



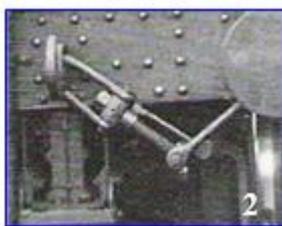
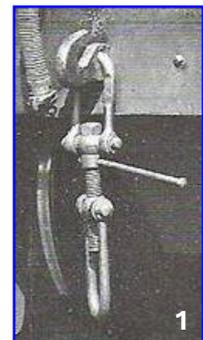
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Train couplings

This document was written by Mike Wheelwright and was originally published by Worthing and District SME in their newsletter in the Autumn of 2012.

We call ourselves Model Engineers but of course some of us do not produce models at all but make other things such as clocks or tools that are not replicas of anything but rather mechanical artefacts in their own right, this is really engineering in miniature. Although there are magazines with titles reflecting these separate activities, in practice each one covers both areas. I would go further and say that a locomotive such as Simplex is not a model since it is not a replica of any engine that existed but rather an original 5" gauge locomotive designed to pull small trains. Even when engineers believe they are modellers they often spoil things by not really understanding their prototypes: a recent edition of EIM showed two 5"G Royal Scots accompanied by the usual complimentary words: one appeared to be well executed and nicely painted LMS, there was just one Converted Scot like this but the name/number chosen by the builder was from the remaining 69, the other (unpainted) sported a coupling never used on engines built by the LMS. After spending years on a model it seems silly not to get things right. So what, I can imagine you saying, a coupling is just a hook with a couple of shackles and a screw. Indeed it usually is, but a cursory examination of a few photos and drawings will show that there were a number of varieties, as usual railways did their own individual thing. Starting with the hook, each company seemed to have its own preference for shape, particularly the angle and length of the slot forming the hook as well as the detail shape of the "pointy" bit, and between the slot and the buffer plank there is another hole to carry the shackle of the screw coupling. A typical screw coupling has a U-shaped shackle at each end with knuckles joined by the screwed bar, the upper knuckle allows the rod to rotate and the lower one is threaded so that it can be drawn up by the screw when turned by a tommy-bar. The hole for the upper shackle has to be made so that the loop cannot come out in service, so a simple slot is not suitable, there were several ways of doing this and therein lays the major difference between types of coupling.

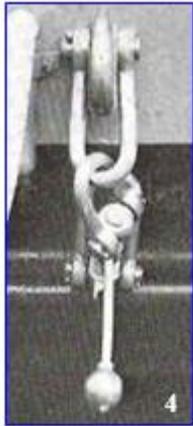
Let's have a look at the main companies. First (of course), photo 1, the LNWR: a thin slot joins the hole to the top of the hook body and the link is flattened slightly on one side so as to pass through the slot. The upper shackle can be inserted sideways-on and then rotated to its working position: the flattened part is called the "gedge" (a useful piece of information!). The lower link is about 3" longer than the upper and the screw is rotated by means of a tommy-bar near the upper knuckle.



Now for No. 2, the GWR, the hook has its own individual shape and the hole for the shackle is a horizontal slot big enough for the eye of the upper shackle to pass through. The rest of the coupling is very close to the Crewe design other than the tommy-bar which is pivoted so that it swings to vertical. A very important point is the small wire hook located next to the front LH buffer on which the lower shackle is hung when the coupling is out of use, in this position the screw is set so that the tommy-bar lies on top of the screwed rod. GW enginemen were punctilious in hanging couplings when

out of use and there are very few photos in GWR days that show otherwise, I find miniature GW men to be more wayward - shame! Please note that the tender coupling is also hung from a hook near the LH buffer but of course it looks reversed when viewed from behind.

The third company was the Midland (photo 3), again their own hook shape, quite rounded, but a different arrangement for the shackle. In fact the top shackle does not exist, it is replaced by a pair of rod-like straight links with eyes at each end that crank out a bit as the top eyes lie against the hook with a pin and split pin holding them but the lower ones have to open out to embrace the knuckle. The SECR at Ashford used quite a different coupling



with an extra shackle (photo 4): the top link was short and attached to the shank of the hook by a pin through the eyes, this in turn had another short shackle passed through it that carried the swivel knuckle; the bottom shackle was conventional. Out of use the coupling was hung on a wire hook near the RH buffer, a mirror image of the GWR arrangement, tender couplings were also suspended near the RH buffer so like the GW they appeared reversed compared with the front. The GWR type coupling used later on some SR engines was also suspended from the right.

Nearly all pre-Grouping companies used one of these variants, a notable exception being Scottish companies that seemed to favour a single long-loop shackle (without screw) pinned to the hole in the hook (photo 5), sometimes carried perched "up" rather than hanging.



Why this was done and how it was used is not clear, maybe it had something to do with the use of snowploughs, however the LSWR used it on Drummond & Urie engines so perhaps it just saved a couple of bawbees, either way it makes life easy for the modeller. So, to sum things up we have:

TYPE	PRE-GROUP CO'S	POST 1922 CO'S
<i>Gedge type</i>	<i>LNWR, L&YR, GNR, FR, NSR</i>	<i>LNER, BR</i>
<i>Horizontal Slot</i>	<i>GWR, NER, LBSCR, GER, LTSR</i>	<i>GWR, SR (Eastleigh design)</i>
<i>Straight link type</i>	<i>MR, GCR</i>	<i>LMS</i>
<i>Ashford type</i>	<i>SECR</i>	<i>SR (Ashford design)</i>
<i>Single shackle</i>	<i>LSWR, GSWR, HR, CR, NBR</i>	

Note that it was the Crewe design that survived to the end (photo 6), not surprising as it looks like the cheapest. Now how can we find an excuse for getting it wrong? If all else fails just build a goods engine with 3-link couplings (but watch out how they are fixed!).

