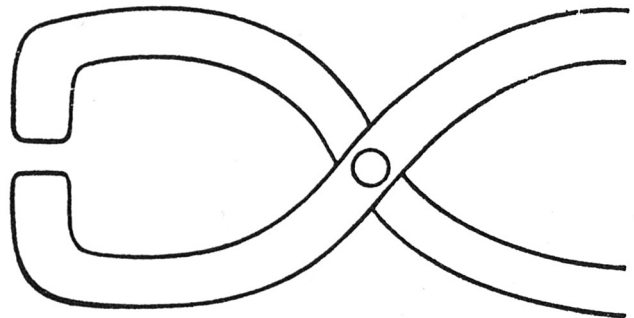


Figure 89. An improvement in attaching the metal backings of glass jewelry items, 1878, Josef Reckziegel, Morchenstern, privilege no. 28/321 (Austrian Patent Office).

feldspar which has been freed of as much iron as possible by treating with acids, and a small amount of phosphoric lime. The strass pastes, on the other hand, consist only of feldspar (Parkert 1925:200).

The pulverized and sifted material (*Massegut*) is mixed with a binder (milk, gum arabic, tragacanth, or a casein-glue solution), stirred to make a homogenous paste, and when necessary, dyed with metal oxides or mineral colors. The paste, rolled out into sheets, is placed in a pressing frame and pressed with a die. A glassy characteristic is aimed at for the basic material; a special glaze is not necessary. Finally, the beads are fired in a muffle kiln (Parkert 1925:201, 202).

Probably situated somewhere between glass and porcelain, these “earthenware beads” are sometimes difficult to assign to one category or the other; their surfaces generally have a glassy appearance. North American researchers refer to these beads as “Prosser Molded” (Karklins 1985:104).



Alte Drückerklinge mit umgebogenen Zangenenden als „Kappl“

Figure 90. Old molding tongs (Kleinert 1972:37).

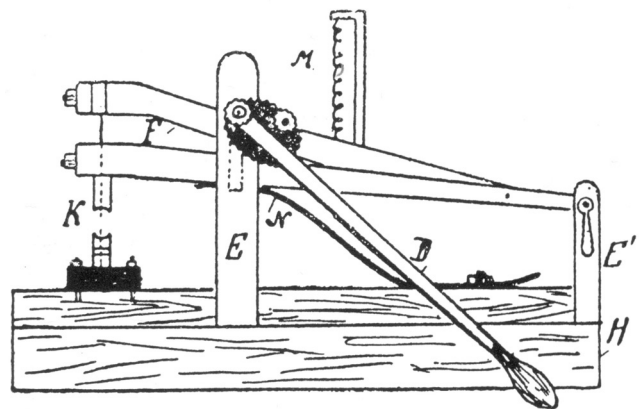


Figure 91. “Körnel pressing machine” (*Körneldruckmaschine*) (Parkert 1925:186).

WOUND BEADS

Drawn beads and wound beads were principally made in Venice and Murano, while “cut beads, bijouterie, artificial gemstones... were made exclusively in Gablonz and in the towns close by” (Jonák 1858:8). Although extremely well known in other regions (such as the Fichtelgebirge), the wound bead (*Wickelperle*) never held a top rank in Bohemia. All the same, a brief mention of the two most important techniques for winding follows: 1) a glass rod heated at the flame of a lamp is wound around a metal rod; sometimes this procedure is combined with molding in molds, and 2) working the molten glass from the pot with an iron rod.

