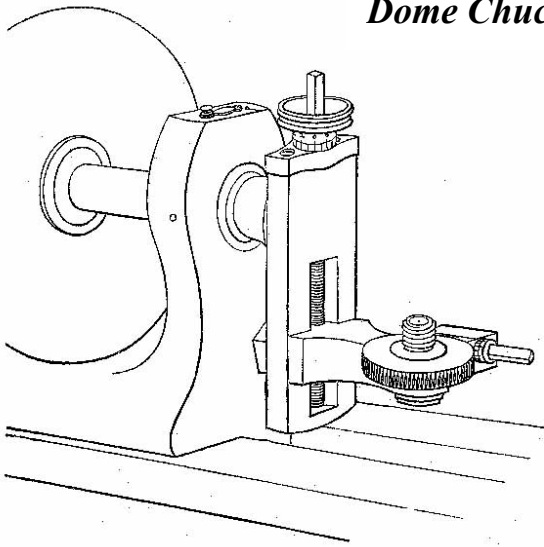


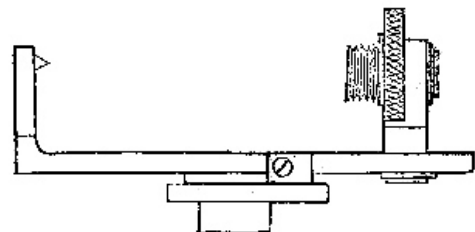
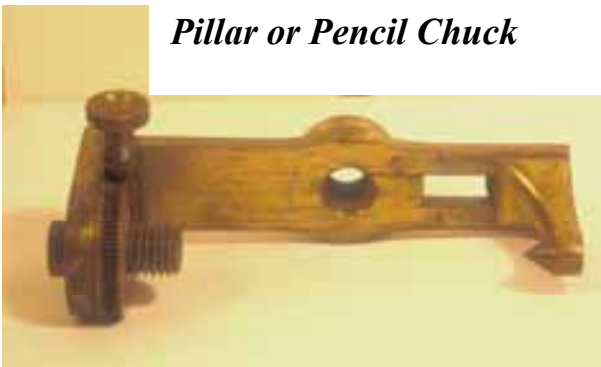
Dome Chuck

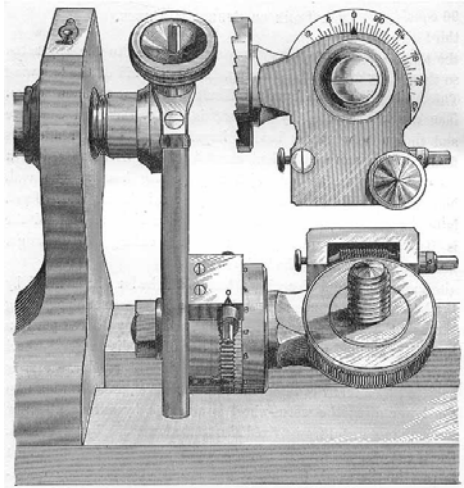


The Dome or Spherical Chuck is a work-holding device for placing the work on a 96-tooth nosewheel perpendicular to the axis of the lathe spindle. This enables domes and hemispheres to be shaped and ornamented and in this respect it is a partial substitute for the Spherical Slide-rest. The chuck is not intended to be 'run' but must be rotated under careful control, either by hand or under the control of the tangent screw; the index is not sufficiently strong to hold this chuck in position. In some applications the Dome Chuck is used in conjunction with a gear train and care must be taken to avoid any backlash when passing the point of balance; this problem can be largely overcome by the application of counterbalance weights. With the slide-rest parallel to the bed a dome may be formed from a series of cuts taken to the same depth at successive intervals of the chuck nosewheel. Another use of the Dome Chuck is for cutting and ornamenting polygons; for this purpose the slide-rest is set across the bed and the facing surface is cut; successive surfaces are then cut following appropriate adjustment of the nosewheel.

The Pillar or Pencil Chuck is another form of Dome Chuck having a longer base with a dead centre at the opposite end to the nosewheel; this dead centre is to support long slender works such as pillars and pen and pencil barrels.

Pillar or Pencil Chuck





The Combination Dome/Rolling Oblique Chuck: for cutting and ornamenting round and pointed (gothic) domes.



*Combination
Dome and
Pitching
Oblique
Chuck*

The Combination Dome/Pitching Oblique Chuck: for cutting and ornamenting oblique facets and pyramids.



This pincushion box was made on the Dome Chuck; each face was cut with a long round-nosed cutter at maximum radius in the Horizontal Cutting Frame while the chuck was rotated very slowly under control of the tangent screw. The Dome Chuck was counter-balanced to avoid the chuck coming unscrewed or the surface being marred by backlash. The visible crack was caused by leaving this box on the windowsill in bright sunlight!

Oblique Chuck



The Oblique Chuck is used with the Rectilinear Chuck and in this combination can place the work in positions that are impossible with the Dome/Oblique Chuck combination; this is because the nosewheel of the Rectilinear Chuck can be adjusted on, below, or above centre whereas the Dome chuck can only be adjusted on or below centre. The Rectilinear/Oblique combination is also more stable.