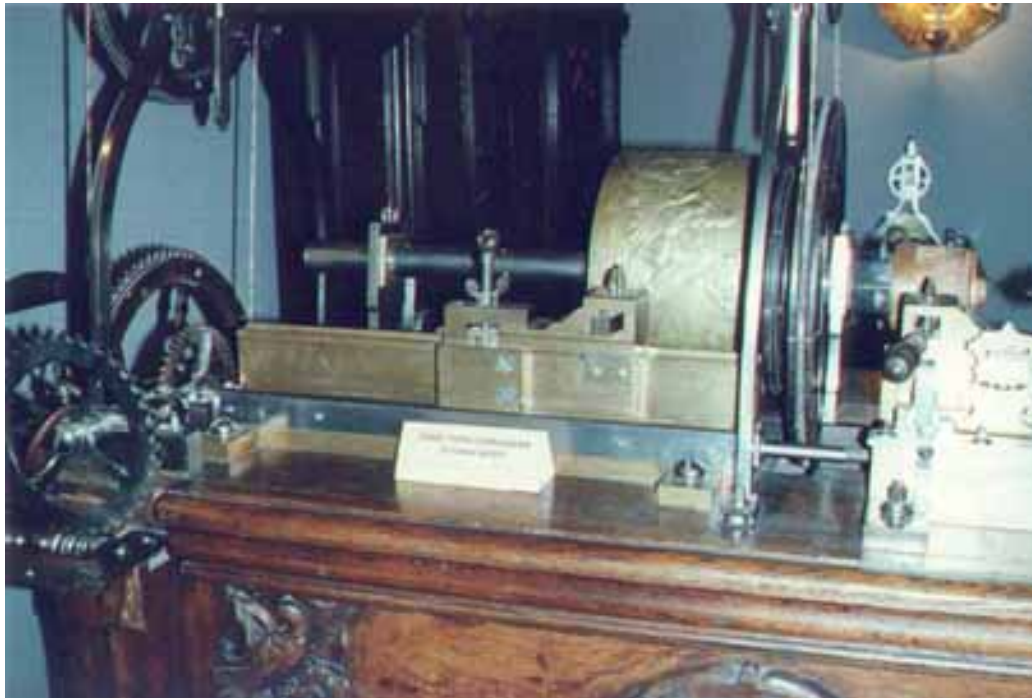


THE PORTRAIT OR MEDALLION LATHE AND SOME METHODS OF ROSE-TURNING.

Portrait or Medallion Lathes were very popular in the 18th century and Peter the Great of Russia had a superb collection of them. Here is one that copies cylindrical carving. It operates rather like the early cylindrical gramophone. The master is mounted on the back of the lathe spindle and the workpiece is mounted on the front.



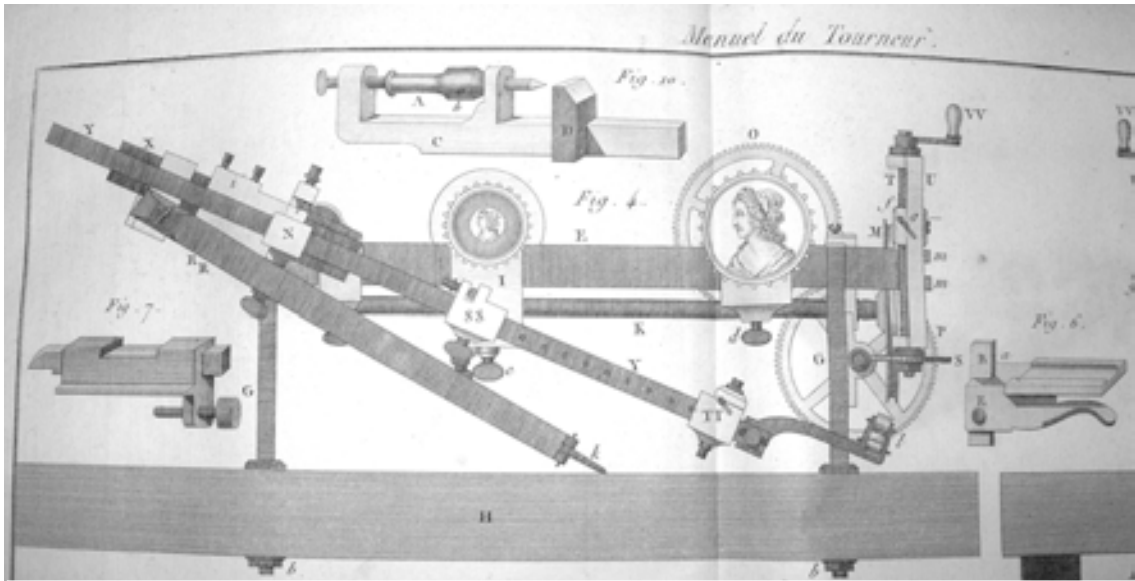
Portrait lathe by A. Nartov photo courtesy of the Hermitage Museum, St.Petersburg

A stylus follows the profile of the cylindrical master under very light spring pressure. The stylus slides along a bar under the control of a fine leadscrew linked by gear trains to the lathe spindle and the cutting head. The cutting head slides along a second bar under control of its own leadscrew and a pantograph arrangement links the two bars. Whilst one-to-one copying is simpler, the quality of the workpiece is finer when it is reduced in ratio to the master; so, if for example, the reduction is two-to-one, the gear train and the leadscrew for the stylus should be at two-to-one ratio with the gear train and leadscrew to the cutting head so that the length of the piece is in the same proportion to its diameter and its length as is the master.