Winding as Lampwork

Solid beads made at the lamp (*perle a lume*) are mentioned by Altmütter: on the one hand, these were beads made from pieces cut from a tube, stuck on a wire, and melted to a round shape at the flame of a blowing table

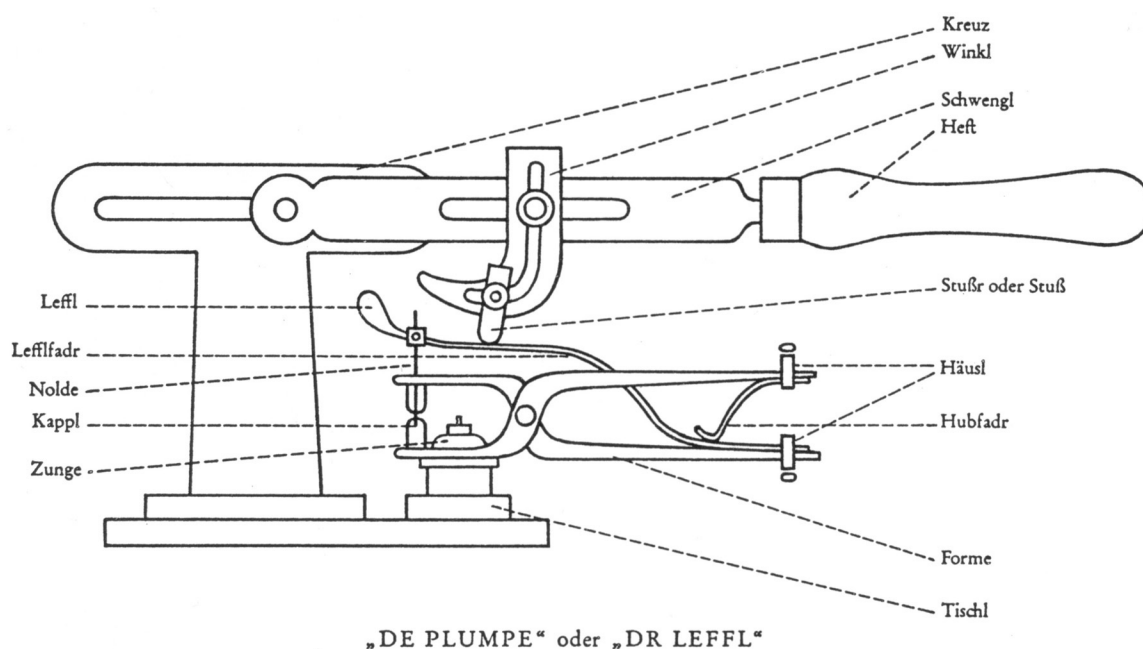


Figure 92. Molding tongs (“de Plumpe” or “dr Leffl”) (Kleinert 1972: Plate 1).

or shaped further. On the other hand, pieces of solid glass canes were softened at the lamp and wound around an iron mandrel or wire and shaped by melting (Plate 20A top); this could also be done with the help of a tong-mold:

The smaller solid glass beads get their complete shape while they are still soft, namely on the wire by using metal molds.... These beads are made with eight or twelve facets, in imitation of real cut beads; others have little raised lumps and several kinds of simple decoration (Altmütter 1841:101).

The bead worker (*perlajo*) used solid rods and gave his beads the desired shape, color, and decoration with the help of the lamp flame. Bussolin replaced the flame fed by melted tallow with a gas flame (privilege 1843). Despite the numerous advantages (more brilliant colors, especially in the gold-colored red, larger products, and moderate costs), this technique did not become widespread immediately (Bussolin 1845:28). The evidence of “winding” can still clearly be seen on wound beads of the early 19th century (Plate 20B top). The oval, spherical, or disc-shaped beads glow in many colors, sometimes with streams of sparkling, golden aventurine glass running through them.

In Venice the *perlaires* worked in their own workshops. The lampworkers held the glass rod in their right hand and in the left, an iron wire coated with a mixture of glue, lime, and white earth (*terre blanche* or *terra bianca*) from Vicenza. By heating the glass rod and winding it around

the iron wire, the worker could give the bead any shape desired, either free-hand through motion or by using small molds (Bussolin 1847:8, 29). Zanetti describes the same procedure and mentions small bronze molds. The Venetian *perlejo* (also *suppialume* or bead blower) created an almost infinite variety of beads (Zanetti 1874:135, 136). According to Parkert (1925:139), hollow copper wire was also used for making hand-wound beads. The wire was later removed by dissolving it in nitric acid. At the German-Bohemian Exhibition in Reichenberg, two groups of wound glasswares could be seen:

After being softened in the flame, the wound glass is either pressed in molds (lamp molding) or wound.... Among the wound articles, special mention should be made of the wild animal eyes. Also, one sees sphere and link chains, turned prisms, hat and cravat pinheads, some wound right onto the wire” (Arnold 1909:90).

