ADVENTURE IN

Jim Whittaker gives an account of his first dealings in 7mm modelling — after 25 years in 4mm!

'Adventure' is possibly too strong an adjective, but at least it is a major step to change to 7mm scale modelling, after spending around 25 years in the 4mm EM field, especially when nearing 70 years of age. Most of one's jigs, tools, and punches, immediately become redundant, although the experience and skill acquired on 4mm modelling is not lost, a wholesale range of new techniques need considering and developing. Luckily, the latter is on the credit side in my particular case, as much of my modelling enjoyment is derived from exploring new methods of manufacture, directed towards simplicity of procedure, and better standards of modelling accuracy.

It is not intended to compare the relative merits of the two scales — obviously, this is entirely a personal issue, depending on where one's interests lie, not to mention space availability, etc. In my case, I have only a modest interest in operating a layout — compared with the absorbing involvement of rolling stock construction, so my choice of scale is not affected by space considerations. On this basis, it is now realised — very belatedly, I fear, that the change in scale should have taken place many years ago. Referring only to locos and rolling stock, I've gradually concluded that, on sheer size alone, 7mm models look more impressive, and many of the tiny detailed fittings are more readily seen with the naked eye. Also, (and I concede that it may be the result of my imagination working overtime!), I get the impression that I am getting a little nearer to building a 'real' vehicle, albeit in miniature form. At least, it's given me a new lease of modelling interest — sort of starting with a bare canvas again, and already it is apparent that the scope for new ideas and techniques is considerable. To get a feel for 7mm scale, (before attempting scratch building), it was decided to try out some of the commercially available etched brass coach kits, and being a glutton for punishment, I tackled three GWR passenger brakes in quick succession. Yes, I like passenger brake vans! — at least the 'early ones. Their long rows of body panels, and decorative finish, simply ooze character and nostalgia. The three vans in question were the 'Metalmodels' 40ft. bogie vehicle, Diagram K3, Colin Waite's 6-wheeled, Diagram V13 and 4-wheeled, Diagram V2.

For fairly quick results — on what are rather complex vehicles, the kits proved first class, but in the constant quest for improvements, and to acquire as much experience in the shortest possible time, some change of design, and additional detail was deliberately introduced. Some of these are outlined later, and hopefully might be of interest to other kit/scratchbuilders. all dimensions quoted refer to 7mm scale, but the modelling principles will doubtless apply to larger or smaller scales. None of the drawings are to scale as there is no need for it.

All rolling stock, whatever the origin, involves some common features and components, and in such cases, I've long believed that an 'in depth' study is worthwhile — directed towards ease of production and a more authentic and accurate finish — which in turn, are vitally affected by the choice of material for the component in hand. A typical example is the rows of wooden footboards, running the whole length of most of the early type coaches (as shown in section by Fig. 1).

To look like wood, the main surface of the footboard should be wood based; yet wood footboards, even in 7mm scale, are weak and prone to warp. By combining metal and wood, both strength and appearance are achieved in a reasonably short time. Firstly, a thin layer of Evo-stik is spread over a piece of standard 3-ply sheet, (.035in. thick), which is destined for the upper layer of the footboard, (Fig. 1A). Brass strip, .010in. thick, cut to the footboard width and length, and heavily chamfered down one edge as shown in Fig. 1C, is then placed onto the 'Evo-stiked' surface of wood, (several at once of course), and allowed to dry out for 24 hours under weights. Using a craft knife, the excess wood is then removed, using the brass base as a template. The overall thickness, is thus approx. .045in. thick — just right for a scale footboard, as most prototypes, (GWR at least), feature boards of just under 2in. thick. Disappointingly, so many models feature these very prominent items at about half this thickness.

For the rear plinth, (Fig. 1D), suitable brass strip is cut and bevelled as shown, and soldered to the lower brass base, by filling in, (solder), the triangular shaped gap at Fig. 1C — along the whole length of the footboard. The result is a very strong and stable footboard which looks like wood — the strength being especially useful when subsequently cutting out the various gaps in the footboards, e.g. to fit around the axle boxes.

