

the boiler along with the cables. Two reels of double flexible conductor cables carry 200 feet of cable, and the connections are so arranged that there can be no confusion as to positive and negative. One of the search-lights is provided with lenses which throw a square beam of light on the face of the building, while the other is an ordinary reflecting search-light whose rays may be converged or diverged at will. The light is controlled by block switches and a rheostat, which is situated behind the driver's seat. Weston ammeters and voltmeters are provided in order to enable the electrician to obtain readings at all times when the current is being generated. There is little doubt that the machine will prove of great value in many cases where at present the facilities for lighting are very inadequate, such, for instance, as at fires on ships. The apparatus may be run out on a pier and one of the great lamps made to project the light into the hold, thus enabling the firemen to conduct their salvage operations with more immediate chance of success. In searching ruins for bodies the lamps will also prove of great use. Smaller incandescent lights will be carried in time for use in cellars, etc. The portable search-light plant has been a favorite subject of study with Fire Chief Croker, and the results of the new experiment will be looked for with interest.

NEW EXCAVATIONS AT CARTHAGE.

Since the month of January of last year, some important excavations have been made at Carthage, in ground never before explored. It was M. Gauckler, the learned director of the antiquities of Tunis, who, after obtaining the consent of the owners of the land, began the work according to a definite plan, before bringing to light a necropolis of the Punic epoch.

The site of the excavations is situated at the base of Bordj-Djedid Hill and in proximity to the restored cisterns. The sea is not very far distant, and the present trench is contiguous to the land in which Father Delattre discovered so many tombs in 1894.

As M. Gauckler had foreseen would be the case, there were at once found various superposed ruins of structures that corresponded to successive civilizations which have passed over Carthage. In the first place, the débris of the Christian city at the epoch of Theodosius, then, underneath, the remains of the city of the Upper Roman Empire, the epoch at which it attained its greatest splendor, and, in aggrandizing itself, constructed its houses upon the necropolises of Phœnician Carthage; and, finally, the débris of the purely Carthaginian civilization of the sixth and seventh centuries before our era, an epoch very curious by reason of the affinities that it presents with Egypt on the one hand and with Assyria on the other.

At the first blows of the pick, the discoveries were important. Under a great mosaic which served as a facing to a structure of the Christian epoch, M. Gauckler came across one of those curious places of concealment in which the last votaries of paganism often endeavored, without always succeeding, to protect their idols against destruction by Christian iconoclasts. It was a walled vault, and was full of various débris that covered a collection of very valuable objects of worship. In the first place, there was a slab of white marble bearing a dedication to Jupiter Ammon signed by twelve priests, having at their head a grand mistress of the rites (Mater Sacrorum); and then, at the bottom of the vault, four white marble statues, three of them well preserved, one representing the Greek Demeter (Ceres Africana), who replaced Tanit, the Phœnician goddess, and two others, perhaps representing a Canephore and a Core in the act of walking.

All these statues were of very careful workmanship and were touched up with paint that gave vigor to the marble.

At a depth of about twenty-five feet, M.



DEMETER.



CANEPHORE.

Gauckler came across the first tombs, the origin of which dates back to the seventh and eighth centuries before our era. They were simple ditches dug in sand at the bottom of a well, or funereal chambers constructed of large bond-stones. Several of them con-



FEMALE AND FUNERAL MASKS.

tained terra cotta masks having a grotesque and realistic expression of a striking effect, and were doubtless placed in the tombs in order to frighten such spirits as should trouble the repose of the dead.

Nearer to the front of the trench there were dis-



POTTERY.

covered some richer tombs that contained silver jewelry, collars of beads of glass or precious stones and a few gold rings.

The richest funereal objects were found in two vaults constructed of very regular flat stones and closed by a flagstone. The interior was covered with a stucco as white as snow, and the ceiling was lined with cypress wood. The skeletons lay directly upon the floor, adorned with their jewels and surrounded with pieces of pottery of all sizes.

In another tomb was found the skeleton of a woman, probably a priestess, holding in its hands a bronze mirror and cymbals of the same metal. It had numerous bracelets of glass beads on the arms and several gold rings on the fingers, and, on the neck, a superb massive gold collar composed of forty elements, and enriched with hard stones.

There was, in addition, a second collar, of silver, a large flagon of enameled earthenware, painted disks of ostrich eggs, a lamp with two burners, and various other objects. This constituted the most complete collection of funereal objects that has been found in a necropolis.

The most curious finds made in other graves consisted of terra cotta molds representing fishes, ibises and masks, but of a different kind from the grotesque masks. These are figures of an entirely Egyptian style as regards head-dress and type of face.

There has also been discovered a jade cylinder of Assyrian origin representing the god Marduk strangling an ostrich.

At present the excavations are being carried on in a region of a very different archæological character from the preceding. They have just brought to light a Byzantine monastery, the most important part of which is already exposed. It comprises a rich basilica with five naves supported by columns of valuable multicolored marbles. The floor is entirely paved with well preserved mosaics.

Along side of the basilica, properly so called, extends a hexagonal baptistry, a chapel with a martyr's tomb, an atrium set apart for ablutions, and vestiaries and different chambers of less certain functions—the whole paved with mosaics of very varied designs.

This monastery was established directly in the center of the ancient Phœnician necropolis, and nothing is more curious than to find upon the ground now being excavated the inter-mixture of structures so diverse, which are distributed over a period embracing more than fourteen centuries.

All these discoveries do great honor to M. Gauckler, who has made his researches in a very methodical manner, and it is but just that they have been crowned with success.

The statues, jewelry, pottery and mosaics derived from these excavations are now on exhibition at the Musée du Bardo.

For the above particulars and the engravings we are indebted to Le Monde Illustré.

Protection of California's Big Trees.

Steps are being taken to preserve the famous Calaveras grove of big trees, which will probably pass into the hands of a large lumber firm which has secured an option on this famous grove. It is the intention of the new possessors to build large sawmills in Calaveras County, and they will then turn all of the large trees, which have been made one of the points of interest to visitors, into lumber unless some immediate steps are taken to save them. Various clubs and associations in California are doing their best to save the great trees, which are famous all over the world. It is urged that a national park would be most desirable at this point, as has been done in Mariposa and Tulare Counties.



A BYZANTINE BASILICA UNEARTHED AT CARTHAGE.



PHENICIAN TOMBS.