

FILIGREE JEWELRY BOX.

We give an engraving of an exquisite filigree jewelry box of silver from the celebrated Gruenes Gewoelbe, in Dresden. In this repository many beautiful and valuable objects are stored. Our engraving represents this fine piece of silver work so well that it is unnecessary to enter into a detailed description of it.

Zinc in Bronzes.

At a recent meeting of the Berlin Society of Architects, some interesting remarks were made upon the causes of the black and green incrustations which time brings out upon bronze statues. It has often been observed that the atmosphere of modern cities is very unfavorable to bronze, giving it a dirty black color instead of the beautiful green patina which characterizes the ancient statues of the same metal. A committee of the Industrial Union recently undertook the investigation of the matter, and among other things noticed that a certain statue, that called the Alten Fritz, in Berlin, was entirely covered with a black coating, while a bronze cannon which stood in front of the arsenal near by was of a

appear at the first glance. Many of them, it is true, have occasion at times to direct works of sculpture in bronze, and it is certainly desirable to know the means of obtaining that rich green coloration of the antique statues which so many attempts have been made in modern times to imitate; but a much larger number are likely to be able to control the manufacture of bronze hardware, the value of which would be greatly increased if it could be used in its natural state, without any of the artificial coloring which so much of it receives, and with the certainty that age and use would only increase its beauty.—*American Architect.*

Sheep on Furnace Lands.

Ironton (O.) Register: Olive Furnace has over 600 sheep, including about 300 fine lambs. The flock doubled in the past year. They did not cost a cent through the past winter, except for a little hay that was given them when the snow was on the ground. The sheep ranged the hills and kept fat and healthy on the natural growth of the grasses and shrubbery during the winter. They required no care and were left to themselves.

Successful observations are reported from Soham, the station selected by the English, French, and Italian astronomers. A fine comet was discovered close by the sun and its position determined by photography. The spectroscopic and ocular observations, just before and during the period of totality, gave most valuable results, the darkening of the lines observed by the French astronomers indicating a lunar atmosphere. The spectrum of the corona was successfully photographed for the first time.

M. Charnay's Discovery.

The World's correspondent at Mexico reports, May 4, the arrival there of M. Désiré Charnay, bringing photographs of the newly discovered city on the left bank of the Usamasinta River, in Chiapas, near the frontier of Guatemala. M. Charnay believes this town was built by colonists from Palenque, because the ruins of the temples and houses, the inscriptions on the monuments, the sculpture and ornamentation are identically the same with those in Palenque. The discoverer of this ancient city has named it "Lorillard," in honor of his New York patron.



SILVER FILIGREE JEWELRY BOX.

beautiful green color. As these two must have been subjected to the same atmospheric influence, it seemed very reasonable to suppose that the composition of the alloy might have been the essential condition in determining the black or green color of the patina, and an analysis was made, which showed that while the cannon was composed, like all of the so-called brass ordnance, of about nine parts copper to one of tin, the statue contained a considerable proportion of zinc. This is usually the case with modern bronze statuary, the substitution of zinc for tin in the alloy giving certain desirable qualities of fusibility, while the antique works have a composition very nearly similar to that of gunmetal; zinc, which was unknown in Europe until the seventeenth century, being, of course, absent from the mixture. These indications that the substitution of zinc for tin is the true cause of the inferior color of modern bronzes were supported by the results of an experiment, in which several bronze alloys were subjected to the action of a solution of copper. It was found that under this treatment a composition of copper and tin alone acquired a green coating, while those containing zinc were blackened to a greater or less degree in proportion to the amount of zinc in the composition. To architects this investigation is of more interest than might

The breed of the sheep are Cotswold and Southdown crosses, and are of a high grade. There are some specimens among them that a fifty dollar bill couldn't capture; and the growing lambs give promise of fine stock.

Mr. McGugin tells us that he is going to give the flock room to grow, and will make a business item of this branch of stock raising. He is of the opinion that for the care, capital and risk involved, he knows of no business that will prove more profitable. He calculates having some thousands of sheep within a few years.

This business has been demonstrated to be profitable on other occasions. Over 20 years ago Buckhorn Furnace proved there was money in it. The lands cost nothing. They are practically lying waste and are considered valuable only for the minerals within, the timber itself having long been removed. It is safe to say that 50,000 sheep could find subsistence on the unused hill lands of the furnace region of this country.

The Eclipse of the Sun, May 17.

The parties who went to Upper Egypt to observe the eclipse of the sun, May 17, were favored with good weather.

Hardening Steel by Pressure.

From a communication made to the Paris Academy of Science Clémenceau has discovered a method of hardening steel which seems likely to become a very important one. The rod to be tempered is heated to a cherry red and put into a holder which just fits and then quickly subjected to enormous pressure in a hydraulic press. It is allowed to cool in the holder, and when taken out it is very hard. It is well adapted to making permanent magnets, and has already been used for telephones. This steel also makes excellent tools. The hardness may be regulated by varying the pressure to adapt it to different uses.

A Tereido-Guard for Ocean Cables.

At a recent meeting of the directors of a cable company operating in Chinese and Australasian waters there was exhibited a section of cable damaged by the tereido. So destructive was this gutta percha borer that the company had been put to an expense of \$40,000 a year in taking up damaged cables; to save this outlay they were now putting down a ribboned cable at a cost of \$300,000. A four-years' trial had demonstrated that by covering the cable with a brass tape or ribbon their attacks could be successfully resisted.