

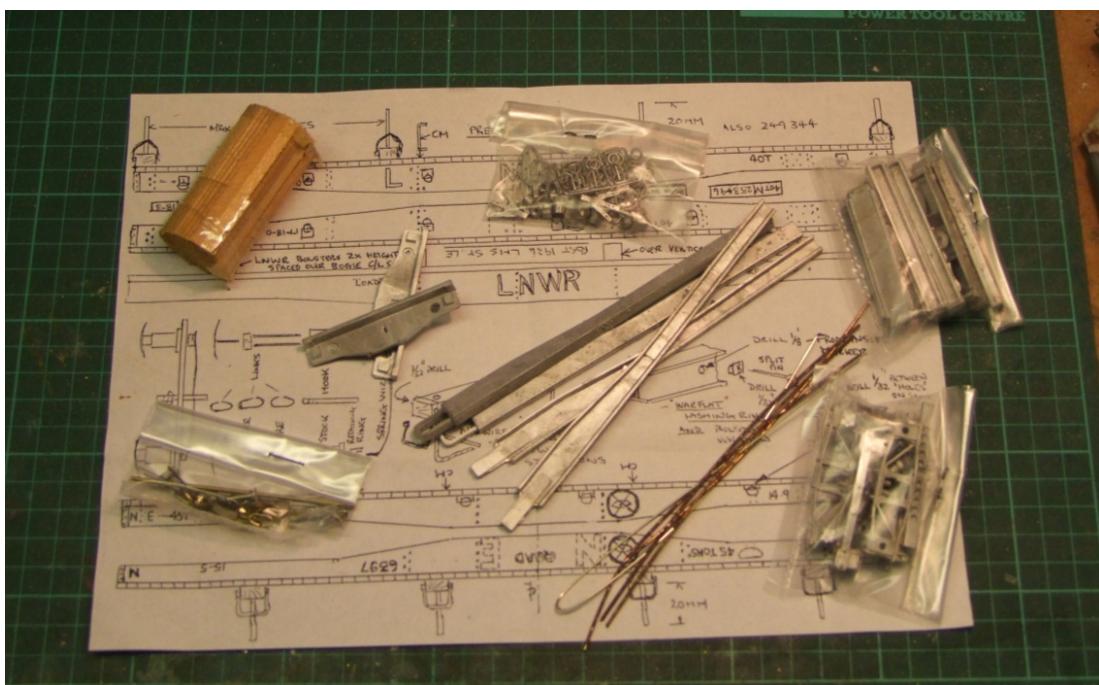
Assembling a Whitemetal Kit.

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Having previously illustrated constructing an etched brass and plastic wagon kit it seemed reasonable that a whitemetal one should come next. The wagon is an ABS LNER Flat-S, similar to a Warflat. Saying it is a whitemetal kit maybe isn't entirely accurate, if you count the decking then there are more wooden parts than metal!

By and large I have followed the instructions for the assembly; I have departed these on the buffers and couplings and perhaps shuffled the order of assembly a little.

