Sundry Snippets 5 Mike Sharman

A frequent comment at shows is "How did you make that bit?" - sand box, toolbox, injector, etc. The real question should be "How did you hold that bit while you made it?" With that point in mind, I offer a few suggestions that may be of use, and I am sure can be added to by other readers.

I am not going to mention the lathe here, as I feel a lot more can be produced by the 'kitchen table' operator using basic hand tools plus something most people have these days - some form of vertical drill. At a Model Engineer exhibition a couple of years back several firms were offering cheap (around £25) cross slides from the Far East. They are crude, but if you always take up the backlash when you make settings and bolt them to the base of your bench drill, they provide a very acceptable light milling unit for hard brass. But more of that later.

We will start with pure/impure fabrication! In most cases this involves breaking lots of small drills in infuriating places and I would offer Figure 1 as your main cure for this:

1 - The Pin Vice

A pin vice can 'feel' a small drill about to break, whereas a motor-driven one never will, and drilling hard brass this way is a lot quicker than you would think. Drill a mm. or so, then withdraw the drill to clear it, and carry on again with the odd drip of 'spit', not oil, to help things on their way. One point to keep very much in mind is 'Murphy's Law' - that the drill will break, below the surface, in the **last** hole in a complicated fabrication
meaning that you will have to start over again!

One last 'ground rule' before we get to down to cases. If you want to remove material using the power drill with small grinders or dental burrs, it is much easier to offer the work piece up to a rigidly held rotating burr, (i.e. in the drill stand or vice) than it is to a wave a rotating burr at your delicate fabrication. Like hand drilling, you can 'feel' the load being applied when the thing is held in your fingers. However, keep a little pot of water handy, as it **will** get hot!

Now for a few examples from which you will be able to identify many more.

2 - Small hand wheels

The holding unit is a piece of scrap material with a hole drilled in it the diameter of your hand wheel. Mark out your hand wheel with a compass, cut it out roughly, then, while holding it in a small hand vice, carefully round off the shape until it just fits the hole of the holding unit, and solder into place.

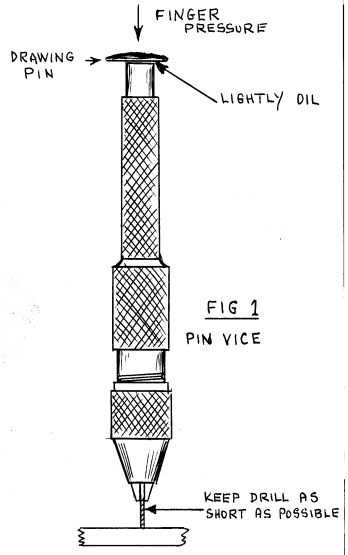

FIG 1

PIN VICE

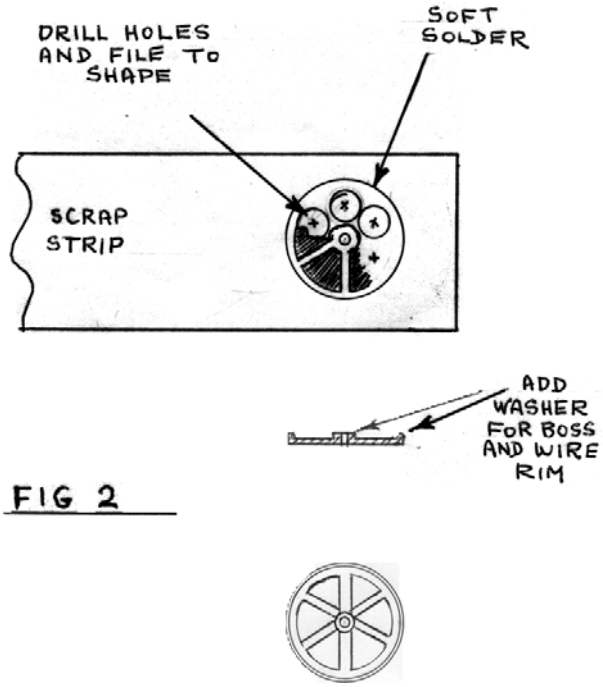

FIG 2