After painting, it is impossible to detect that the front edge is part metal and part wood, and the rear plinth projects by so small an amount, it is difficult for the eye to detect the lack of wood grain. Finally, the metal base of the foot-

In its final glory after extensive restoration is the Leeds Model Co. 'Sir Sam Fay' — class loco.

'Colin Waite' six wheel van diagram V13.

TO 'O' GAUGE

board, provides an ideal 'mate' for the footboard iron supports — a spot of solder simply joins the two together.

Door hinges are included with the kits, but I was tempted to try and improve the facility for securing firmly to the metal body. Some .005in. thick copper strip was used, cut to a width of approx. .075in. and a length of around 3in. Onto this strip was scribed two lines to simulate the hinge sections — producing three equal spaces as shown in Fig. 2. The 3in. lengths were then cut into pieces of approx. 0.4in. long, and each of these pieces wrapped round some .016in. diameter nickel silver wire, with both ends of the wire temporarily extended as shown in Fig. 3. A spot of solder, applied to the top and bottom of the hinge, secures the hinge and pin together. The projecting hinge blades are then pushed through the existing slots in the body side — firstly inserting a piece of .012in. thick card between the body and the hinge, to give the necessary hinge projection, (Fig. 4), and the two hinge blades bent, (in opposite directions), flat against the inside face of the body, and secured with solder. They're likely to be there for life!

With the card packing still in position, (to protect the body), the excess of hinge pin is then snipped off top and bottom, and cleaned up with a smooth file to produce a reasonably acceptable hinge, (Fig. 5), in just a few minutes' work. Any hinge located on the tumblehome area, projects, of course, substantially more than the upper hinges. In this case, the card packing is substituted with a specially shaped piece of wood packing to accommodate the curvature of the tumblehome.

The kit's vac pipe connectors, (castings), are so good, it would be difficult to improve on them. The only problem is securing them permanently against the rough and tumble of operating on a layout. (Perhaps I have a phobia about bits and pieces dropping off — especially after spending many hours in the making of them). However, this problem was eventually solved in a simple manner — involving little time and skill. (Isn't it surprising how often the simple method emerges as the best?). Regrettably, the simple way is not always the most obvious — not for me, anyway. In this case, a hole was drilled up the lower pipe of the vac pipe casting, to accept, (push fit), a short length of .028in. diameter springy nickel silver wire — the two being soldered together by holding the iron about 3-4mm away from the casting, until the two visibly fuse together, following which there is a rapid withdrawal of the soldering iron, otherwise..! The nickel silver wire can then be bent to suit any desired attachment to the chassis, and finally secured with solder. Fig. 6 shows the arrangement used which will be self-explanatory. The springy wire permits the fragile casting to be pulled out of position by as much as ¼in. yet still return to its original position, albeit with quite a 'ping.' Virtually another 'life' job.

One had to be impressed by the thought and care behind the preparation of these kits, and at the prices charged, the manufacturer's efforts could have only been modestly rewarded. I particularly liked the 'slot and tab' principle of locating and securing together, (with solder), the body sides and ends on the 40ft. van, and wish the principle was more universal. On the same vehicle, the roof and body tumblehome was supplied ready formed — a big help, especially on three radius roofs, which are not exactly child's play to achieve the correct contour.

The outside rodded, double clasp braking system on the 4-wheeler, and the later brake design on the 6-wheeler, were also very well done, and virtually complete in all their complexities. The cast metal leaf springs were a delight, but again posed the problem of securing delicate castings firmly. In this case, the springs were soldered, (at the rear), to the adjacent W irons — not difficult with a low watt iron, using ordinary solder.

The cast spring hangers supplied were equally commendable, but a very 'thin' section at one particular spot tended to fracture unless carefully handled, so an alternative was made, (Fig. 7A), made from .036in. diameter NS wire — soldered to the solebar, with the securing bolt and bush, (Fig. 7B), turned from brass rod and soldered to the hanger at the rear.

The stem of the securing bolt was designed to just stop short of the spring, as shown in the sketch, to avoid the risk of breaking off the ends of the springs, which are inevitably very fragile at the ends. The hanger support plates, (Fig. 7C), were made from .010in. thick copper strip, and secured to the solebar with Evo-stik.