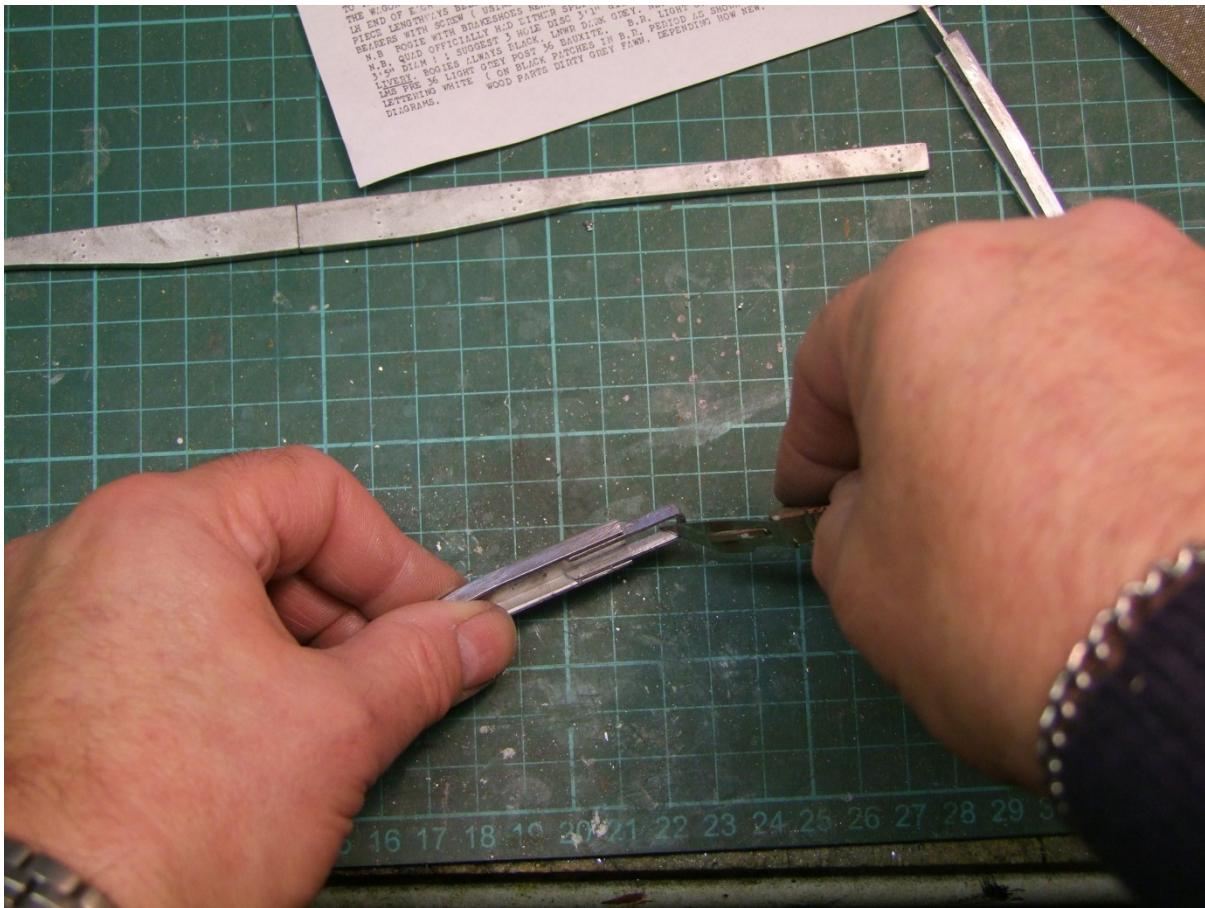
The first illustration shows the parts laid out. The tools used are 6 inch smooth flat file with a safe edge, rules, engineer's squares scalpel and Stanley knife. The solder is Carr's 100° Low Melt solder. I use this in preference to any other low melt solder now. It flows well, rather like 188 solder, wets whitemetal smoothly and can be used directly on brass or nickel silver without the need to tin with 145 or 188 solder. I run my temperature controlled iron 220°C for this solder. Be assured the solder flows and the whitemetal does not melt at this temperature.



The first task is to join the halves of the sole bar. This kit employs a large tab and slot to make the joint.



Both parts need some cleaning up so they join cleanly. Material was removed from the outside of the tab and the inside of the "slot".



The picture shows a scalpel being used as a scraper. I frequently resort to this tool on whitemetal parts; it is harder to remove too much material which is possible with a file.



Trying the fit.



Seems good, a small but insignificant gap.

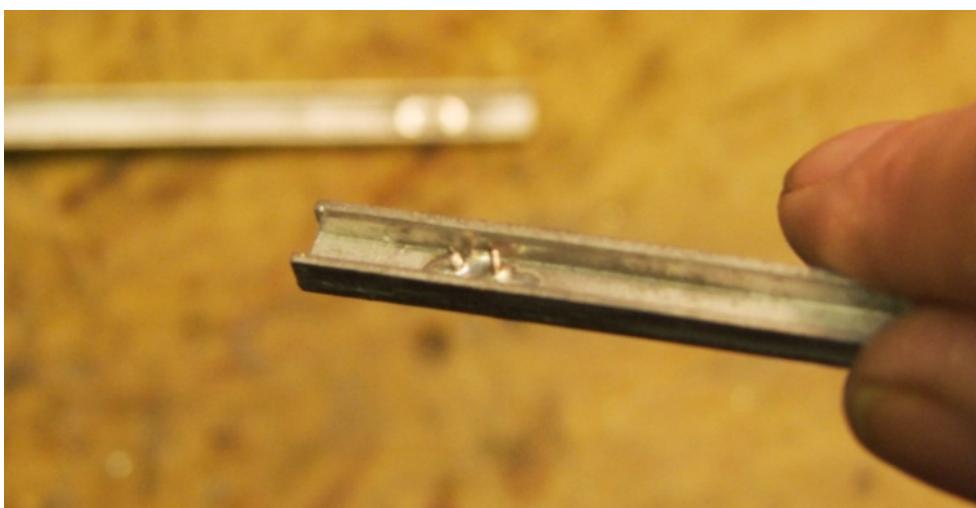


The Carr's 100° solder has good fluidity and fills gaps well. Similarly it flows well around the internal parts of the joint. The solder is taken to the joint on the tip of the iron just as for soldering brass and nickel silver.

Once the solebars were assembled the details along the side were added. First the horse rings. Nickel silver wire was bent into a horseshoe (How appropriate!). Round nose pliers make this very easy.



