

of solder between them before exposing them to the lamp. Where two smooth surfaces are to be soldered one upon the other, you may make an excellent job by moistening them with the fluid, and then, having placed a sheet of tin foil between them, holding them pressed firmly together over your lamp till the foil melts. If the surfaces fit nicely, a joint may be made in this way so close as to be almost imperceptible. The bright looking lead, which comes as a lining of tea boxes, is better than tin foil.

TINTING METALLIC SURFACES. It is found that metallic objects may be attractively colored by immersing them in a bath formed of 630 grains of lead acetate dissolved in 8,450 grains of water, and warmed from 88° to 90° F. This mixture gives a precipitate of lead in black flakes, and when the object is plunged into the bath, the precipitate deposits upon it; the color acquired depends on the thickness of the skin, and uniformity of tint is insured by gradual treatment. There is thus imparted to iron a bluish aspect like steel; zinc, on the other hand, becomes brown. By employing an equal quantity of sulphuric acid in the place of the lead acetate, and warming a little more than in the first case, common bronze may be colored red or green with a very durable skin. And not only this, but beautiful imitations of marble are obtained by covering bronze objects, warmed to 100° F., with a solution of lead thickened with gum tragacanth, and afterward submitting them to the action of the above-named precipitate of lead.

SCIENCE AND OTHER NOTES.

POSTAL CARDS WITH ANSWER.—Great Britain also has joined those countries of the World's Postal Union, to which postal cards with answers may be sent. The postage is 5 cents.

THE TUNING FORK.—Experiments are instituted in Prussian artillery target practice to ascertain the velocity of the ball within the cannon by means of the vibration of a tuning fork, which records them by means of a small pin fastened to one of its arms; it has also been much used lately for measuring the smallest intervals of time. The French colonel, Severs, experimented with it, and obtained very satisfactory results. The tuning fork, set in motion by the explosion of the powder, makes from 2,000 to 3,000 vibrations per second, which are marked upon a sheet of paper; not visible, however, to the naked eye, and seen only by assistance of the microscope.

IMITATION WATCHES.—About a century ago the fashionable world wore two watches, the chains and charms of which dangled toward the right and left upon an embroidered vest. This fashion was also adopted by the ladies, but since it was generally too costly to wear two real watches, people were mostly satisfied with a real watch to the left and an imitation one to the right. The latter was frequently ornamented with gold, silver, jewelry or miniature painting; the face of others was provided with a dial. Some were satisfied with wearing a noodle cushion instead, in fact all manners of excess were committed in this line. The most costly imitations were ornamented with stars and allegories, composed of

jewels, which could be revolved by means of special wheel-work. People who had no money to spend for such luxuries were satisfied with wearing a simple gold or painted case. Only the Chinese at present wear two watches, disposed of in two small embroidered pockets.

LECLANCHE.—George Leclanché was one of those inventors, who, by a single happy invention, earned a world's reputation. His cell or element is known everywhere where the telegraph has penetrated, and the inventor's demise last fall in Paris awakened the sympathy of the entire scientific world. He obtained his education in the "Ecole Centrale des Arts et Manufactures," and obtained a position in the laboratory of the "Compagnie de chemins de fer de l'Etat," as chemistry engineer for the railroad companies of France. He remained here until 1867, when he obtained a patent for his celebrated battery. He experimented in the latter part of his life to devise a system of time division for annotating chronometers (chronograph) by means of electricity. Leclanché reached an age only of 48 years.

A WORLD-MOVING WORD.—The scientist who, according to irrefutable evidence, first made use of the expression "electricity," which is threatening to depose steam from its universal sovereignty, was an English doctor by the name of William Gilbert, who lived in the sixteenth century. He published in 1600, in London, a work by the title "De Magnete, magneticisque corporibus et de magno magnete tellure Physilogia nova." In this work, which already contains the main principles of the earth's magnetism, occurs the following sentence: "Vim illam electricam nobis placet appellare quae ab humore provenit." William Gilbert, born in Colchester in 1540, died Nov. 18, 1603, in London. He was confidential physician to Queen Elizabeth, and afterward to King Jacob I., and a very intimate friend of Lord Bacon. His work, "De Magnete," contains a number of interesting experiments. It met with less publicity and fame in England than in foreign countries, because, since 1628, five editions appeared in Germany, three in France, and only two in England.

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