We can admire both of these techniques today in the workshop of Josef Mantel, Senior and Junior: beads and stones (Plates 15D, 20B bottom). The stages of the so-called “lamp molding” process are shown in three detailed photographs (Figure 104). Earlier workplaces used by lamp winders are preserved today in the museum in Neugablonz (Figures 105-106). It was also possible to use machines for winding beads (Figure 107); only a few years ago, beads were still wound by Kratzmann in Enns (Upper Austria) with the help of a machine specially constructed for this purpose (Plate 20A bottom).

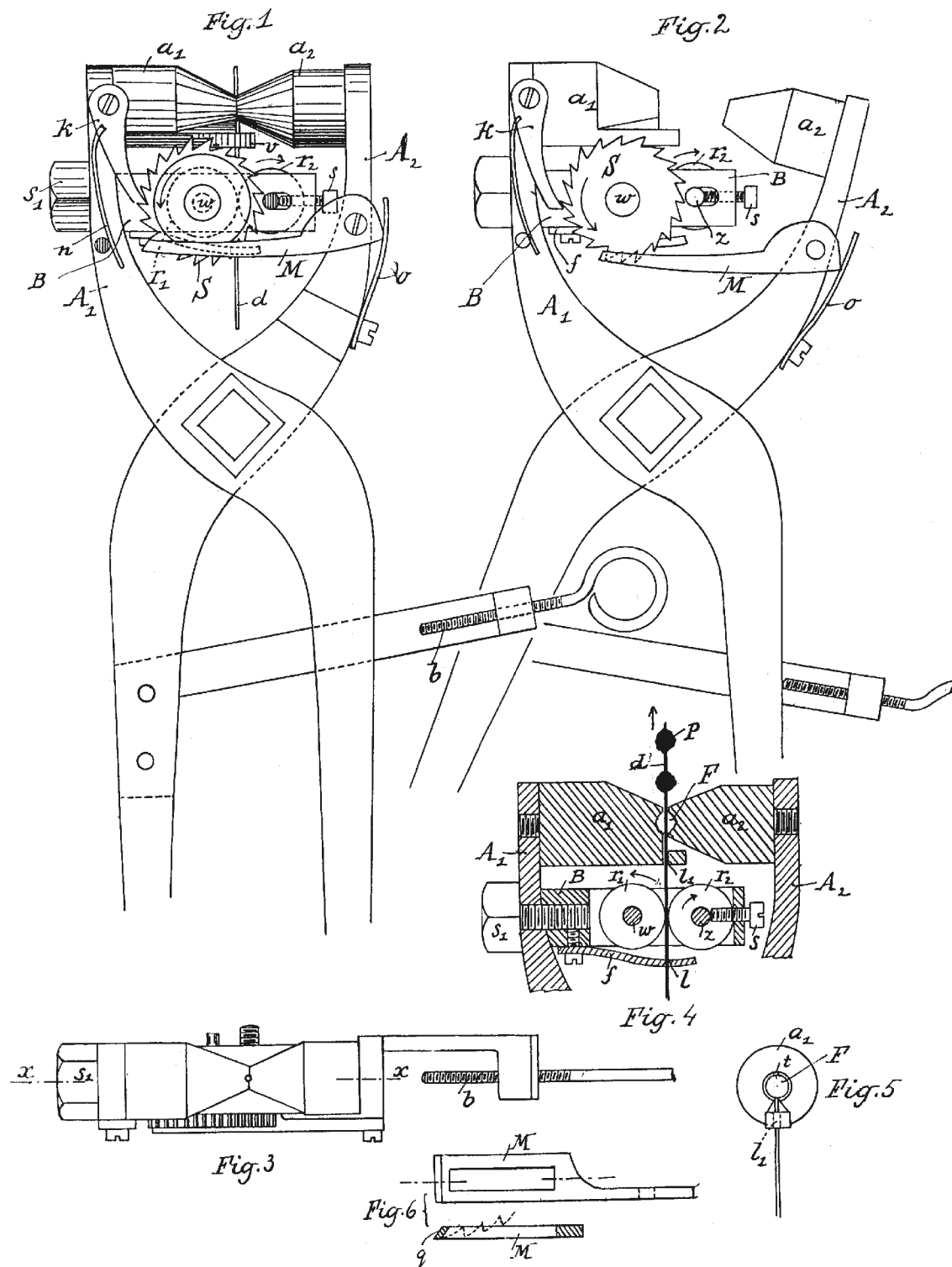