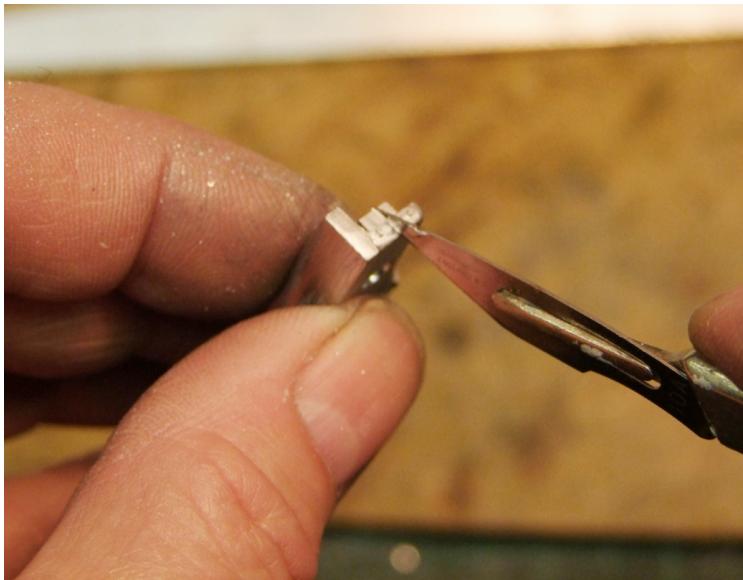
Note one leg is slightly longer than the other. This makes it easier to fit into the holes; one leg can be entered before the other. The same holds good for handrails too.



Once in place it is soldered from behind.

Next came the buffer headstocks. These required some cleaning up. On the top surface the mould line was filed away and flash removed from the buffer holes and the bottom edge; another job for the scalpel. It follows the edge of a hole easily and can be used to carve off exterior flash.



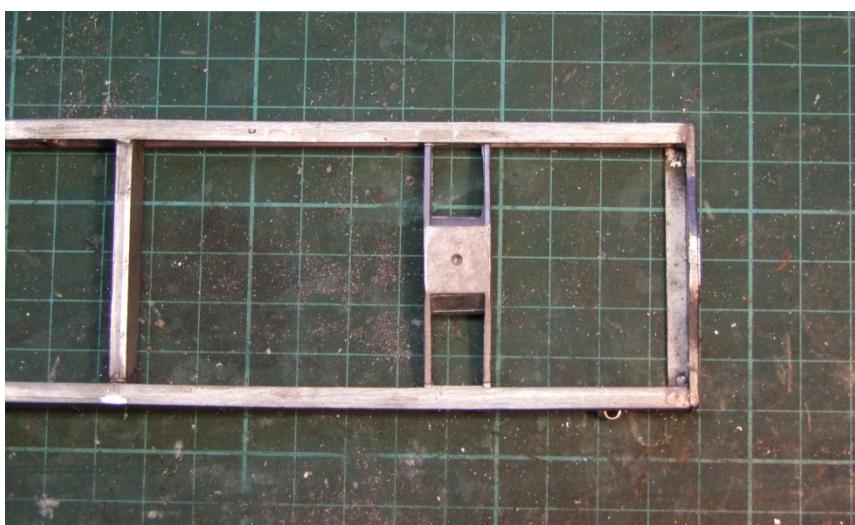
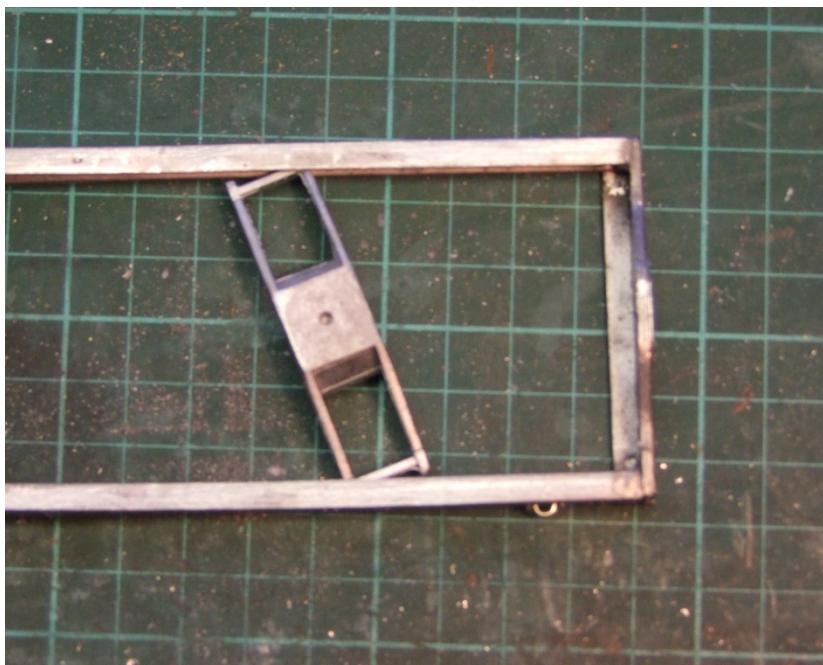
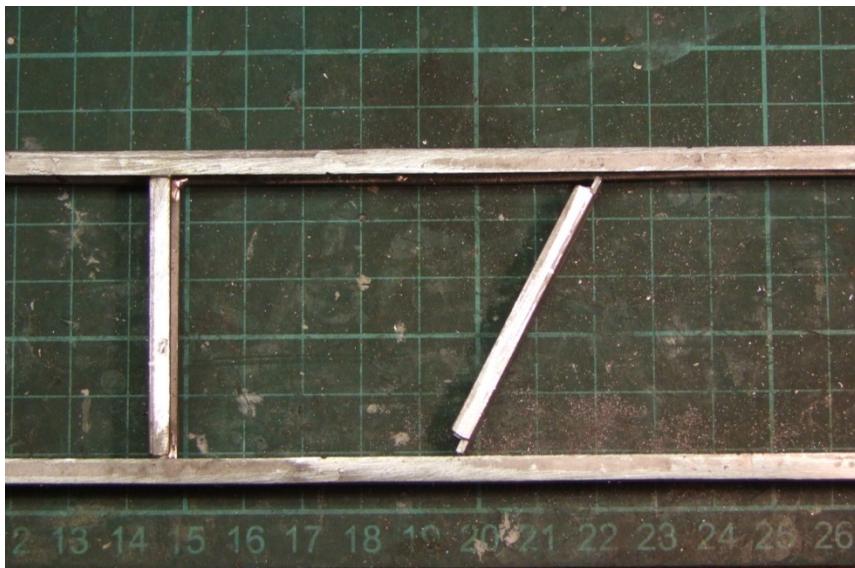


