make the grains of solder melt and run together readily, and the various parts of a seal, or other article made in this way, were thus united as firmly as if made of one piece of metal.

Soldering is now done by means of the oxyhydrogen blow pipe, or the blow pipe in which gas and air unite at the nozzle, the air being supplied by bellows or a fan. In those early days of trinket-making there was no gas. Murdoch had not yet fitted up his house at Soho, near Birmingham, with the pipes and gas fixtures which were for a long time the wonder of the world. Houses were lighted by candles, and the streets by dingy lamps in which whale or seal oil was used.

The artificer had to use an oil-lamp, too, for his soldering. But the flame of an oil-lamp, however large, is not hot enough, unassisted, to melt brass. It was necessary, therefore, to propel air through it, so as to cause a more vivid combustion of its hydrocarbons.

The soldering bench was about three feet high, and under it was fixed a pair of blacksmith's bellows, capable of being operated by a treadle and the foot of the workman. On the top of this bench, and near the end of it, above the nozzle of the bellows, the soldering-lamp was fixed. This consisted essentially of a vessel to contain the animal oil, and it had, rising from one end of it, a contrivance like the lower half of a duck's bill, in the concavity of which the lamp wick, of loosely plaited flax and consisting of several strands, was laid. A metal pipe, terminating in a taper blow-pipe of copper, brought the air from the bellows, the nozzle of the blow-pipe being placed just above the lamp wick in the duck's bill. By skilfully arranging his wick with a bit of wire, the workman obtained a large flame, and blowing upon it with the bellows, he directed a tongue of fire on the articles he wished to solder. These had previously been "charged" with the paste of powdered brass and borax, and they were laid in rows on a small pan containing charcoal. As they were brought successively under the heat of the lamp, they became white hot, and the solder ran into the interstices, making a neat joint, which was afterwards trimmed up with a small file. It may be imagined that the jeweller's shops of those days, where this process went on, were intolerably smoky places. The smoke and smell from the lamp was considerable, and the ceiling was usually covered with a thick deposit of black.

The seals and various other trinkets thus formed may still be seen in the old curiosity shops, and in the cabinets of the antiquarian, and a few years ago the fashion of wearing them was revived. As a rule, they did not display very much of artistic design. All that was aimed at was a tolerably ornamental holder for the stone on which the device was to be engraved, (in many cases these stones were left plain), and an upper ring to enable them to be hung upon the chain. When once a suitable pattern was evolved, it was usually adhered to for a considerable period, though in the later years of this trade a competitive spirit brought forward many new designs, and even laid the animal, the floral and the reptile worlds under contribution for their forms of construction.

Quicksilver gilding was the method then adopted for coating the trinkets with gold. It was rather a clumsy process, and it was bad for the health of those who conducted it. The amalgam for the purpose was prepared by placing a crucible in a charcoal stove and putting into it a quantity of pure mercury. When this attained a heat of about 212° Fahrenheit, half its weight of pure gold was added, and the mixture was stirred with an iron rod until it was of the consistency of butter. It was then thrown into cold water and was ready for use. The trinkets were cleansed with aquafortis, and put into a stoneware pan, where a diluted solution of binoxide of mer-