

Science Notes.

Salts of cinnamic acid have been used as a remedy for tuberculosis on four hundred patients of Prof. Landerer, of Stuttgart. From an experience of seven years he hopes that he has found a lasting cure for the disease.

A novel use of the kinematograph is reported from Germany, where the instrument was recently used to secure a series of pictures representing all the movements of the hull made during the launching of a vessel. The instrument selected for the purpose was the Messter-Betz biograph, said to be capable of recording four thousand impressions a minute. The German naval officials are said to take considerable interest in the experiment, and no doubt it is capable of useful extension.

According to a writer in *Les Nouveaux Remèdes*, black eggs are not uncommon from ducks, who are extremely fond of acorns. The coloring matter of their egg-shells is rich in iron. The resulting combination of tannin and iron is stated to result in black eggs. According to the same authority, bright red eggs may be obtained from fowls by feeding them with lobster shells (presumably boiled). We cannot state the original source of these statements, but they bear obvious evidence of transatlantic origin.

The tremendous force of the sea was illustrated by an object lesson ashore in New York City recently, when five large tanks, built to contain 120,000 pounds of soap, but which were temporarily filled with water and situated on the fourth floor of a large building on West Fifty-second Street, collapsed, and completely wrecked the whole building, killing three men and doing a large amount of damage. The tanks were each 15 feet high and about 13 feet diameter, and contained 161,703 pounds of water, but the floors and supporting beams proved altogether inadequate to stand the strain. A wave of the dimensions of one of these tanks is not at all unusual at sea, and when such a wave breaks on a vessel's deck the force of the blow can only be estimated by the amount of damage it does, in spite of the elasticity of the water beneath the vessel to ease her in receiving the shock.

The London Times prints the following dispatches received from its correspondent at Melbourne, October 3: "The scientific expedition which was dispatched to the Ellice Islands by the Sydney Geographical Society, under Prof. David, has confirmed Darwin's theory of the formation of coral islands. Prof. David reports from Samoa that the expedition has been a decided success. The diamond drill went down 557 feet in the coral without reaching the bottom." October 4: "With reference to the borings on the Ellice Islands to obtain information as to the formation of coral islands, Prof. David states that the results to 487 feet were inconclusive. Beyond that they strongly favor Darwin's theory, though a final judgment depends upon microscopic examination of the drill cores. The borings are being continued." The expedition was under the auspices of the Royal Geographical Society of Australasia, and was directed by Prof. T. W. E. David, of Sydney. In view of the difficulties previously met with at Funafuti, a special boring plant was provided weighing over 25 tons, and capable of boring to a depth of 1,000 feet. It is understood, says Nature, that the core obtained will be forwarded first to the Royal Society, of London, which will return one-half to the Royal Geographical Society of Australasia.

The German expedition to the Pacific under Prof. Schauenfeld, director of the Bremen Museum of Natural Science, Ethnology, and Commerce, has produced so rich a yield that it will take a long time to prepare and arrange the material brought home, says the *English Mechanic*. The voyage lasted fourteen months. The professor's labors in the remote little island of Laysan, in the Pacific, were rewarded with the best results. He had splendid opportunities of observing the habits of the birds frequenting the island. Of the six species that are endemic, he collected specimens in all stages of development; he brought home several hundred birds' skins and whole nests with stuffed birds sitting in them. He obtained several turtles at Laysan, and succeeded in hatching the eggs. Sharks and thornbacks were caught. A collection was made of the flora of the island, which includes the piece of a trunk of an extinct species of palm. The fauna and flora of the sea offered a wide field of investigation, and highly interesting forms of coral are among the specimens that have been secured. Lava and various kinds of stone from the Sandwich Islands, splendid corals from Samoa, and the specimens from New Zealand and Chatham Island form an important part of the collection. The skeleton of a native belonging to a tribe that will before long become extinct is among the acquisitions. Prof. Schauenfeld regards the finding of a kind of lizard called *Hatteria* [*Rhynchocephalus*] as a special piece of good fortune. It is stated that it is impossible to give a "complete survey of the rich mass of scientific work that was carried out in the course of this voyage," but it is hinted that the professor himself will give an account, in spite of its impossibility.

The Cult of Fear.

On the subject of infantry fire, there is the danger that, in training men to seek protection, they are being trained to hide themselves, and that the military spirit of the offensive is apt to be destroyed. It is the right and duty of the officer to take account of losses, and to diminish them as much as possible, by utilizing the ground. But he must never be dominated by the fear of loss to the forgetting of the great fruits of success. Undoubtedly the training in the use of ground should be wholly eliminated from the education of the soldier, in so far as it relates to his personal security during the attack, or, as the regulations say, for the attenuation of the effect of the enemy's fire. Changes in armament have not changed human nature, and there can be little doubt but that men will be only too willing to seek protection for themselves, without being specially trained in the art of finding it. It is for the leader to decide if the conformation of the ground is favorable and admits hope of success, but, when the order to advance has been given, the man has no right to think of whether he shall go forward or not, or whether he shall find protection or not; above all things, he must go forward. We do not oppose the spirit of the German regulations, and would not habituate troops to despise the protective value of the ground they pass over; but it must be taught to them not as individuals, but as troops in the field, always under the order of their officers as to whether they shall seek its protection or not. "Let us expel from our ranks this cult of protection and fear of loss; they can only have destructive influence upon the boldness of the troops and the spirit of the offensive in them."—*Militär-Wochenblatt*.

A LOW PRICED GRAPHOPHONE.