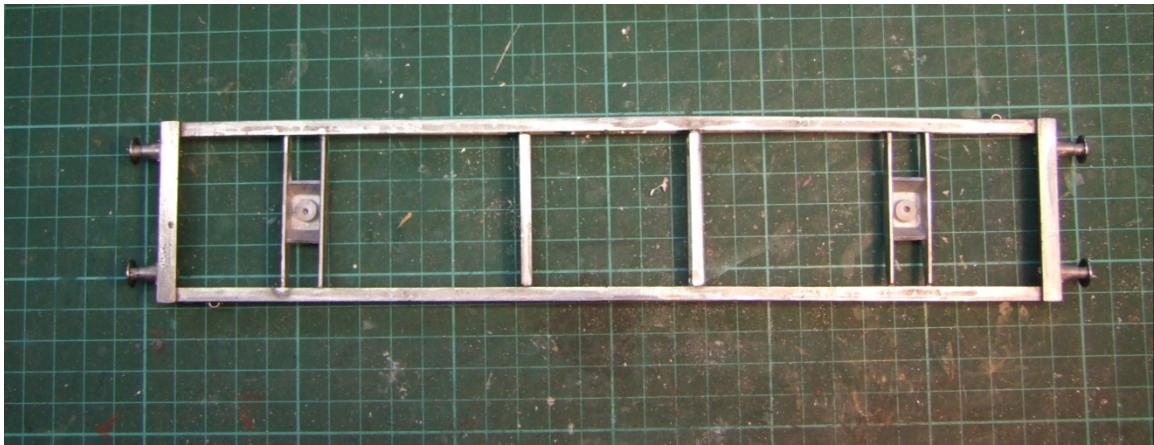
Once the headstocks were cleaned up they were joined to the sole bars; one on each side to form an "L".



The "L" shapes were then joined to make a rectangle of the underframe.

The bolsters and spacers were cleaned up in the same manner as the headstocks and inserted between the sole bars. A little springing is necessary this way. Constantly check that the sides remain straight and the ends are square.





The buffers were assembled and fitted next. This is one of my departures from the kit provisions. The kit is designed to use a spring wire through the draw hook and onto the ends of the buffers. I'm not fond of this and elected to make the buffers with an internal spring.

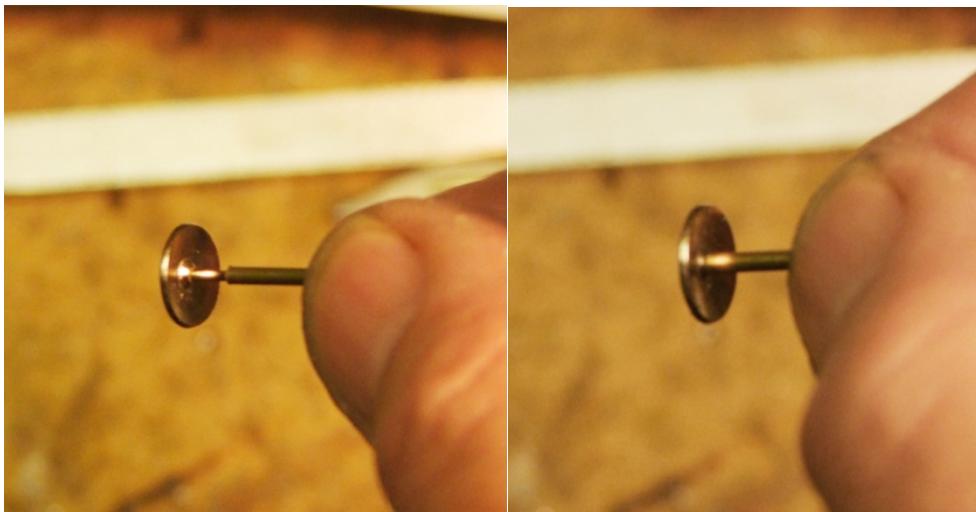
The buffer bodies need to be drilled through to clear the buffer shank. The bodies were held in small vice whilst drilled. I use a moderate speed and beeswax to lubricate the drill.



