THE POISON OF THE RATTLESNAKE A FERMENT.—Hitherto the general belief has been that the poisonous matter secreted by certain species of reptiles was nothing more that a poisonous saliva, acting in the manner of ferments. M. Lacerdo has been making, at Rio de Janeiro, some researches into the action of the venom of the rattlesnake, which throws much new light on the subject. His investigation shows that the saliva contains what are called figured ferments, the analogy of which with bacterides is very remarkable. From a young and vigorous *crotalus*, subjected to the action of chloroform, he obtained a drop of the venom on a chemically clean piece of glass, and at once placed it under a microscope. Almost immediately he observed the formation of a filamentous pulp in an arborescent disposition. Gradually the thickened filament, after having pushed out spores, dissolved and disappeared, and the liberated spores swelled and enlarged visibly, each of them sending out a minute tube which lengthened rapidly. After a very short period the latter separated from the first spore, and constituted another nucleus for engendering the deadly contamination. In the examination of the blood of animals killed by the bite of one of these snakes, M. Lacerdo noticed that the red globules of the blood commenced to change by presenting some small, brilliant points on the surface, which spread with great rapidity, and ultimately the globules melted one into the other, forming a sort of amorous paste which could no longer circulate in the veins. Other animals, in which that blood was injected immediately after the death of the first, expired in a few hours, presenting all the smyptoms of having themselves been bitten, and their blood always showed the same alteration. M. Lacerdo concludes his memoir by stating that numerous experiments have shown that the true antidote for serpent poisoning is the injection of alcohol under the skin, or its administration through the mouth.

MEDICINAL EFFECTS OF ONIONS.—A mother writes to an English agricultural journal as follows: "Twice a week—and it was generally when we had cold meat minced—I gave the children a dinner which was hailed with delight and looked forward to. This was a dish of boiled onions. The little ones knew not that they were taking the best medicine for expelling what most children suffer from—worms. Mine were kept free by this remedy alone. It was a medical man who taught me to eat boiled onions as a specific for cold in the chest. He did not know at the time, till I told him, that they were good for anything else." The editor of the journal adds: "A case is now under our own observation in which a rheumatic patient, an extreme sufferer, finds great relief from eating onions freely, either cooked or raw." Dr. G. W. Balfour, in the Edinburgh *Medical Journal* records three cases in which much benefit was afforded patients by the eating of raw onions in large quantities. They acted as a diuretic in each instance.

THE TEETH.—As the result of numerous trials made by the exposure of recently extracted teeth to the action of various substances, M. Maurel comes to the conclusion that if various medicinal substances are injurious in their action on the teeth, others in still larger numbers prove, in their habitual employment, quite inoffensive. Thus, if we are required to take great precautions respecting citric acid, tannin, chlorides of zinc and antimony, perchloride of iron, sulphate of copper and alum, we may continue to employ with complete safety arsenious and carbolic acids, vinegar, corrosive sublimate, chloride of potash, alcohol, tincture of benzoin, essence of mint, tincture of quinine and eau de cologne. Tobacco, whether used in chewing or smoking, does not injure the teeth beyond their discoloration.

VENTILATION BY THE CHIMNEY.—A parlor-fire will consume in 12 hours 40 pounds of coal, the combustion rendering 42,000 gallons of air unfit to support life. Not only is that large amount of deleterious product carried away and rendered innoxious by the chimney, but five times that quantity of air is carried up by the draft, and ventilation thus effectually maintained. The ascent of smoke up a chimney depends on the comparative lightness of the column of air within to that of an equal column without; the longer the chimney, the stronger will be the draft, if the fire be sufficiently great to heat the air; but if the chimney be so long that the air is cooled as it approaches the top, the draft is diminished.—*Faraday.*

MAGNESIUM STEEL.—Magnesium also causes a remarkable change of structure in other metals. A coarse-grained steel becomes fine-grained on the addition of one-fifth per cent. of magnesium. In performing the experiments referred to, the magnesium must be introduced through a hole in the cover of the crucible after the oxygen has been first removed by the addition of a few pieces of charcoal. Without this precaution violent explosions are apt to occur.—*Ber. d. Chem. Gesell*

JUDICIOUS ADVERTISING.

