

BARROWMORE

MODEL RAILWAY GROUP

"Modelling to a high standard amongst friends"



Workshop Notes: Wagon Lamp Iron Jig

In the previous issue of "BMRJ", we promised a description of useful jigs using some of the stock of metal strip which you have built up with your 'Wire flattening jig'. So here is the first: a **wagon lamp iron making jig**.

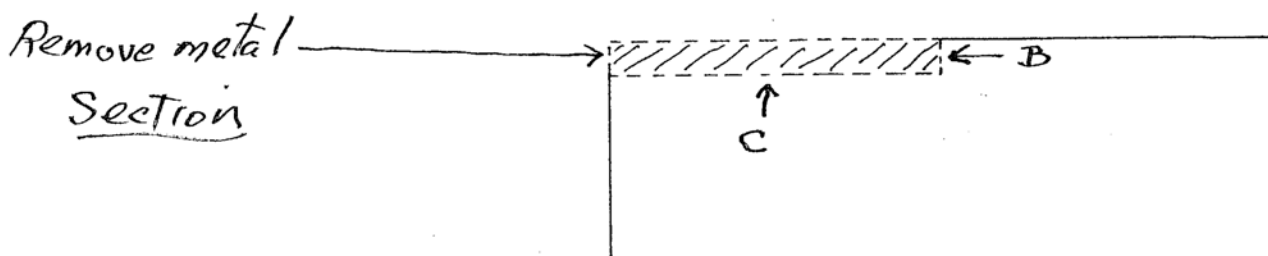
Wagon lamp irons are not difficult to make – to my mind, the only problem lies in making more than one to the same shape and size. You need at least two on each wagon, so if you plan to make more than a couple of vehicles, it makes sense to mass-produce them. It also saves time in the long run.

Making the jig entails finding some pieces of scrap steel bar: you will need two pieces about 5mm x 15mm x 50mm; mild steel is adequate. Hold the two pieces together in the vice and drill both ends for locating pegs. Drill one end just under $\frac{1}{8}$ in (say about 3.1mm) for a press-fit for a $\frac{1}{8}$ in steel peg; enlarge the opposite hole with a $\frac{1}{8}$ in drill. Drill the other ends just under $\frac{3}{16}$ in (say 4.7mm) for an obviously different diameter locating peg; enlarge the opposite hole with a $\frac{3}{16}$ in drill.

The locating pegs are made from steel rod, the overall length being just less than the total thickness of the jig. Chamfer both ends and gently press them into the base holes. If too much force is required, you risk bending the pegs, so take care! It is better in some ways if the pegs are NOT tight enough in the base: Loctite Bearing Fit or even ordinary Superglue will help in this situation.

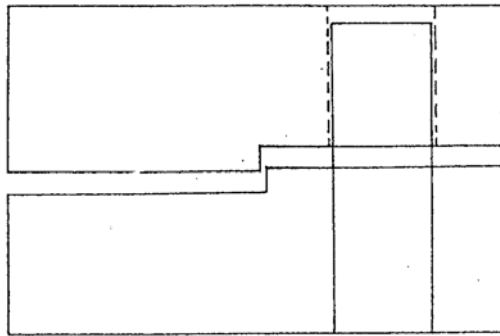
Plan the next steps carefully: it's a lot easier to cut metal off than to cut metal on!!! With adequate planning, you can make your jig to suit several scales, or several prototype lamp iron dimensions, or both. But plan ahead.

Part of the base has to be milled away, to make this shape (section view):



The 'B' dimension may differ, and could have several values in the same jig: plan! But you may find that for 4mm scale, 0.030in (about 0.75mm) is about right. The top part of the jig will have to have material milled off the opposite face, with a width of cut of 'C' plus about 0.010in (about $\frac{1}{4}$ mm). The depth of cut is exactly the same.

So you end up with a jig with this section (not to scale):



End section

Fabrication: an alternative to milling is fabrication of course, but there are potential difficulties. Firstly, you have to obtain some steel strip with your 'B' dimension thickness; and secondly, you have to fasten the two layers together. Although I haven't tried it, riveting (using aluminium rivets) seems a viable method.

Use: take over-length pieces of your strip (say 12mm);

place the pieces on the jig base, with the centres about over the line of differing thickness;

put the top part of the jig on top, locating the peg holes onto the pegs;

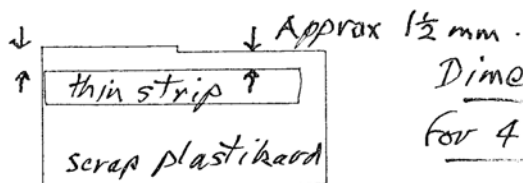
gently tap the lot with a hammer – this will put the initial bends into the strips, but more importantly, prevent the pieces from moving too much in the jig before the next operation;

place the whole assembly (jig plus strips) in a vice and close the jaws;

after removal from the vice, the jig should part without too much trouble and you now have the basic lamp iron shape strips, which just need the two legs cutting to size;

for this, I use another jig (!), made from scrap Plastikard, as the diagram below:

Approx 2mm.



Dimensions of length-cutting jig
for 4mm B.R. 'Pipe' wagon

Use Superglue to attach the lamp iron to the wagon.