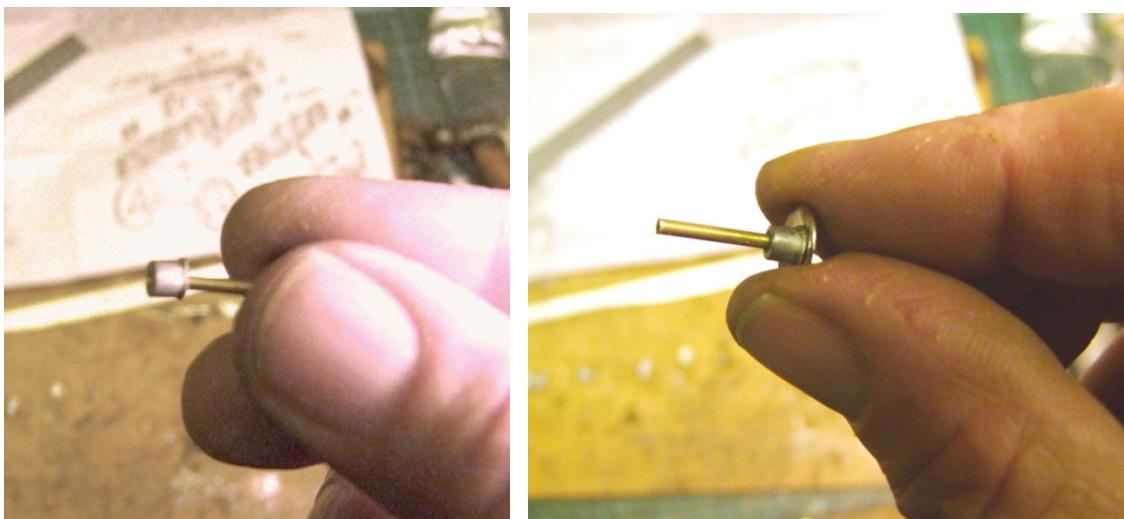
The buffers are a novel assembly of a drawing pin, a brass tube and whitemetal parts. The tube has to be cut to length. The easiest way to cut the tube is to roll it under a Stanley knife blade to create a groove. The tube can be snapped on the groove. The raised burr needs to be filed off.



The spike of the drawing pin is seated into the tube. A light hammer blow seats the pin to the end of the tube.



A false whitemetal shank is added behind the buffer head.



The fit was checked in the bodies and suitable spring fitted between the false shank and the body.



The spring is compressed and the stop soldered to the tube. This is much, much easier than you think.



The buffers were inserted into the headstock and soldered from behind.





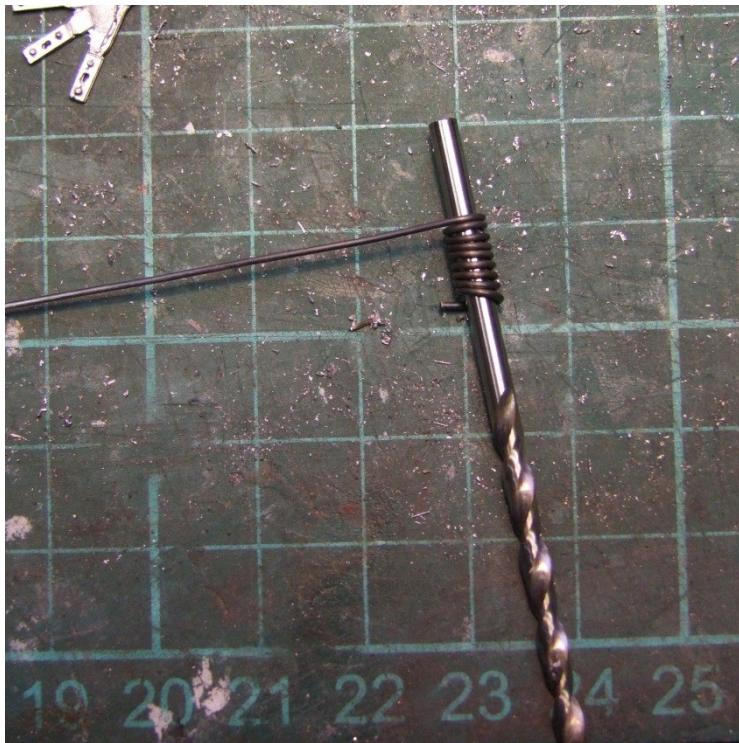
The sole bars were then drilled for the tie down rings.



