

(a) DAMASCENING, or inlaying on gold-bronze, copper, plain bronze, iron, and steel, is done in a very skillful and artistic manner by the old Kyōto craftsmen, and the work is popular with foreigners. The best ranks alongside the famous products of Damascus (whence the name) and the finest *koft*-work of Kashmir. The gold-bronze used in Japan is the purest bronze with from 5% to 50% of refined gold added, according to the use to be made of the article. Thus, while vases and cabinet- or mantel-ornaments, which are not much handled, may contain 20% of pure gold; cigarette-cases, match-boxes, and the like, exposed to considerable friction, contain 30%, — which is considered high grade. The buyer must take the dealer's word for the amount of gold in each article, as the surface gives no indication of it until it begins to wear. Sea salt in secret proportions is used in the process, and the beautiful blue-black finish of the finest work is imparted by using sulphate and verdigris, then boiling the object in sea water. Patient hand-work produces the final brilliant polish. The best or true damascening (*hon-zōgan*) is made as follows: After the metal is prepared the design is drawn first on paper, then with India ink on the article to be ornamented. Along these lines furrows are made in the bronze with a burin, the cross-section, somewhat in the form of a T-rail, being widest at the base, where it is cut under the overhanging surface. In this way both the outer edges of the furrow, which grows larger toward the inside, are beaten back, welt fashion, and filed off smooth. Gold or silver wire, or plate, is then laid in the furrow and beaten till it expands and dovetails underneath; it is then ground off smooth on the surface and can never come out. In cheaper goods the metal is simply set in; while still cheaper stuff is electroplated and made in imitation of the best. Some beautiful effects are produced in the best work by inlaying with a silver-bronze called *Shibuichi*, — a grayish-black alloy containing 3 parts of copper and 1 of silver. — *Taka-zōgan* is raised damascene work, or relief inlaying, in which the gold and silver project over the furrow. Exquisite work that has been carried to an extraordinary degree of elaboration is done under this head, popular motives being gold storks or cranes wading in a silver stream; flying geese, ducks, and a host of designs. — *Hira-zōgan* is flat damascening in which the inlaid precious metal does not project over the surface of the metal decorated with it. — *Nunome-zōgan*, or damascening in meshes, is applied in a great variety of ways, and in many designs. It is one of the most interesting of the various processes, and beautiful work, almost covered with endless arabesques and attractive native designs, is turned out of the Kyōto workshops. Bronze and gold-bronze is often encrusted with gold-leaf (*kimpaku*). The interested traveler can inspect the process of manufacture at the *ateliers* (English spoken) of *K. I. Kuroda* (celebrated also for artistic groups in plain bronze), and *S. Komai*, both in Kyōto, and both leaders in the arts. The finest work seen in the curio establishments throughout the Empire often originates here.