Figure 93. Tongs for pressing glass beads on wire, 1893, Theodor Hübel, Gablonz, privilege no. 43/4069 (Austrian Patent Office).

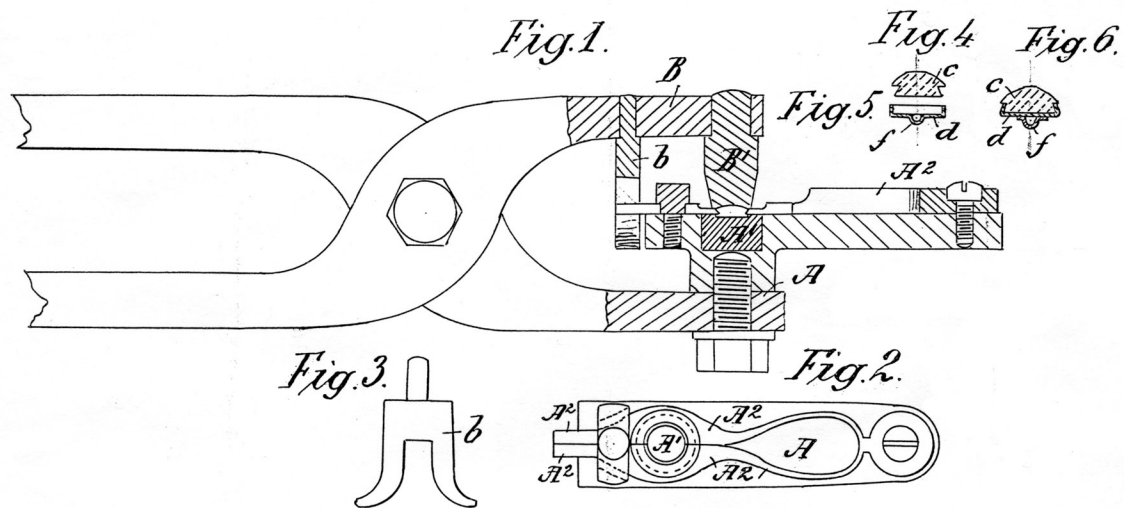


Figure 94. Molding tongs for making buttons, 1897, Franz Bergmann, Gablonz, 1897, privilege no. 47/3309 (Austrian Patent Office).

Winding from the Pot

According to Parkert, wound beads were already made in Germany in the 16th century. The winding iron (a piece of wire) was dipped into a mixture of powdered clay and lime,

then into a crucible filled with molten glass and the beads shaped by a round wooden mold.... Later a so-called “form cutter” (*Formstecher*) was used,

... whereby it was possible to extract three or more beads at one time from the molten glass.... The

