

**POMPEIIAN GLADIATORIAL ARMS.**

A number of the handsomely decorated gladiators' arms which have been found at Pompeii and the neighboring localities are here illustrated, also the locality in which many of them were discovered at Pompeii. Most of them are of bronze, and one is inlaid with silver. One of the gladiator's helmets shown is the most elaborate of the series. It is ornamented with repoussé figures in high relief, representing episodes of the siege of Troy. Owing to its rich decoration it is natural to suppose that it was intended as a prize in the gladiatorial combats rather than to stand actual service. The gratings which protected the eyes can be raised up, as they are hinged at the top. At the bottom they are held down by a catch. In some forms of helmet these pieces are round and of much smaller size.

Two highly-ornamented greaves are also illustrated. These, however, do not belong to a set. That on the right is the greave for the left leg. In the center is a high relief representing Minerva in a standing position with spear and shield. On either side is a Cupid, separated from the center by an ornamental band. The specimen on the left, which is not so well preserved, has the figure of a gladiator as the principal ornament. In the center is the upper part of a helmet, of which the lower part has disappeared. Its relief pattern shows a more primitive workmanship than the others. The other handsome specimens illustrated are highly ornamented in relief designs. The round shield in the center carries a Medusa's head encircled by two wreaths of olive. The ornaments of this shield are inlaid with silver. Although the unusual weight and rich ornamentation of these arms lead one to suppose that they were not made to be actually worn, Sir William Hamilton, who was present during the excavation, stated that he observed the linings of the helmets and greaves, which have now disappeared, and he thinks they were actually intended for wear.

Some of these arms were found in a building or large inclosure whose exact purpose has been the object of considerable discussion. It is commonly known as the Gladiators' Barracks, for the reason that many such arms were found there, and also the arrangement of the building seems to show that it was used for soldiers' or gladiators' quarters. The engraving clearly shows the large rectangular inclosure, which measures 183 feet long by 148 feet wide. It is surrounded on all four sides by a colonnade whose columns are painted red at the lower part, and alternately red and yellow at the upper. The wall back of the columns is covered with stucco. Different gladiators' arms like those already discovered were found here, but no soldiers' arms, which leads to the supposition that the

building was occupied by the gladiators exclusively. Inscriptions which are scratched on the wall also refer to such combats, and in one place is to be seen a drawing of a gladiator in fighting position with the inscription XX Valerius. Back of the columns the central space was surrounded by a series of cell-like rooms one over the other. A gallery around the building gave access to the upper set. These chambers may have accommodated the gladiators, but to have so many of them (there were at least 66 rooms) the number of gladiators at

Pompeii must have been very large. The lower rooms are in a rather good state of preservation, but the upper ones have fallen down. In one corner will be observed part of the series which has been restored and which gives a good idea of what the building was like.

**Turpentine Industry.**

The discovery of a new way of extracting turpentine, made two years ago by Dr. Charles H. Herty, working under the direction of the Bureau of Forestry, is result-

ing in a complete change of methods by turpentine operators all over the South.

In a bulletin published last spring by the Bureau of Forestry the claim was made that the experiments with the new cup and gutter system of turpentinizing had resulted in an increase over the old boxing system of 23 per cent in the amount of the product extracted. This figure has now been raised to more than 36 per cent. In other words, Dr. Herty's system, when universally adopted in the South, as it is bound to be sooner or later, will have raised the turpentine production of this country by more than a third, provided the same number of trees are used. Two years ago when Dr. Herty first made known his discoveries he put 20,000 cups into operation. Last year this figure was increased to about 400,000. This year a conservative estimate places the number of cups to be used at 3,000,000. The figures give some indication of the rapidity with which turpentine operators are adopting the new system. The change of methods has been so rapid that the pottery company which undertook to supply operators with earthen cups has been unable to keep up with its orders and has been obliged to refuse contracts for over two million cups. It is safe to say that the majority of the large turpentine operators in this country have given up the boxing system and will extract their turpentine by means of cups and gutters.

The economic saving of this new discovery is enormous. It not only causes a great increase in the amount of turpentine produced, but it is a most important factor in saving the pine forests of the South. Every one knows that trees from which turpentine has been extracted by the old method—"boxed" timber it is called—soon die from the wounds inflicted on them. The cup and gutter system, on the other hand, is not fatal to the life of the tree, and does very little damage to the timber.

The Bureau of Forestry has arranged to give the personal assistance of Dr. Herty to turpentine operators who desire to install the new system.

The recent annual report presented to the shareholders of the De Beers Consolidated Mines shows that last year \$26,205,869 worth of diamonds were mined at Kimberley, South Africa, on which the profit was \$11,511,490.



THE GLADIATORS' BARRACKS AT POMPEII.



GLADIATORIAL ACCOUTERMENTS.