs on them, should no other tree be conveniently near at the proper moment.

From the roots of a pear tree, four hundred and eighty of these insect larvæ were taken, fortunately in time to save the life of the tree; the roots were unhealthy, and bore the appearance of external injury arising from small punctures, and on removing the skin of the bark this appearance increased, leaving no doubt as to the cause of the disease. The larvæ were enclosed in compact cells of earth, with no outlet except that in immediate contact with the roots.

Should a tree on which these larvæ have been feeding be cut down, the insects perish for want of food; and, if carefully searched, the cells that had once been inhabited will be found either containing the decayed insects, or filled with what has gradually been deposited by filtration, bearing strong evidence that these larvæ never leave the tree on which they were originally deposited.

[The above is the production of Margaret H. Morris, of Pennsylvania.]

Some very interesting experiments have been made with Oregon Coal in England. It burned well and has been pronounced equal to the English in every respect.

Steaming for Hydrophobia.

A. M. Buisson has written a treatise to the Paris Academy of Sciences, detailing the manner in which he was cured of hydrophobia. He is a doctor and had been called, in 1835, to visit a woman who, for three days, was said to be suffering under this disease. She had the usual symptoms, constriction of the throat, inability to swallow, abundant secretion of saliva, and foaming at the mouth. Her neighbors said she had been bitten by a mad dog, about forty days before. At her own urgent entreaties she was bled, and died a few hours after, as was expected.

"M. Buisson, who had his hands covered with blood, incautiously cleansed them with a towel which had been used to wipe the mouth of the patient. He then had an ulceration upon one of his fingers, yet thought it sufficient to wipe off the saliva that adhered with a little water. The ninth day after, being in his cabriolet, he was suddenly seized with a pain in his throat, and one still greater in his eyes. The saliva was continually pouring into his month; the impression of a current of air, the sight of brilliant bodies, gave him a painful sensation; his body appeared to him so light that he felt as though he could leap to a prodigious height. He experienced, he said, a wish to run and bite, not men, but animals and inanimate bodies. Finally, he drank with difficulty, and the sight of water was still more distressing to him than the pain in the throat. These symptoms recurred every five minutes, and it appeared to him as though the pain commenced in the affected finger and extended thence to the shoulder.

From the whole of the symptoms, he judged himself afflicted with hydrophobia, and he resolved to terminate his life by stifling himself in a vapor bath. Having entered one for this purpose, he caused the heat to be raised to one hundred and seventy degrees thirty six minutes Fahrenheit, when he was equally surprised and delighted to find himself free of all complaint. He left the bathing-room well, dined heartily, and drank more than usual. Since that time, he says he has treated in the same manner more than eighty persons bitten, in four of whom the symptoms had declared themselves; and in no case has he failed, except in that of one child, seven years old, who died in the bath. The mode of treatment he recommends is, that the person bitten should take a certain number of vapor baths, (commonly called Russian,) and should induce every night a perspiration, by wrapping himself in flannels, and covering himself with a feather bed; the perspiration is favored by drinking freely of a warm decoction of sarsaparilla. He declares, so convinced is he of the efficacy of his mode of treatment, that he will suffer himself to be inoculated with the disease.

For the Scientific American.

Sub-Marine Telegraph Under the Atlantic.

Under the above heading is a communication, in No. 5, Vol. 6, from H. L. Stuart, engineer, in which he lays down a well arranged plan for the electric union of the Old and New World. He states that proposals had been made to construct a line between England and Ireland, upon the plan alluded to, and if successful there, proposals in due form would be made to capitalists and to the Government to lay down the Atlantic line. It seems to me that one difficulty of an almost insurmountable kind would occur, of which nothing is said in the above plan. I refer to the action of ice bergs. Every spring immense numbers of these huge bodies come floating down to a lower latitude than that proposed for the line of the telegraph. As all are aware, their depth is frequently great, often over 1,200 ft. Lyell tells us that immense blocks of granite and other hard rocks are frequently frozen into their under surfaces, and that they often are aground, as one can readily believe, when he reflects upon their depth. Imagine one of these massive bodies to strike the ground somewhere along the proposed line of wire (which, it seems to me, could hardly fail to happen every spring). Would not the raking and grinding that would then and there occur, be sufficient to snap the stoutest cable that could be laid down, or, at least, raise such a "rumpus"

with its gutta percha covering as to scatter its load of lightning upon the wide waste of water. R. S. B.

Attempt to Poison on Shipboard.

The Barnstable Patriot says that a letter has been received in town from Capt. Wm. Loring, of the bark Governor Hinckley, in which he says that when ten days out of New York for London, an attempt was made by the cook to poison the officers and passengers on board his bark, by introducing some poisonous substance into their coffee. The captain and mates, the captain's daughter and two or three passengers, partook of the coffee but not in sufficient quantities to prove fatal to any one of them. They were immediately taken with vomiting, and remained sick for some time from its effects, but recovered for the most part before reaching London.

[Now all this might have happened without the least attempt on the part of the poor cook. If coffee be kept hot in a copper vessel for five or six hours, or in a tin kettle with a copper bottom, it will dissolve part of the copper and become a poisonous drink. The above all might have occurred from this. A case of the same kind came under our own notice, six weeks ago. The vessel was tin with a copper bottom; strong coffee was kept in it for four hours, simmering on a stove, after which the liquid became of a darkish green color, copy in taste, and poisonous in its effects. No trace of the copper was observable at the end of the first hour, to the taste or to the eye. Let those who read this not forget to remember it, and also tell their neighbors about it. Coffee should not be kept in any other metallic vessel than tin or silver.]

