

THE BROCADING MACHINE

The Brocading Machine is an amalgamation of a Rose Engine and a Medallion Copying Machine. There are two main types: the most common (see Fig. 1.) has two spindles parallel, side by side; the primary spindle carries a barrel of rosettes and a chuck to hold the workpiece for surface decoration; and the secondary spindle holds a faceplate on which is mounted a relief model in the form of a medallion. Unlike a conventional Rose Engine, the spindles do not rock but they are linked by gears.

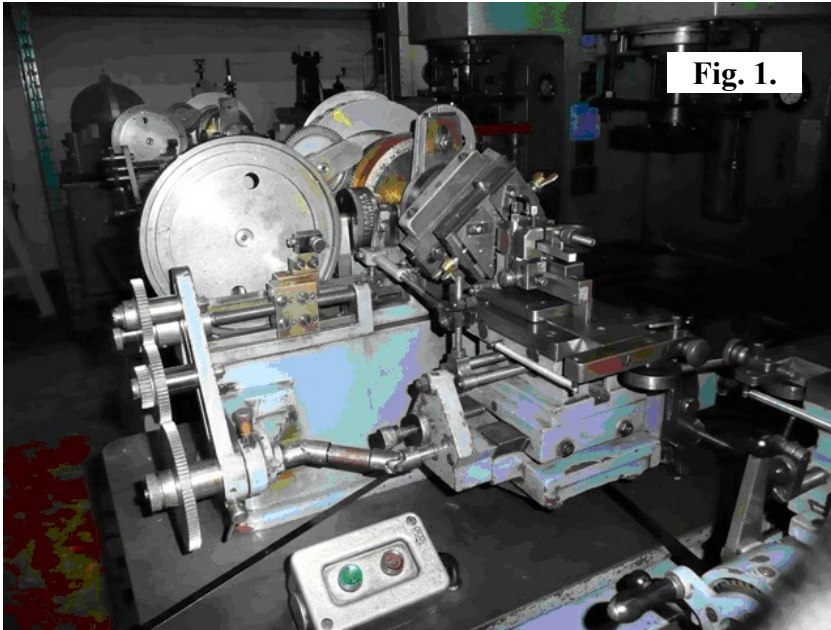


Fig. 1.

The second type has its spindles at right angles, the model is cylindrical and is on a common spindle with the rosette barrel (see Fig.2).

There are two styli and a cutter arranged under the same principle as for a Medallion Copying Machine. The first stylus follows the relief profile of the medallion (or cylindrical model). The second stylus (or rubber) follows the profile of the chosen rosette. The two styli are linked to the cutter; they all follow the profile of the model and the rosette under pressure of a spring. They are finely adjusted so that when the first stylus touches a high point on the model it, being linked to the second stylus, lifts it off the rosette; conversely when the first stylus drops towards a low point on the model the second stylus touches the rosette, thus preventing the first stylus from touching the model. In this way the cutter, which is finely adjusted to the two styli, cuts both the image from the model and a background pattern from the chosen rosette. The styli and the cutter are controlled by a long leadscrew which is connected by gears to, and rotates one-to-one with, the primary spindle, such that as the model rotates, so the leadscrew turns and moves the stylus very slowly from the centre of the model to its edge (or, in the case of a cylinder model, from one end to the other). By the same process the cutter acts like the stylus on a gramophone, cutting a

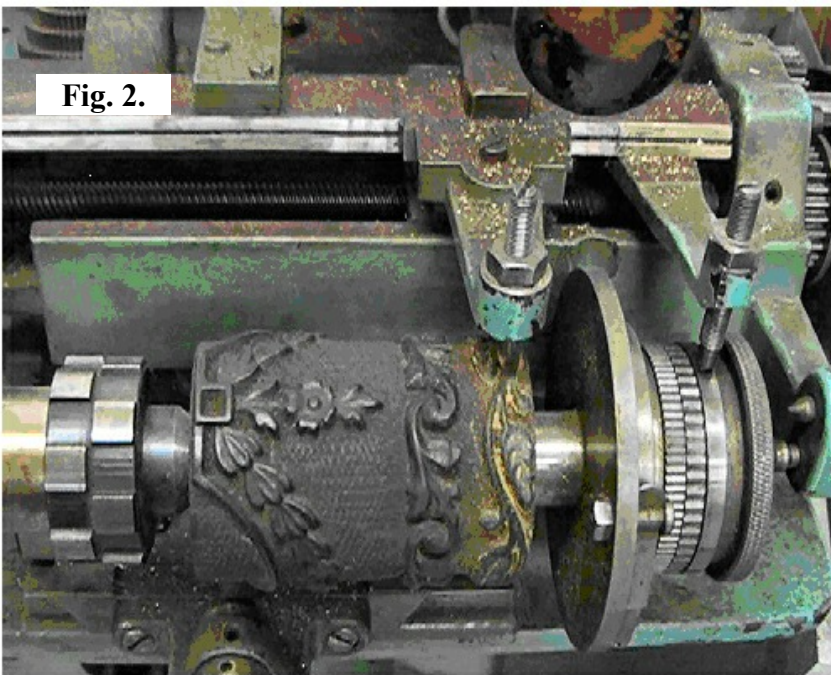


Fig. 2.

continuous ribbon of material from the workpiece.

Sometimes the relief may be too varied to be cut in one pass; in this case the cutter is retracted slightly, a pass made, and the cutter re-adjusted to take a deeper cut, and so on, until full depth all across the model is achieved.

A few machines have further sophistication: the provision of differential gearing for automatic barleycorn patterns and ellipses of gradually decreasing ratio, for example, commencing with an elliptical shape at the edge and reducing to a circular shape at the centre; known as the 'Oval-line Apparatus'. Another bright idea from Gudel was what they called 'Flinquets' by which a rosette pattern could be alternately stretched and shrunk to provide shimmering patterns. (For more information on these innovations see my book: 'Holtzapffel Volume VI', Part 1 Chap 16 and Part 4 Chap 15.