The fixing plates and split pins were soldered in place from behind. The solder is fluid enough to run through the hole and under the plate.



Rather than using the whitemetal rings supplied I made new ones from brass wire. This was annealed and wound around the shank of a drill



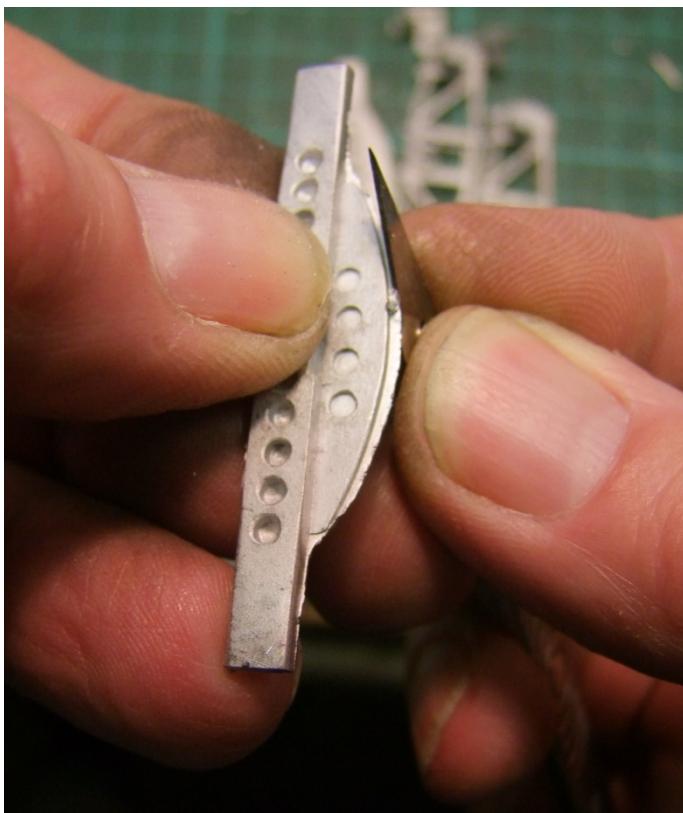
The resulting coil was then snipped to form rings. A little reshaping and they were fitted into the eye of the split pin. For thinner wire the rings can be cut with a Stanley knife.



The final whitemetal parts to be assembled are the bogies.



Once again the parts required some cleaning up. Paring off flash with a scalpel or scraping off a mould line.

