

on the shell in such a manner that the direction of the laminae of the central coat is longitudinal. In cameos the central layer forms the body of the relief, the inner layer being the ground, and the outer the third or superficial color, which is sometimes used to give a varied appearance to the surface of the figure. The cameo cutter selects from the shells which possess the three layers: (1) those which have the layers strongly adherent to each other; (2) those in which the middle layer is thick, (3) those in which there is a good distinction of color between the layers; and (4) those in which the inner layer is of the color suited for his purpose.

The kinds of shells now employed, and which experience has shown to be the best for the purpose, are: The "Bull's Mouth" (*Cassis rufa*), which has a red inner coat, or what is known as a *sardonyx* ground; the "Black Helmet" (*Cassis madagascariensis*), which has a blackish inner coat, forming what is called an *onyx* ground, and which shows up white on a dark claret color; the "Horned Helmet" (*Cassis cornuta*), which has an orange yellow ground; and the "Queen Conch" (*Stombus gigas*), with a pink ground. The latter shell is about ten inches long, with a rose-colored aperture, and an extremely broad lip rounded above. The bull's mouth and the black helmet are the best shells, for the horned helmet is apt to separate from the ground or to "double," as the French workmen express it. The queen conch seldom has the two colors distinctly marked from each other, and the pink of the ground fades on exposure to light. The red color of the bull's mouth extends but a short distance within the mouth of the shell, and becomes paler as it proceeds inwards. Hence this shell affords only a single cameo large enough for a brooch and several small pieces for shirt studs, etc., while the black helmet furnishes on an average about five brooches and several stud pieces. The queen conch yields only a single good piece. *Cassis flammea*, which is about six inches long, and *C. decussata* and *C. tuberosa*, which are white upon a dark claret color, are also occasionally used. The bull's mouth shells are derived from India and Ceylon, and the black helmets and queen conchs from the West Indies.

Genoa and Rome are the seats of the best work in cameo cutting, although many common ones are cut in France.

In Rome there are about 80 shell cameo cutters, and in Genoa 80. The art of cameo cutting was confined to Rome for upwards of 40 years, and to Italy until the last 20 years, when an Italian began the practice of the art in Paris, and now over 8,000 persons are employed in the industry in the latter city. In the practice of cameo cutting the shell is first cut into pieces the size of the required cameo by means of diamond dust and the slitting mill, or by a blade of steel fed with emery and water. It is then shaped into a square, oval, or other form on the grindstone, and the edge finished with oil stone. It is next cemented to a block of wood, which serves as a handle to be grasped by the artist while tracing out with a pencil the figure to be cut on the shell. The pencil mark is followed by a sharp point, which scratches the desired outline, and this again by delicate tools of steel wire, flattened at the end and hardened, and by files and gravers for the removal of the superfluous portion of the white enamel.

The careful manipulation necessary in this work can only be acquired by long experience; the general shape must first be wrought, care being taken to leave every projection rather in excess, to be gradually reduced, as the details and finish of the work are approached. Throughout the cutting great caution must be observed that in removing the white thickness the colored ground is not damaged, for the natural surface of the dark layer is far superior to any that can be given artificially.

In order that the finished cameo may possess a distinct outline at all points of view, it is desirable to adopt the system followed in antique cameos, viz., to leave all the edges of the figure quite square from the ground, and not gradually rounded down to the dark surface; for should the latter practice be followed the outline would be found to be undefined in many places, owing to the color of the white figure in relief gradually merging into that of the dark ground. The surface of the cameo is finished as nearly as possible with the cutting tools, as all polishing with abrasive powders is liable to remove the sharp edges of the figures and deteriorate the cameo by leaving the form undefined. When, however, the work has been finished as smoothly as possible with cutting tools, the final polish may be given by a little putty powder used dry, upon a moderately stiff

brush, and applied with great care, and rather to the dark ground than to the carved surface. This is the concluding process, after which the cameo is ready for removing from the block prior to mounting.

The various styles in which these works of art are mounted depends a great deal upon the country where they are to be worn. There are tricks in this business as well as in most others; a fraud is frequently practiced by cutting away the engraved part of old shell cameos, and attaching this to a base of agate, by means of which an appearance of onyx is obtained.—Read at the Saratoga meeting of the American Association for the Advancement of Science.

IS STOREKEEPING EASY?

Many a man is carried away by the apparent ease of a shopkeeper's life, and by what he hears of the profits obtainable in a country store. It is plain sailing, he thinks, for, "all I have to do is to make from ten to fifty per cent. upon everything I sell, and that I can surely do." Let us see whether this is so:—

A storekeeper buys a book for 75 cents and sells it for \$1; he makes 25 cents profit. But he cannot put that 25 cents in his pocket; he has to pay rent, taxes, clerk-hire, fuel, &c. out of his profit.

If he could sell 50 such books a day, representing a profit of \$12.50, he would make money over and above expenses, but he can sell only two, which means fifty cents profit. Take an article yielding a smaller per centage; say tobacco, at a profit of two cents a plug; how many plugs must he sell to pay for the fire which warms the feet of the loafers who surround his stove? But there is tea, says a sanguine critic; he can make 15 to 30 cents per pound on that. Ah, yes; he will have to sell a chest of it every week, to pay his rent, and it takes a great many two ounce packages and quarter pounds, and half pounds to make up a chest. Dry goods, we are reminded by another, pay good profits, and are universally sold. True, some dry goods do pay a decent profit, even now-a-days, but grey and bleached cottons are hardly among them; all a country retailer would make in a year off these would not pay his taxes.

And so we might go on. Profits of 50 per cent. are rare; ten per cent. ones are