

## A SMALL TOOL SHARPENING AID

Keith Wraight

(Drawing overleaf)

As I have only recently joined our society and as this is my first attempt at copy for **LINK** may I introduce myself to you. My name is Keith Wraight I live in Clacton-on Sea. I have been modeling for as long as I can remember covering many disciplines but always favouring model engineering and I am currently building a 3½" Black Five to LBSC's Doris design. I have been retired for five years and am an active member of the Wednesday Wrinklies.

Having retired to the smallest room with a back copy of the Model Engineer, as one does, I came across an article on sharpening small drills, complete with a description of a jig to help produce a correctly sharpened drill every time.

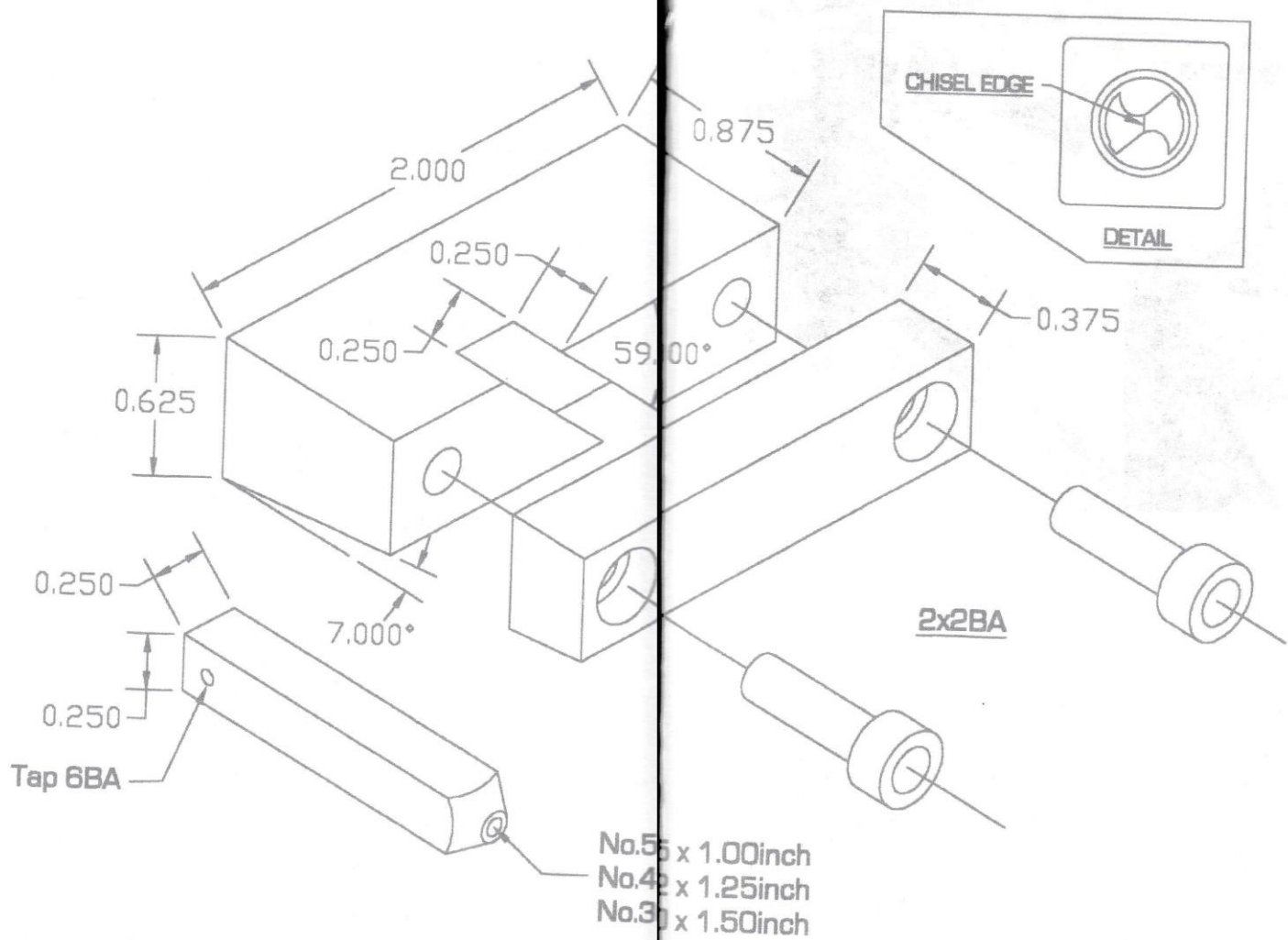
As I have reached the stage of having difficulty seeing the business end of any drill smaller than a No. 30 never mind sharpening it I thought it worth having a go at this tool and in no time at all I was able to consistently sharpen drills down to No. 60.

Being so pleased with these results I thought other members may find a brief description helpful. I think the attached drawing is self explanatory but a few words may help.

The actual sizes of the mild steel blocks to make up the body of the tool are not really important, the important dimensions being the 0.25" square hole, the 59° angle and the 7° angle. The two mild steel blocks are first bolted together and then cleaned up all over square in the lathe or milling machine. The blocks are then separated and the 0.25" x 0.25" slot is milled at 59° as shown on the drawing. The two blocks are bolted back together again and the 7° angle milled on the bottom face. The main body of the tool just needs a fine file running over the sharp edges to complete.

Cut three lengths of 0.25" square mild steel to 1", 1.25" and 1.5" inch with a little extra for cleaning up to length. Chuck each piece in the four jaw chuck and drill through sizes shown on drawing, taper end [59°] leaving a small witness as shown. Drill and tap near the square end No.6BA for the pinch screw to hold the drill for sharpening. The 0.25" square drill holders need to slide in the angled hole in the main block with minimum play.

To use the tool place the drill to be sharpened in the appropriate holder and secure with a 6 BA screw. The business end of the drill just protruding from the tapered end and the chisel edge parallel to one side of the holder. see detail on drawing. Insert the drill holder in the hole in the main block with the drill chisel edge at 90° to the long edge of the block. Place the block. 7° side down on a fine oil stone or fine emery paper on a flat surface and work backwards and forwards keeping gentle pressure on the drill holder until the required edge is produced on the drill. The drill holder is rotated 180° in the block and the second edge is produced as above. As sharpening proceeds the drill may need turning in the holder to keep the chisel edge at 90° to the long edge of the block.



**SMALL DRILL SHARPENING TOOL**

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