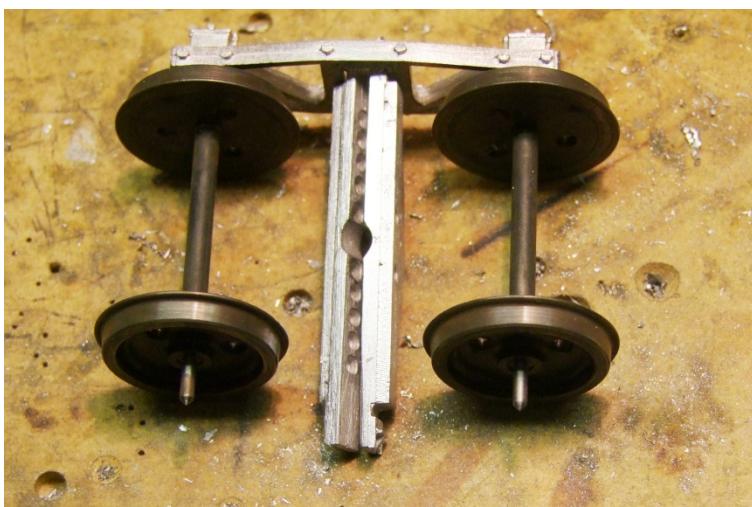


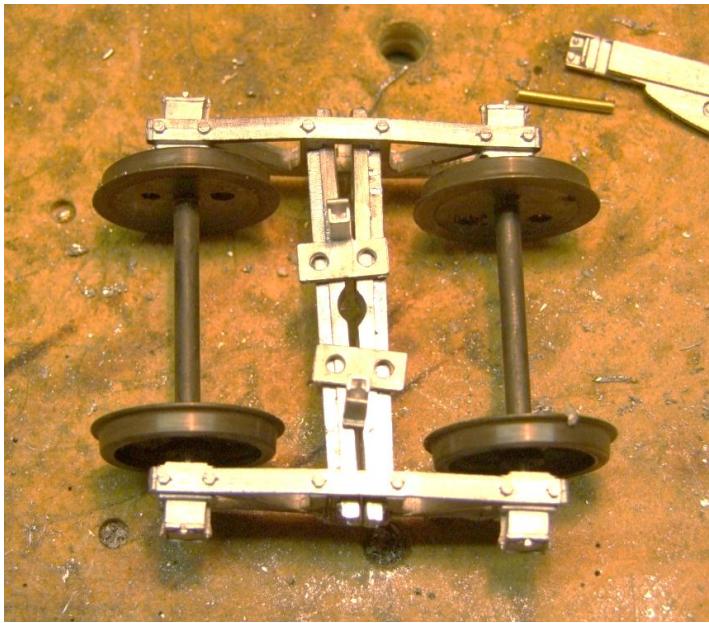


Once cleaned up the bogie sides need drilling for the brass wheel bearings. The first hole was cautiously drilled until the required depth was found. The drill was then marked so that when drilling the remaining holes there was indication of when to stop.

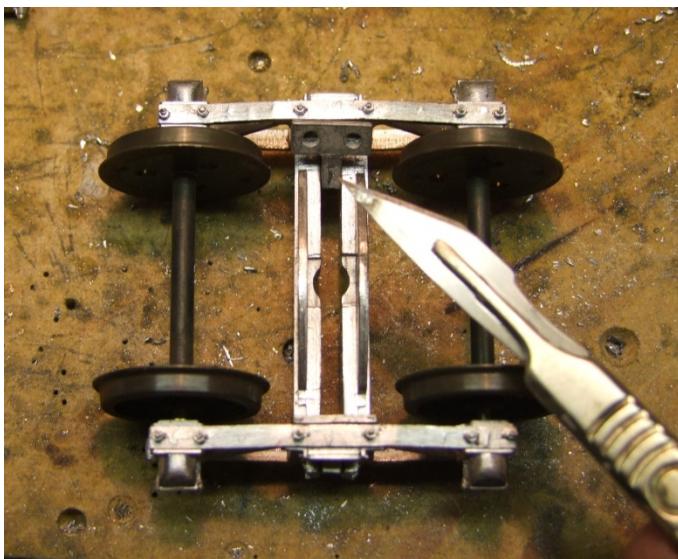


The assembly of the bogie then commenced. These bogies are a clever design with little soldering or gluing required. First the bearings are inserted into one side. The two bolster parts are fitted into the side. These eventually slide up and down in the side so careful cleaning up is needed. Now comes the need for a third hand. The second side is added aligning the wheels and inserting the bolsters.