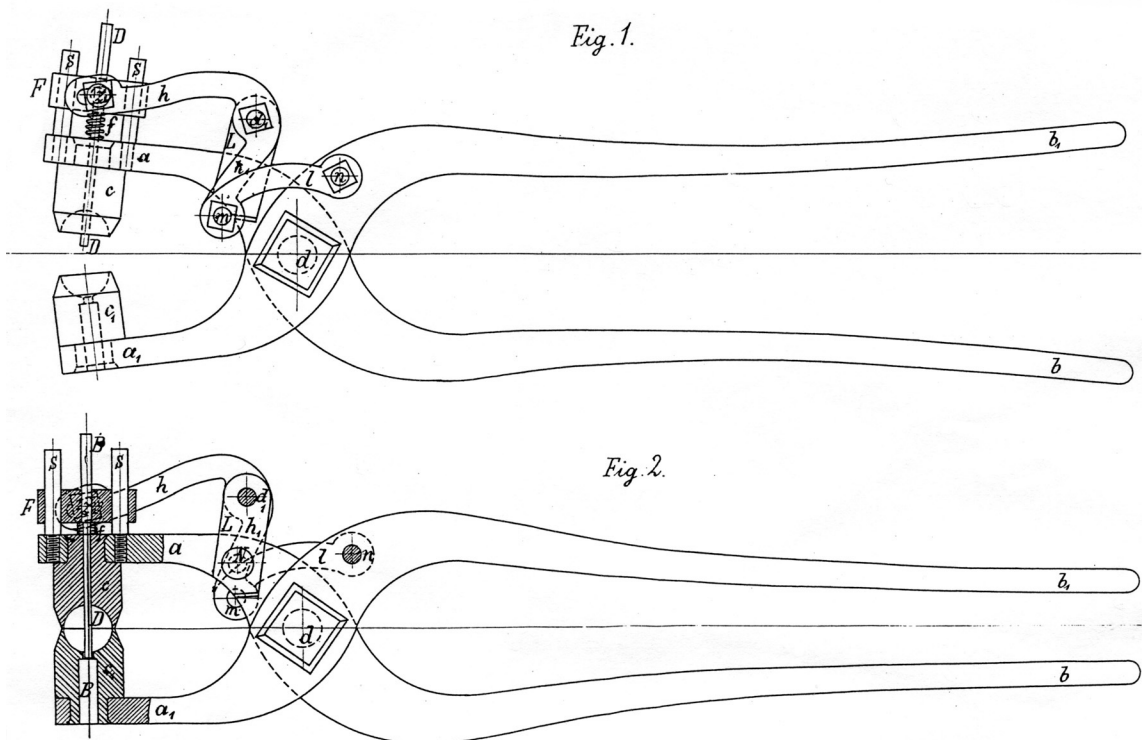


Figure 95. Tongs for making pressed-glass beads, 1884, Franz Hiebel, locksmith in Friedrichswald, privilege no. 34/1872 (Austrian Patent Office, Vienna).

