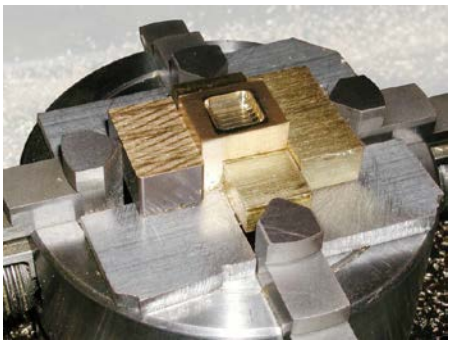
TIP 42 — A 4-Jaw Chuck Spacer Plate/Allan Marconett

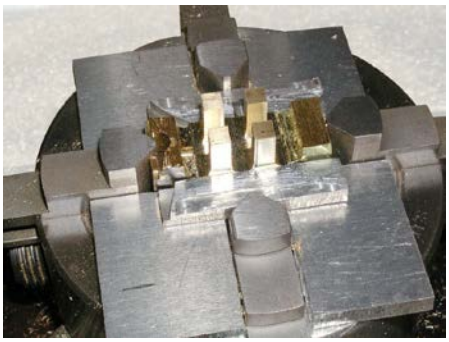
Cut a plate out of aluminum to allow small parts to be machined while being held in the Sherline 4-jaw chuck. The example pix shows a brass slide valve being machined, with packing all around. The plate gives a flat support, the slots allow the jaws to get in close to the stock being machined. Holes can be drilled or machined through the plate, as it is expendable.

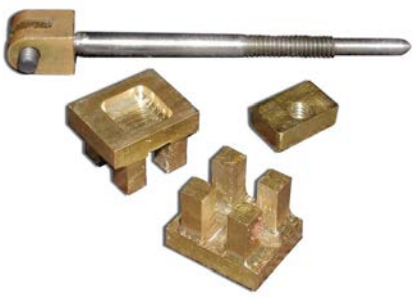
The plate is a simple 2" x 2" square of 1/8" thick aluminum plate (could be round!), and may be cut out with a bandsaw. Size is unimportant, and thickness can be changed to fit needs. 0.350" slots are cut in from three sides to clear the width of a jaw. I leave about a 5/8" square of material in the center. Leave less if desired. A three-jaw version could also be made with slots 120° apart.

Alan Marconett KM6VV

The notches in the support plate keep small parts from falling into the chuck during setup. It gives a smooth, parallel support for small parts held in the chuck.







A couple of different parts for a steam engine are held in the chuck using brass and aluminum spacers. Some of the finished parts are shown in the last photo.

Some tips from Alan on using a machinist's vise

1. While clamping stock in a machinist's vice or chuck, lightly clamp at first, then tap the stock lightly with a rawhide mallet to insure it is seated. Tighten clamping or jaws afterwards.
2. Always use small rectangular packing on the moveable jaw of the machinist's vice to allow stock to seat squarely against the fixed jaw. Also, use accurate spacer blocks (or packing) under the stock, rather than attempt to seat it on the bottom of the vice.