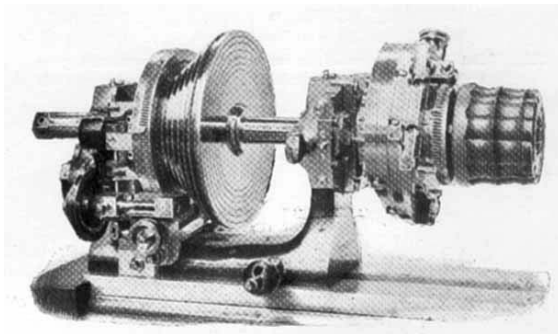
Medallion Rest by Birch



Simple **Medallion Rests** were made to be attached to ornamental turning lathes; this one was made by George Birch of Manchester.



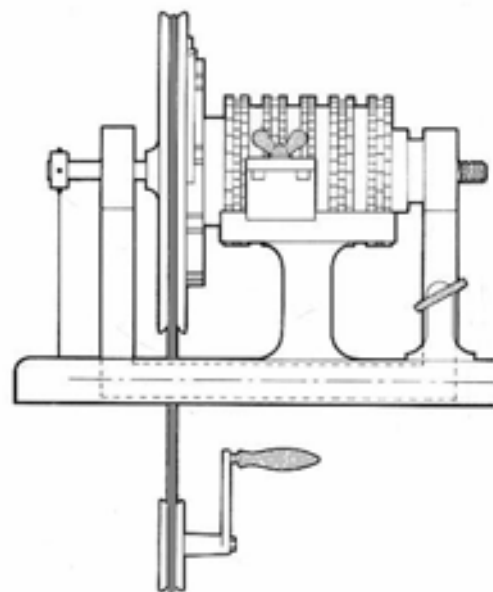
Engraving of Portrait lathe from Manuel du Tourneur, Paris 1816

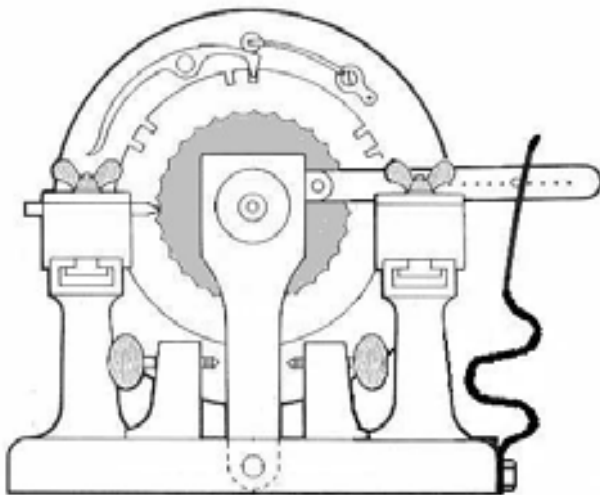


Rose Chuck by Holtzapffel

Rose Chuck: a chuck with two horizontally opposed slides under the control of a rosette for cutting wavy lines on surfaces. As the chuck rotates the work oscillates following the profile of the rosette. Quite good results may be achieved with this apparatus but it requires patience to set up properly and it is inferior to a proper Rose Engine.

Rocking Headstock (or Rose Engine): the most usual method of cutting wavy lines on surfaces; the headstock rocks under the control of a rosette on the lathe spindle which is followed by a fixed rubber so that, as the spindle rotates, the rubber follows the edge profile of the rosette and forces the headstock to rock on its fore and aft cone bearings against the counter-pressure of a spring or a weight on a cord. The rosettes are usually in pairs with both edge and side profiles which, when followed by a 'side' rubber, cause the lathe spindle to 'pump' (traverse





forwards and backwards) against a spring pushing or pulling at the rear of the spindle.

There is a 'phasing' or 'click' plate between the rosette barrel and the spindle so that, after one cut is made a subsequent cut may be 'phased' in relation to the first, by releasing the 'click' arm and rotating the barrel by a half or a quarter of one bump on the rosette. There are screws on either side of the rocking frame to lock it in the central position for

ordinary turning or to limit the extent of rock; sometimes a pattern is introduced or faded out by progressively limiting the extent of rock. The spring may be adjusted either to push or to pull and a rubber may be placed in the holder at the far side of the headstock with the effect that the line cut is the reverse of the profile on the rosette; i.e. a convex lobe on the rosette will cause a concave cut on the work.



Rocking Slide-Rest: another method of cutting wavy lines on surfaces; the slide-rest rocks on cone bearings within a narrow base that fits between the shears of the lathe bed. The rocking movement is controlled by a rosette mounted on the lathe spindle behind the chuck. As it rotates the bumps on the rosette press against a rubber

fixed to one of the rocking arms of the slide-rest so that, as the spindle rotates, the rubber follows the profile of the rosette and forces the slide-rest to rock against the counter-pressure of a spring or a weight on a cord.