Evaporation and Condensation in Engines.

Evaporation seems in all cases to convey electrical matter into the atmosphere, on the other hand, when steam is condensed into vesicular vapor, or into water, the air becomes negatively electric. The electric state of the atmosphere being, no doubt, of the first importance in regard to the phenomena alluded to.

The laws relating to evaporation and to condensation, and to the carrying property of matter, when combined with caloric, evidently perform a very prominent part in the operations of nature and of art. The engineer could no more work efficiently the giant locomotive to drag us over the surface of the earth with the velocity of the whirlwind, unless aided by the cooling property exerted in the evaporation of fluids, than he could do without the highly elastic power of the steam that is generated. His boiler would soon become red-hot, and would give way under the pressure, but that the all-absorbing capacity for caloric exhibited by the liquid element, which combines with and flies off with it during its gradual conversion into steam, and at a comparatively low temperature robs the furnace of its energy.

It is the difficulty of bringing such cooling power to bear efficiently and conveniently in the various schemes for obtaining motive power, whether by the aid of gunpowder, or by that of carburretted hydrogen combined with atmospheric air, or firedamp, whether by the use of what is termed the hot products of combustion, or by the many other projects of a similar kind that have at various times been suggested, that must form a serious, if not fatal obstacle to their employment, or at all events, to their ultimate general utility.

Good for the Logwood Business.

Port wine has taken a rise in England, unprecedented since 1823. The rise is owing to a failure in the vintage. The intelligence need not effect the business of our home producers of the article, who give us the stuff, "warranted pure," in any quantities, concocted of sour beer, logwood, elderberries, alum, and plumb juice. Drinkers of the article have only to encourage domestic industry.

American Vinegar in England.

The London Correspondent of the Philadelphia North American notices the receipt at the port of London, of 100 casks of vinegar from Boston, and thinks that New England cider and vinegar carefully made, will, at no distant day, be largely imported into Europe.

He states that the English vinegar contains poisonous chemicals which are very injurious to the health, and that the cider sold in London is not equal to the purest kind made in this country.

The Telegraph in Mexico.

A contract has been entered into by the Mexican Government with Wm. George Stewart, Esq., the Mexican Consul at New York, and, Senor Juan de la Granja, of Mexico, to build a line from Vera Cruz to the City of Mexico—a distance of three hundred miles—on the understanding that it will be in operation by the first of May next, as far as El Ojo de Agua, a distance of one hundred and twenty miles from the latter place. Another line will soon after be built between Acapulco and the City of Mexico. When both are completed, there will be magnetic communication between the Atlantic and the Pacific. These important projects will be entered upon immediately, and Mr. H. F. Makepeace, who was for a long time connected with the Albany and New York Telegraph Company, as chief operator, will sail in the bark Braxileiro, Captain Marsh, for Vera Cruz, with the necessary wire, instruments, and implements for the work. He will take out several operators with him.

These telegraph lines will be of great convenience to this country, and will, no doubt, be liberally patronised by the merchants of the United States and California. As far as communication is concerned, New York will be within ten days of San Francisco. We also learn that the road from Acapulco to the City of Mexico will be shortly improved, and a line of stages built for the purpose of conveying passengers between those places.

Sterine Candles.

Sterine—or stearic acid, as it is called by the chemists—is a product of the animal fats and oils, and is obtained by a process which consists essentially in saponifying these bodies,—that is, converting them into soap,—decomposing the soap by means of an acid, and subjecting the resulting fatty matters to powerful pressure, by which the thinner parts are squeezed out from the sterine, which remains in the press. Sterine is made, in this country, almost exclusively from lard, which furnishes about two-sevenths of its weight; the remaining five-sevenths being manufactured into lard oil.

Lime is the material used to saponify sterine, according to the old patent process of Gay Lussac, the celebrated French chemist; the process being effected by several hours' boiling; and the decomposition of the lime-soap is then effected by sulphuric acid.

The cakes of crude sterine—about 5,000 lbs. at a time—are then melted and saponified; the lime soap decomposed; the sterine acid washed and cast into slabs or cakes of one by two feet in dimensions, and two inches thick. These are then pressed, cold, in powerful hydraulic presses, which squeeze out a portion of oleine—the red oil of commerce. They are pressed a second time in the hot presses, which are still more powerful than the others. They are afterwards steamed, drawn off into pans while hot, and bleached, strained through cloths into tin pans, and when it cools, forms blocks of a beautiful white wax appearance.

Death of a Distinguished Astronomer.

Professor Shumacher, the astronomer in the Observatory at Altona, died on the 28th of December, in his seventy-first year. For many years he has been before the scientific world as the "Astronomische Nachrichten." He was a man of great scientific acquirements, and many scientific undertakings were completed by him, such as measuring by the government the degrees of longitude from Copenhagen to the western coast of the Jutland, and the degrees of latitude from Skagen to the frontiers of the Kingdom of Hanover—also for the English government the measure of the difference of longitude existing between the observations of Greenwich and of Altona. He was a diligent and accurate observer, one of his latest labors being connected with Encke's planet, Astææ.

The Duke of Wellington is 81 years of age, and wears no spectacles.