The illustration represents a graphophone of very simple construction, which embodies the essential features of the high-priced machines, but which is placed on the market at a greatly reduced price, by Messrs. Hawthorne & Sheble, of 604-606 Chestnut Street, Phil-



THE "EAGLE" GRAPHOPHONE.

adelphia, Pa. It is run by a clockwork spring motor, wound by the thumb piece shown at the left in the engraving, and the same instrumental and vocal records are used on it as on the high-priced phonographs and graphophones. The reproduction of sound is, as is well understood, caused by the vibration of a diaphragm opposite the small end of the horn or trumpet, such vibration being caused by a jewel point connected with the diaphragm and which passes over the wax cylinder at the right, the surface of the cylinder having been previously indented by a like process, when a sharp cutting point has been passed over the cylinder, to indent or mark it in accordance with the sounds vibrating the diaphragm.

Number of Naval Vessels.

Chief Constructor Hichborn, in order to settle differences of opinion that frequently occur on the subject, has issued the following official summary showing the number of vessels in the United States Navy: First-class battle-ships, 9; second-class battle-ships, 2; armored cruisers, 2; armored double-turreted monitors, 6; single-turreted monitors, 13; protected cruisers, 13; unprotected cruisers, 3; gunboats, 10; composite gunboats, 6; special class, 3; steel torpedo boats, 22; wood torpedo boat, 1; iron cruising vessels, 5; wooden cruising vessels, 11; sailing vessels, 6; tugs, 14; wooden steam vessels unfit for service, 8; wooden sailing vessels unfit for service, 6; total, 141.

A Hint to Manufacturers and Merchants.

The importance of registering trade marks at the Patent Office does not seem to be sufficiently realized by manufacturers and merchants in this country or abroad. Persons adopting a word, phrase or emblem to distinguish their specialty of manufacture, whether it be on dry goods, groceries, food products or preparations of any kind, will derive more benefit by registering them than many seem to realize. Full information as to the necessary procedure to obtain trade mark protection may be had by communicating with this office.

Recent Archæological News.

The total value of the collection left to the Institute of France by the late Duc d'Aumale is estimated by experts to be worth \$3,000,000.

François Aurèle Pulsky, the archæologist, died recently at Buda-Pesth. He was the author of a work on the age of brass in Hungary.

Prof. Dr. Wilhelm Dörpfeld writes to the Times from Athens to answer the question, "Is the Parthenon doomed?" He says that the war cut off the Greek Archæological Society's large revenue from the state lottery. Repairs, therefore, have been interrupted and no one knows when they will be resumed. For the Parthenon, this is deplorable. The consequences would be most serious should an earthquake shake the mountain rock.

A preliminary report has reached London from Rome of the results of Captain Bottego's expedition in northeast Africa, says The Evening Post. They establish the identity of the Nianam River, flowing into the northern end of Lake Rudolf, with the mysterious river Omo, which so long has puzzled geographers. The river now has been renamed Omo Bottego. To the east of this river and north of the beautiful Lake Abbaye a much larger lake has been discovered, which has been named Regina Margherita.

On a stone of the temple of "Wingless Victory," on the Acropolis, at Athens, an inscription has been found stating that the monument was built by Kallikrates, who was one of the architects of the Parthenon at the beginning of Pericles' government. This fixes its date at about four hundred and fifty years before Christ. The Athens Archæological Society is about to undertake the restoration and strengthening of the Parthenon. Marble from Pentelicos will be furnished free for this by the company working the quarries.

Hollow wedge bricks were used by the Romans for constructing arches at their baths at Bath, England. According to The Engineer, the roofs of the dressing rooms were covered in some instances with flat brick arches, and, as these would have fallen in by their own weight if constructed in the ordinary manner, hollow voussoirs were moulded with a semicylindrical projection on one radial side and a semicylindrical cavity to correspond on the other. The bricks were about one foot long from intrados to extrados and ten inches wide on the back. They were finished well, and apparently of fire-burnt ordinary clay.

Signor G. B. Cavalcaselle, who, with the late Sir J. A. Crowe, wrote the well known "History of Painting in Italy" and "History of Painting in North Italy," lives of Raphael, Titian, etc., died recently at the age of seventy-nine years. He had a very romantic career, owing to his ardent liberal views, and at one time he was left for dead at Piacenza. When the French entered Rome he escaped to England by way of Paris. In London he earned a precarious living as an illustrator. He now began his lifelong collaboration with J. A. Crowe. The two writers did much to put art criticism on a sound documentary basis. Many of their appreciations were awkwardly expressed, but, for all that, their works have a very solid value to-day, and combined with the writings of Morelli, they give the student an accurate basis for determining the attributions of disputed old masters.

At Meron, near Angers, the remains of a Roman temple have been discovered. The French peasants are not enthusiastic archæologists, and as soon as the foundations were seen the people of the district lost no time in seeking for treasures. Some coins were discovered, and, as they were rare, the prices obtained for them increased the eagerness for further explorations. Not the least regard was given to the old masonry, from which it would have been feasible to prepare a plan of the temple. Now much will have to be derived from imagination, says the Architect. The conseil général, apprehending additional mischief, has appealed to the administration for interference. After some delay, money has been granted to the departmental commission for the purpose of insuring the safety of any masonry that has survived.

The royal British antiquarian and archæological societies have lodged a petition with Lord Salisbury protesting against the peculiar form of prison labor in Egypt since the Khedive's penitentiaries and jails have been under English management. It seems that the convicts, of whom there are twelve hundred in the Jourah prison alone, are employed in manufacturing bogus antiques, for which there is reported to be a large market, especially in America. The petitioners declare that the forgeries are so clever as to be scarcely distinguishable from the real article. As yet only antiques of relatively small dimensions have been produced, but the prison authorities express the hope of being able in course of time to turn out full-fledged mummies and sarcophagi. The scientific societies in England point out with some degree of justice that while this form of prison labor may have commercial advantages, it practically renders the British government a party to fraud.