These plates are punched out on the lead punching technique which I evolved many years ago, the profile being blanked out, and the round headed bolts being embossed in the one operation, i.e. a sharp blow with a hammer into a dish of lead. The same method was used to produce the somewhat similar scroll iron support plates, associated with the Dean 8ft. 6in. bogies on the 40ft. van. (Fig. 8).

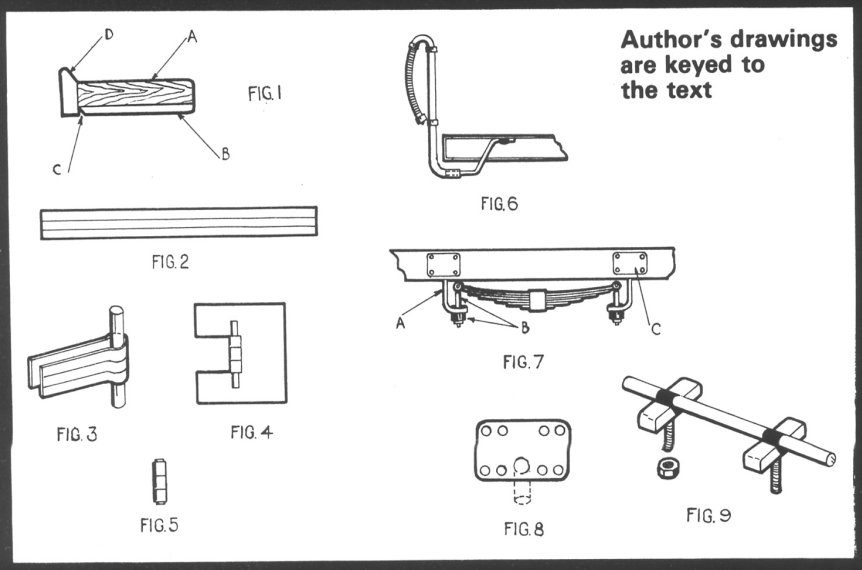
These are good examples of the choice available when working with kits such as these. One can keep strictly to the kit, as supplied, and with some care, produce an attractive and accurate vehicle. Alternatively, if one has a little extra time to spare, and enjoys metal work and the striving for something extra special, there are all sorts of possibilities in the way of modified or additional components. The choice is ours, which is as it should be. On the three vans referred to, several hundred components were made on this basis, offering me an ideal 'feel' for 7mm modelling, and the possibility that only the more fastidious modeller would notice the difference, is no deterrent; I happen to like this form of modelling, and as a certain TV comic would say, "There's no answer to that."

The 40ft. van features three gas lamps on the roof, and there is evidence that some were supplied with gas via external pipes, i.e. on the roof top. Copper wire of .040in. diameter was used for the piping, as this soft material stays put with light finger pressure, without recoiling, but the several cleats supporting the pipes to the roof, required a little more thought. Some 14BA cheese head screws offered one solution, with the head filed down from opposite sides — almost up to the screwed thread.

The slots in the head were widened and deepened with a saw blade, to accept the .040in. wire, and the cleat ends slightly radiussed — all as shown in Fig. 9. The screws are then inserted through holes drilled in the roof, and secured with nuts, and the piping laid into the slots and secured with a copious supply of solder. A quick, easy exercise, but one which makes a significant difference to the otherwise bare looking roof.

The 4-wheeled van — a dinky little job in any language, (I would have loved to have seen the prototype), required one significant alteration to the body sides. As received, the single, long, narrow waist panel immediately under the row of six vertical panels, was presented as six, short, individual panels. Swindon did some unusual things at times, but having never seen this type of design in my records, the six short panels were altered to form one long panel, by removing five of the surplus beadings.

The waist panel between the guard's look *out and the double doors, was also etched out* as two panels instead of one, so in this case, one beading required removal. The removal of these surplus beadings was done on a friend's pantograph miller, but on reflection, could have been done with a 3mm square, tapered



file — one which has a curved kneck at each end, to facilitate filing down to a lower surface.