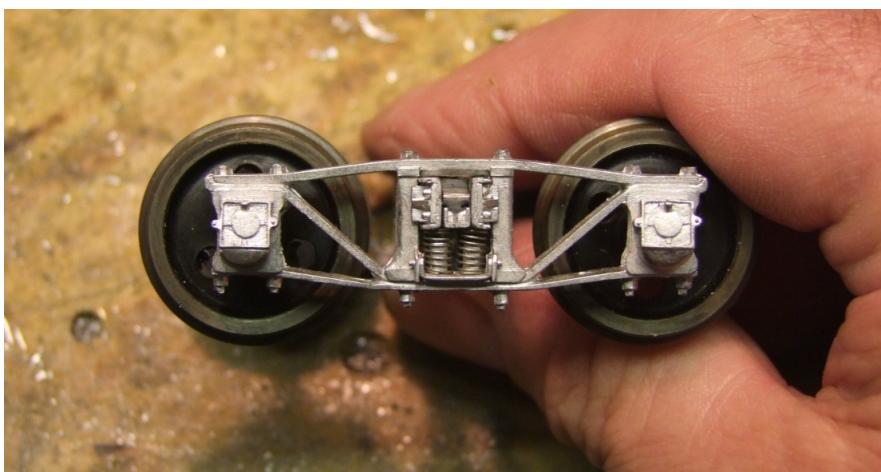




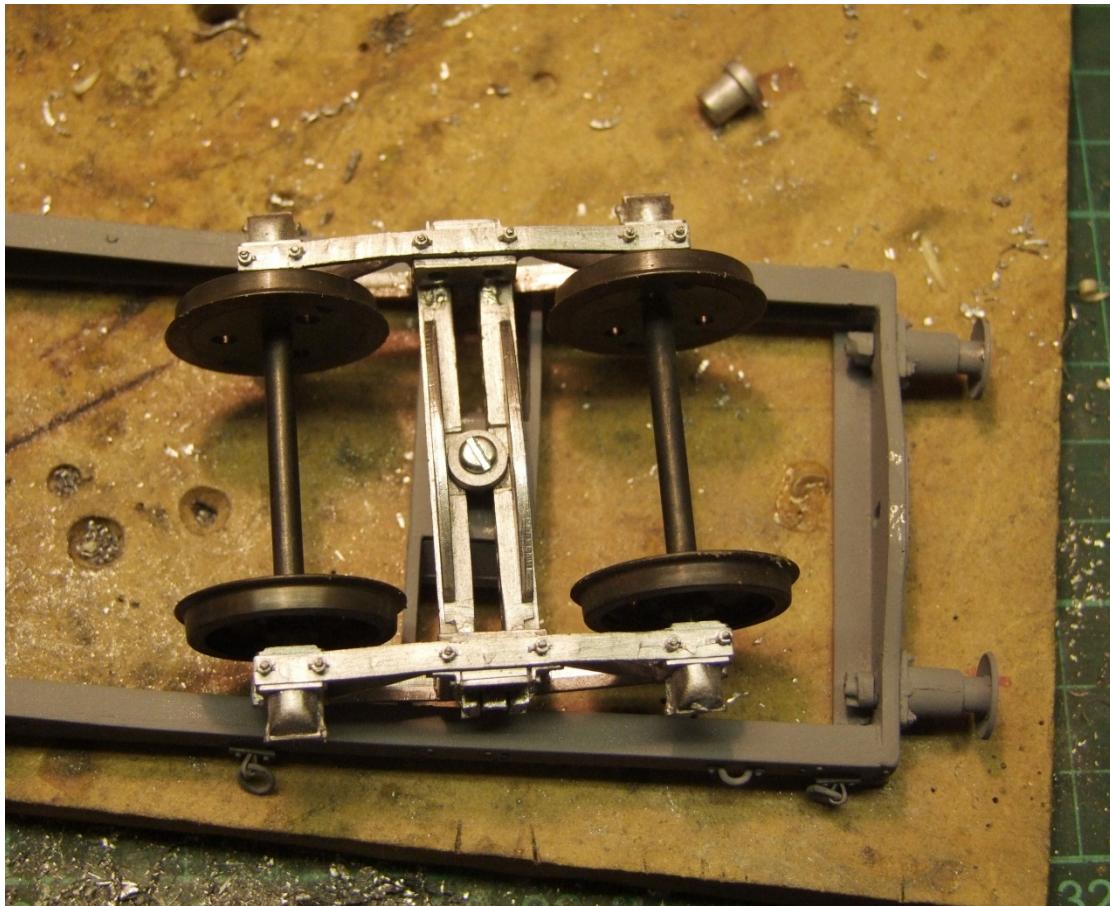
Two spacers separate the bolsters and provide detail in between them where they appear in the frames. They are soldered on the inside where the scalpel is pointing.



The next job is fiddly, fitting the springs. I found it easiest to use the point of a scalpel to ease the coils over the spigot in the frame and then “persuade” the remaining coils into the gap. Impossible to photograph so here’s the end result. The springs actually work and provides suspension.



The bogies are then fitted to the chassis. A small bobbin fits between the bolsters and takes a self tapping screw. As the bogies have to be removed for painting I did not fully tighten the screws.



This completes the metalwork. Now for the woodwork.

Whilst the assembly was underway the wooden decking parts were soaked in Colron wood dye, "Antique Pine" and "Indian Redwood" the spirit based ones. On previous similar wagons I have divided the planks in three roughly equal piles. One pile goes into a jar of one colour, the second into the other colour and the third into a mix of both colours. Twenty four hours soak allows a full penetration of the dye. The planks are retrieved from their respective dyes and the dyes returned to their appropriate tins. The planks are then dried, again for at least twenty four hours. They can go on a radiator but it does smell a little more.



On this occasion my dyes seem to be the same colour though from different tins. Obviously wrong colour in the wrong tin last time!

Also this time the dyes lifted the grain and the planks had to be sanded. The picture shows rough to the left and smooth to the right.



Once dry and sanded there is single pile of mixed coloured planks to be laid. The differing colours add to the age effects for the decking.

Before gluing the planks in position the underframe was primed, Halfords Grey acrylic. Once dry the planks can be fitted. Following the instruction I started in the middle. Contact adhesive was applied to the top of the underframe only and a plank applied; only an inch or so at a time. Note the adhesive softens the primer.





I brush painted the underframe with Railmatch acrylic LNER Wagon grey and applied HMRS Pressfix transfers from their LNER wagon sheet. The correct lettering has to be derived from other wagon names on the sheet.

The bogies were NOT primed. I felt that two coats of paints could compromise the suspension movement and stop the wheels rotating freely. They were sprayed with Maplin switch cleaner, otherwise isopropyl alcohol. When dry, a tiny drop of oil was applied to each axle bearing and to the sliding surfaces. They were then sprayed with Halfords Matt Black acrylic. This dries quickly so the bogies could be handled within an hour. However it is not fully hardened so it can more easily be removed from the wheel treads. A cotton bud in cellulose thinners is used to do this.

All the parts were reunited, etched coupling hooks rather than the whitemetal ones were added to complete the model. Subsequent to last pictures it has been weathered but I'm still stuck for a load.

It has joined my other bogie freight vehicles, they make a long train for not much stock!