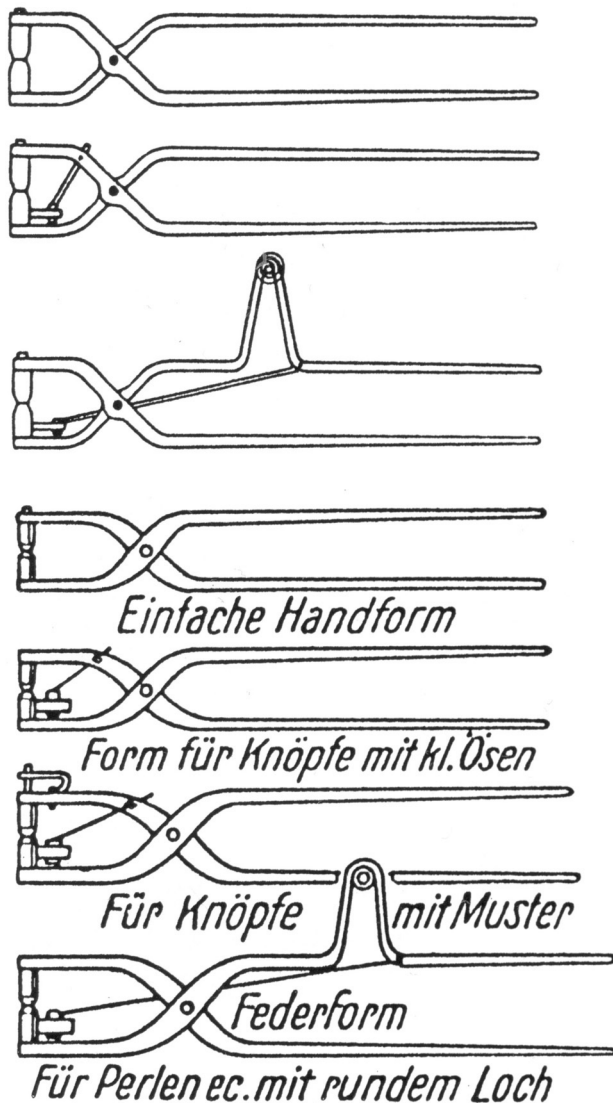


Figure 96. Seven tongs for press-molding beads and buttons (Hannich 1931:59, 73).

wound bead came into fashion recently, and today it plays an important role, even in France.... A device was patented by M. Bonnet for making wound beads by machine using the principle of glass spinning (Parkert 1925:137, 138).

Leng (1835:504) explains the technique of winding, using a glass button as an example:

The worker sits at the crucible and dips the eye of the wire into the liquid glass, turns it around inside, making the lump of glass hanging from it round and then throws the button into a pot standing nearby where it gradually cools.

Wound beads, according to Graeger (1868:120), were made on an iron rod with a conical point. First the worker dipped the rod into soft clay, then into a pot with liquid glass. Holding the rod upright, he turned it on its axis until the glass had taken on a round shape. After cooling, the beads were sifted, shaken, rinsed, washed, dried, and polished in sacks with bran. Benrath (1875:351) provides a similar description of making the “wound” bead, although he points to Theophilus (n.d., 2:31).

BLOWN BEADS

Included in the “*lavori alla lucerna*” (lampwork), along with the technique of winding which was practiced in Venice and Murano, there was also the blowing of the hollow glass bead at the flame of a lamp, as mentioned in Kunckel’s (1756) *Ars Vitraria*. Was Andrea Vidaore (also found as Viadora, Viaodore, Vidaora) from the 16th century really the first person to know how to blow round beads from hollow glass tubes? According to Bussolin (1847:53, 54), he founded the art of the *perlaire* (earlier *suppialume*). His technique spread rapidly, especially in France where Jacquin, the Parisian *petenôtrier* (“paternoster maker”), first put hollow glass beads with silver essence made from fish scales on the market. The pearl essence (*Essence d’Orient*) gave the glass bead the silky shimmer of real pearls (Loth 1859:72). Diderot’s *Encyclopaedia* already shows illustrations of the making of false pearls (*perles fausses*): the scales of the whitefish, sucking in the solution and blowing it into a bead, filling it with wax, inserting a little roll of paper into the bead so that it could be threaded later (Diderot and d’Alembert 1772: Plates I-III). Later on, machines performed this task (Figures 109-111).

The production of hollow glass beads spread quickly in Bohemia, Austria, and Germany (Parkert 1925:152). Blown beads were mostly made in Venice, Bohemia, Pest, and Vienna. The Venetian beads were offered “in 15 different numbers, in all shapes and colors;” Bohemian glass spinners and glassblowers were found in Turnau, Liebenau, and other places; Grainer in Pest produced “various blown glasswares” (Keess 1823:904). A large number of blown beads made by Anton Schwefel are preserved in the Technical Museum in Vienna (Plate 21B). “Wax beads” are nothing other than hollow beads whose pearly shimmer is achieved by inserting “pearl material” (pearl essence) into the bead. The extremely thin, hollow glass bead was fortified with a wax filling which acquired a reddish or yellowish sheen from cinnabar or a yellow pigment (e.g., curcuma) (Keess 1823:902). “Ordinary, medium, and fine varieties” were sold in strands, with a strand of the smallest beads holding 100 to 150 pieces, the medium sized beads 50, the large 30