Being a 'new boy' in 7mm, any reference to loco building must be highly risky, after all that has been written about the subject, and considering that I have yet to scratch build my first loco — in any gauge! However, I still see some odd happenings in the loco field, so perhaps one or two observations might be excused — derived from the recent restoration of a Leeds Model Co. *Sir Sam Fay* — class loco, which had been rusting away for some 20 years. The fact that a completely new tender and loco chassis was required, and several holes in the body 'filled it,' (someone had tried three different clockwork mechs. in it), also a major de-rusting exercise, calls for no special comments, except that experience in the tinplate toy restoration field proved invaluable, aided by the rust inhibitor from Precision Paints under the name of 'Corroless S' Super stuff. However, the chassis and current pick up design might be of interest, though doubtless, it's been done before. At least it's simple, and worked admirably, and quite good enough for a loco that was not intended to be a super detailed job or a possible entry for a major competition. The unsprung chassis comprises two heavy brass sideplates, separated by Pertinax blocks for insulation, into which was mounted the standard 'Crailcrest' 7-pole motor, with integral gearbox.

The main driving axle holes were drilled with the two side frames and the two coupling rods all clamped together to obtain identical axle centres. (I've never forgotten my earlier efforts on 4mm loco kits when the coupling rod holes needed so much draw filing, they had a distinct egg looking shape). This time, the results were a little better. With only about 2-3 thou. clearance between the crank pins and the rod holes, the loco rolled away as smooth as silk, with free running qualities beyond all expectations!

The adopted current pick up design might cause dismay in some quarters, but at least it's well proven — I simply copied the old Triang method of thin strips of springy phosphor bronze — screwed to the Pertinax base of the chassis, and adjusted to lightly bear on the rear faces of the driving wheels. A similar design was used on three of the tender wheels, though in this case, the contact strips were secured to a length of ¼in. square box wood, for insulation.

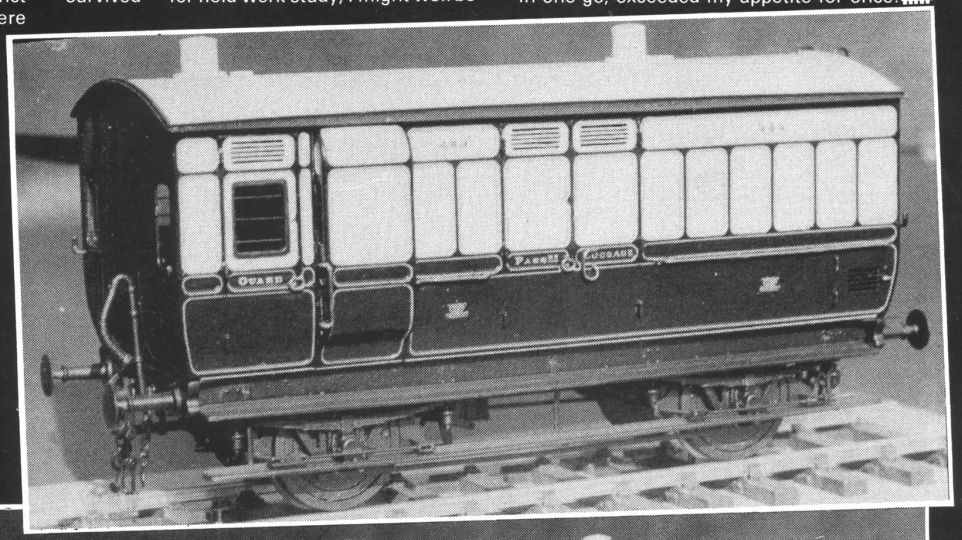
The fine scale CCW wheels were insulated at the spokes, (cut and araldited), with the opposing wheels at earth potential, and by involving a total of 12 wheels in the current supply and return circuit — spread over a distance of about 12in., the loco will traverse the often dirty track of my garden railway, when most of my other locos falter or stop. Its only serious rival is a Marklin tender loco, but this has the unfair advantage of operating at around 150 volts! There's a moral there; and maybe some danger if pursued!

