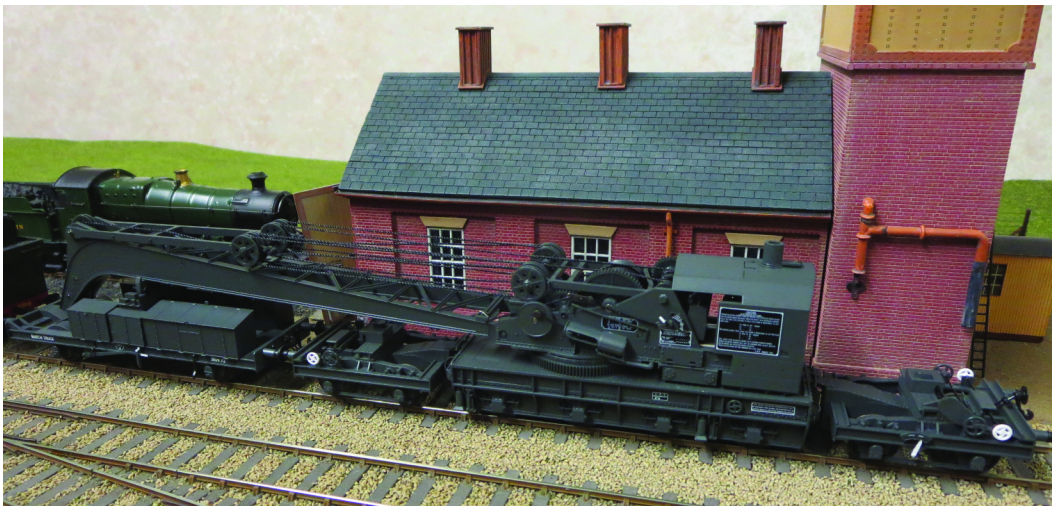
Ransomes & Rapier 45T crane conversion
by John Turner



The completed conversion seen on John's layout.

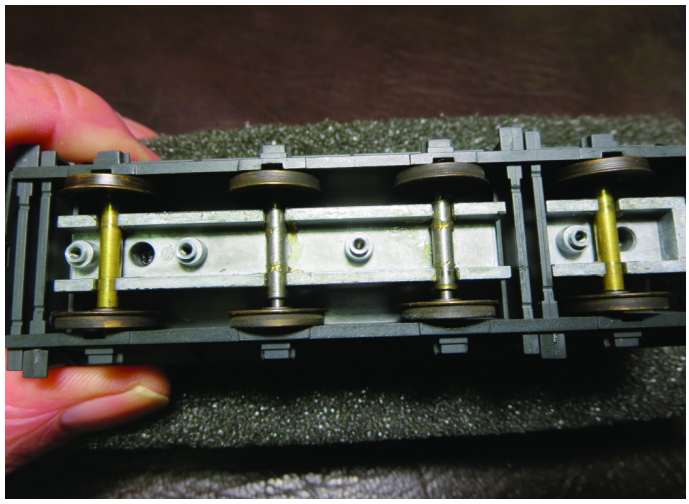
The Bachmann model of the Ransomes & Rapier 45T crane is a superb piece of rolling stock, but it is expensive and you would be foolhardy to purchase one without knowing whether it could be converted easily to EM or P4. Well, I bought one… And it has proved to be a very simple and quick conversion. There are in fact two ways to go about it if you model in EM, but only the second is suitable for 18.83 modellers.

The Bachmann wheel flanges are just fine enough for EM, although the tread is wider than EM wheels. There is just enough clearance to slide the existing wheels outwards on the axles, and if back-to-back is carefully adjusted and point check rails and crossings are accurately aligned, then the crane vehicles will pass without problems. The best way of setting the back-to-back distance is to take each axle in turn and run the wheelset through some points before re-fitting it to a vehicle.

In the end, I decided to change the wheels for the correct profile, in my case EM, but this method also applies to P4. The Bachmann wheels on all of the crane vehicles are identical, the match trucks and jib support wagon have 2mm pinpoint axles, and the crane itself has stepped axles with 3mm inside bearings. The wheel diameter is 13mm, so neither standard wagon nor coach wheels are suitable. I asked Ultrascale for help and they supplied 13.1mm diameter wheels - near enough. These wheels are intended for diesel locomotive conversion and so have some detailing on the face. As the wheel face is not visible when installed in the crane, this is of no consequence. The wheels were supplied on plain axles, which I consigned to the spares box.

The three four-wheel wagons were simplicity itself to convert. I removed the Bachman wheelsets and re-used the axles with the Ultrascale wheels. Little more than a light touch with a craft knife on the back corners of the brake blocks was needed to give clearance. (There is only one pair of shoes on each wagon.) The new wheelsets fit easily - there are grooves in the back of the axleboxes to facilitate guidance as you push the axle home. Bachmann also supply screw couplings that fit into holes in the buffer beams to complete the conversion.

The crane itself has four axles in a rigid chassis. Once the keeper plate is removed (four tiny screws) there is an inside metal frame with 3mm slots for the axles to run in. Lateral movement is restricted by a bush on the inside face of the Bachmann wheel centre touching the outside face of the inner frame.



Clearly this guidance is lost when EM or P4 wheels are substituted. My solution was to use lengths of 2mm rod as axles, with the axle length a clearance fit between the insides of the outer frames. I domed the ends slightly to minimise drag and wear on the plastic frame. I fitted a length of 3mm OD by 2mm ID tube between the wheels so that the centre part of the axle would be the correct diameter to run in the inner frame bearing slots. I only adopted this approach to the end two axles; for the inner two I retained the Bachmann axles. This allowed ample side play in the inner axles. The result is shown in the photograph. If you intend to run the crane for long distances, I suggest a change of axles for all four wheelsets, leaving some clearance for lateral movement of the inner wheels. Then lubricate the 2mm axle so that it turns within the tube in preference to the tube turning in the frame bearing slots; this will eliminate any chance of wear in the bearing slots. The crane vehicle has no brakes and the crane is close coupled to the match trucks so only the wheel conversion is required.

Job done - Total conversion time about an hour.