A man was standing on the corner of Santa Clara and First streets yesterday, denouncing newspaper advertising to a crowd of listeners. "Last week," said he, "I had an umbrella stolen from the vestibule of the ——— Church. It was a gift, and, valuing it very highly, I spent double its worth in advertising, but have not recovered it."

"How did you word your advertisement?" asked a merchant.

"Here it is," said the man, producing a slip cut from a newspaper. The merchant took it and read:

"Lost—From the vestibule of the ——— Church last Sabbath evening, a black silk umbrella. The gentleman who took it will be handsomely rewarded by leaving it at No. —— San Fernando street."

"Now," said the merchant, "I am a liberal advertiser, and have always found that it paid well. A great deal depends upon the manner in which an advertisement is put. Let us try for your umbrella again, and if you do not acknowledge then that advertising pays I will purchase you a new one."

The merchant then took a slip of paper from his pocket and wrote:

"If the man who was seen to take an umbrella from the vestibule of the ——— Church last Sabbath evening does not wish to get into trouble, and have a stain cast upon the Christian character he values so highly, he will return it to No —— San Fernando street. He is well known."

This duly appeared in the paper, and the following morning the man was astonished when he opened the front door of his residence. On the front porch lay at least a dozen umbrellas of all shades and sizes, that had been thrown in from the sidewalk, while the front yard was literally paved with umbrellas. Many of them had notes attached to them, saying they had been taken by mistake, and begging the loser to keep the little affair quiet. —*Detroit Free Press.*

WESTON'S ELECTRIC LIGHT GENERATOR.

Mr. Edward Weston, of Newark, N.J., who has earned a great reputation as the inventor and manufacturer of the dynamo-electric machine, now used in many electro-plating and electrotyping establishments, both here and abroad, has for some time given his attent on to the construction of a similar machine, especially adapted for the production of electric light, and of the lamps used in connection with the same. In the adj ined engravings Fig. 1 represents the machine, Fig. 2 the lamp exteriorly, Fig. 3 another form of lamp, showing details of carbon carriers and of electro-magnet and armature regulating their position, and holding the sliding rod with a clamp, which automatically releases and keeps the light steady. This is one of Mr. Weston's latest improvements to the electric lamp. Fig. 4 represents the iron armature of Fig. 1, without its coils.

The machine (Fig. 1) is constructed with a view of keeping it in continuous operation without heating it to such a degree as to necessitate its stoppage so as to allow it to cool off, a feature in which many machines of this kind have failed. For this purpose the large stationary soft iron electro-magnets are, where they are not covered by the coils, perforated by slits. Fig. 1 shows these slits in the centre of the top and on the sides, and when in motion the hand can feel the currents of air pass out of these slits, being propelled from the rotating centre to the circumference by the centrifugal tendency, on the same principle as the action of a rotary fan blower. This continuous current of air, taken in cool at the centre, and blowing out at the circumference, is most effective in keeping the machine cool, which, without this provision, loses much of its effectiveness, as the magnetic power of iron descends when the temperature rises, and the conductivity of the coils for electric currents diminishes from the same cause. Therefore, even if a machine does not become hot enough to necessitate its stoppage, it is of importance to keep its temperature at as low a degree as possible, so as to secure its maximum effectiveness.

The power required to drive these machines is from two to twelve horses, and depends on their size, of which the price varies from $200 to $1,200, the larger ones being capable of furnishing several lights. They are commencing to be largely used for brilliant illumination purposes in New York and vicinity, for instance, on the new iron pier at Coney Island.

These machines excel in simplicity and compactness; they appear to be eminently durable, and are claimed to be the most powerful for their size and cost of any in the world, as it is reported that actual tests showed them to yield more than double the amount of light per horse-power absorbed than that obtained from any other machine built in this country.