If only my other locos operated to this standard, my attitude to operating might well change, as the constant cleaning of track is just too much for me, and I can think of nothing more irritating than locos that won't respond to the controller because of the lack of current supply. However, this modest excursion into the loco modelling field proved most enjoyable, and if only, say, a 'Duke' or 'Barnum' had survived — for field work study, I might well be tempted to attempt a scratchbuilt model.

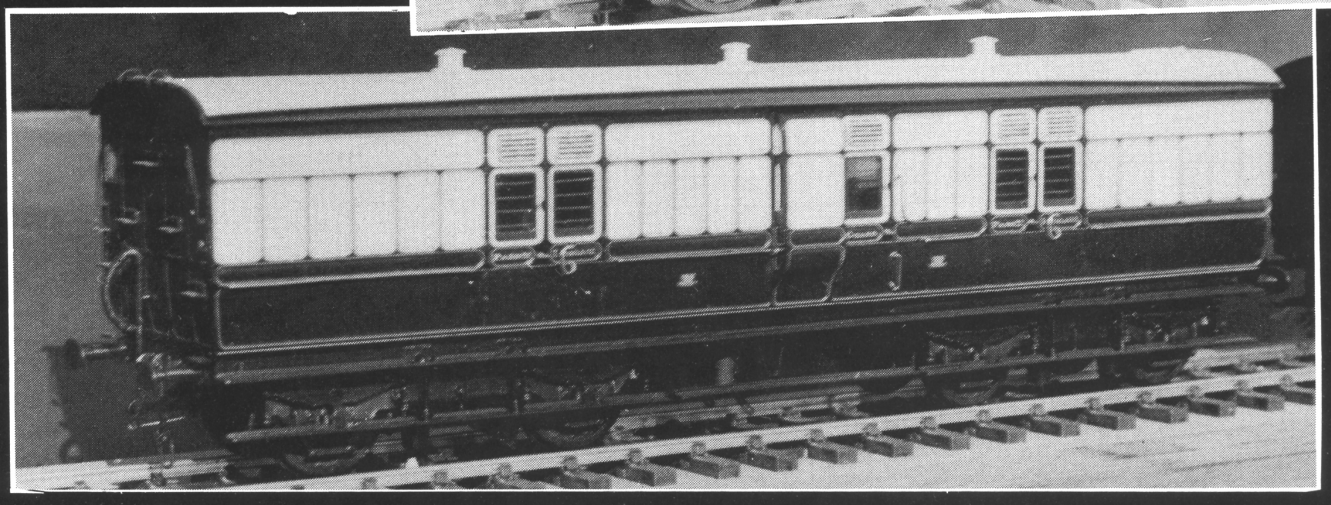
Incidentally, I am not at all sure that the real *Sam Fay* ever ran in the precise format and livery on my model. Some modest research revealed all sorts of combinations during this class of loco's lifetime. Two styles of safety valves, also brass number plates versus painted numbers on the cab sides, and even a three-figure plate on the cab side, alongside four painted numbers on the tender — the figure '4' had been added to the tender number. With my limited knowledge about locos, possibly my particular presentation never existed in fact, my enlightenment would be appreciated from any reader who knows the facts beyond doubt.

To sum up, I think that if there were any doubts about changing from 4mm to 7mm modelling, they are soon dispelled when I have an after dark running session in the garden. With a few signal lights twinkling in the darkness, plus the odd dimly lit station and goods shed, etc., (all tinplate) to give the right visual atmosphere, the sound of a long goods train rattling along the track, never fails to bring back happy memories of long ago when I used to camp up the Welsh valleys, watching and listening to the real thing, which was freely on offer in all shapes and sizes. It's a saddening thought to know that these scenes will never re-appear, but perhaps this fact should continually inspire us all, to re-create them in miniature form.

Finally, a thank you to Alan Brackenborough for some of the excellent paintwork involved. As much as I like the challenge of painting and lining, the job of finishing three vehicles — all in one go, exceeded my appetite for once!



'Colin Waite' 4 wheel van diagram V2. ***All photos: the author.***



'Metalmodels' 40ft. bogie vehicle. Diagram K3.