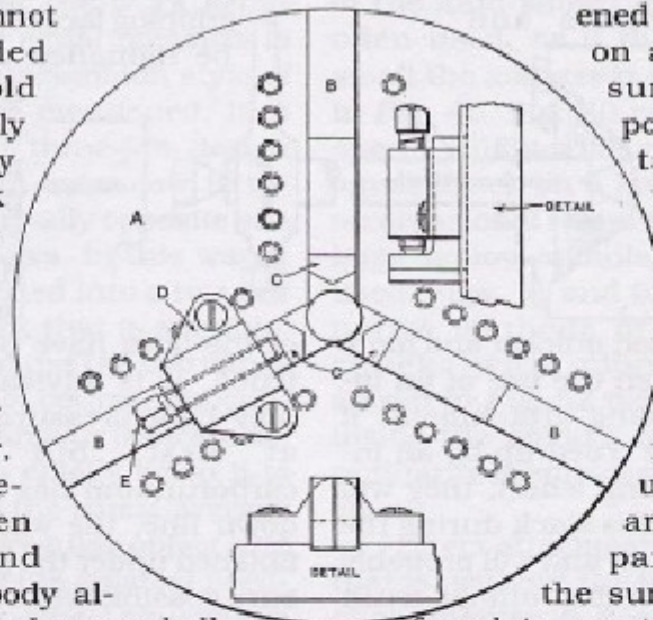


The jaws of the average lathe chuck seldom have a bearing for their full length on the piece of work which they are holding, and therefore cannot be depended upon to hold work perfectly square. They may work fairly well while new if they have been perfectly fitted, but they soon wear, and the looseness between the jaws and the chuck body allows them to become bell-mouthed when tightened on a piece of work.

The need of a chuck which could be easily kept true led to the design shown in the accompanying illustration, which shows a set of auxiliary jaws fitted to a bench lathe faceplate. A is the faceplate in which have been cut the shallow grooves B that the jaws C slide in. D is the strap which holds the jaws in place and carries the adjusting screw E. The strap is held to the faceplate by screws that enter tapped holes, as indicated, spaced to allow for shifting the strap to different positions as shown.



The illustration is clear enough to show the principle, but it is well to note that the chuck jaws and strap are hardened and ground

on all wearing surfaces or points of contact, while the grooves in the faceplate are either scraped or ground on the surface grinder until they are perfectly parallel with the surface of the

faceplate, as strap D must bind sufficiently on the jaws so that when the screws are drawn tight the jaws will be a tight sliding fit. Special jaws for holding odd shaped or thin pieces can be easily made up, while any wear on the jaw faces can be remedied by regrinding on a surface grinder. While designed originally for use on a bench lathe faceplate for holding pieces that had to be turned, bored or ground accurately, there is no reason why the same principle cannot be applied to heavier work. It would prove cheaper and more accurate than the regular chucks on a large variety of work.

D.B.