



1 40ft. Siphon F.

Looking back 2

continued from page 14, January 1972, *Railway Modeller*

Modelling Siphons

Jim Whittaker shows you how he makes prizewinning models

Photographs by Brian Monaghan

AMONGST the first vehicles attempted was the outside-framed 40ft. Siphon F (photograph 1) and this was only made possible by using Mr. Hodges's novel method of producing louvres in wood, as already described on p. 369 of the December 1967 *RAILWAY MODELLER*.

The other main problem was the shaping of the dozens of various gussets and hinges which are a feature of most outside-framed vehicles. Various methods were tried without producing any two identical gussets exactly alike and the whole business was so laborious, I eventually, albeit reluctantly, decided to leave them off altogether. That week-end, however, something happened which considerably affected my subsequent approach to modelling all small metal components and demonstrated beyond

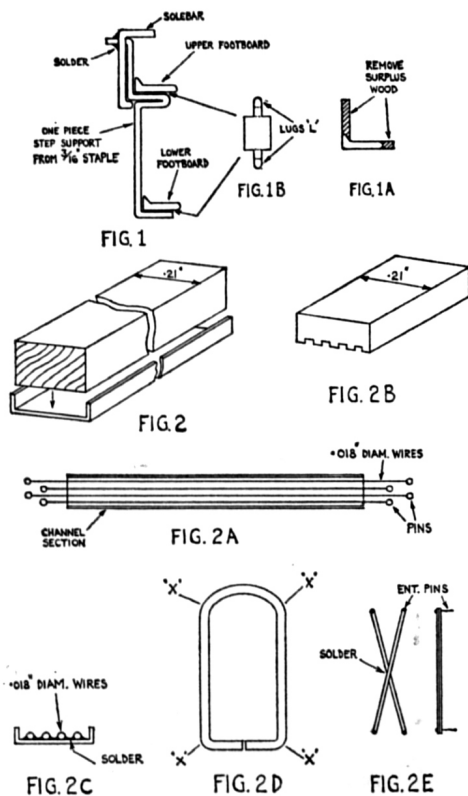
doubt the hidden benefits of competitive modelling as exemplified by the Manchester M.R.S. Exhibition every Christmas. I had gone down to the M.M.R.S. headquarters for the usual monthly meeting (often a lucrative source for new ideas) and was soon approached by a 15-year-old boy, proudly presenting his 4-mm. scale G.W.R. Siphon "G" for my comments. I was speechless! There was a full set of hinges and gussets, all neatly glued into position on the body. Some of them were not consistent in shape or size, as he had cut them out individually with a craft knife, but what a creditable and impressive performance from one so young. I returned home feeling a little ashamed at my own early capitulation, but grimly determined to find a solution and from this incident developed the lead punching technique already referred to in the December 1967 *RAILWAY MODELLER*. This has saved countless hours over the years, as a wide application is possible if one "designs" round this principle and the punches can be used indefinitely, and for other vehicles, once made.

The model of the Siphon "F" attempts to depict the prototype as originally turned out in 1906 (a solitary batch of six) with the rather unusual transversely mounted twin gas tanks and the 9ft. volute spring bogie. When the transport of milk in milk churns was superseded

by bulk-carrying tankers, many of the Siphon range were used for other goods requiring ventilation and if you are not too young, it is almost certain that many of the sausages you have eaten have seen the inside of an "F".

The Siphon "F", along with many vehicles of this period (both passenger and freight) carried the rather difficult to model double row of footboards running the whole length of the vehicle and it was decided that this justified a fullscale investigation into method. If one prefers, as I do, to fit wooden footboards on the model, there is the major problem of attaching these to the metal supports without sacrificing essential robustness. Figures 1, 1A and 1B indicate how this was eventually solved. The step supports are made from ordinary $\frac{3}{16}$ in. staples (0.017in. \times 0.020in. section) and bent as shown. The footboards come from lengths of "North Eastern Wood Sections" and the $\frac{1}{4}$ in. angle section is used as the thickness, 0.023in. is correct for 4 mm. scale and the surplus wood is easily cut off to obtain the correct footboard section as in Fig. 1A. To secure the footboards to their supports a soldered solution was preferred to give maximum strength and to achieve this, it was necessary to introduce an intermediary shim of 0.004in. thick copper shaped as in Fig. 1B which is punched out as per the method already referred to. This shim is attached to the footboards by bending up the two lugs "L" at 90° and pushing them through two No. 77's holes previously drilled in the footboard and clenching over with smooth pliers to secure. When the shims are all in position, the footboard is simply soldered to the appropriate step supports via the copper shim.

2 28ft. 6in. Siphon C.





3 Outside framed 50ft. Siphon G.

The 28½ft. long Siphon "C", photograph 2, is virtually the 4-wheel version of the bogie Siphon "F" and the first lot did in fact appear about the same date—i.e. 1906, though in this case a total of 60 vehicles were eventually made. As you will see, both vehicles have almost identical body components which tempted me to make both models simultaneously. In fact, to be truthful, two off each were made as a long milk train was planned. Long wheelbase 4-wheel vehicles have always attracted me and the Siphon "C" is no exception, particularly with its outside frames and masses of louvres extending two-thirds of the way down the body side.

Perhaps my all-time favourite Siphon, however, is the outside-framed 50ft. Siphon "G", to appear later. Well over 100 of these were built between *circa* 1912 and 1926 with a variety of chassis and bogie designs and the one selected to model was the early gas lit version, fitted with 9ft. volute spring bogies and the Churchward multi-bar trussing. The latter I had not previously seen in model form (or in prototype form for that matter!) which was one of the reasons for selection, though it was only made possible by the loan of a vital close-up photograph from my old friend, Roye England of Pendon Museum.

A more conventional Siphon "G" is shown in photograph 3. This is the 50ft. inside-framed version (with angle section trusses and the 9ft. equalising bogies) which first appeared in 1925, still gas lit. Photograph 4 shows a close up of the body detail on this model, which would look rather bare without it. Some of the gussets, hinges, and steps and the distinctive G.W.R. long, curving lamp brackets can be seen, all of which came from the lead punching method previously referred to. The corridor connection, also shown, is a good example of a new approach to modelling rather awkward components; in this case, with special reference to selection of materials and method. Actually the whole unit is of all-metal construction, which was deliberately aimed at to obtain a robust job without being overscale and clumsy, which is the fate of some efforts seen over the years. The procedure is as follows, though it should be noted that the design is non-working.

From a piece of 0.005in. thick soft copper strip, cut a piece 7mm. wide and approximately 68.5mm. long and bend to form a channel section, using a strip of wood 0.21in. wide as shown in Fig. 2. Using a flat block of wood as a base, tightly stretch four lengths of 0.018in. dia. copper wire between two rows of four pins driven into the wood block, with the aforesaid

copper channel section underneath as shown in Fig. 2A. To ensure that the four wires are evenly spaced and do not move whilst they are being soldered in position, a strip of wood with four slots is used, as shown in Fig. 2B. As the solder is applied, this slotted stripwood is slowly moved along the channel until all four wires are soldered along their full length. Snip off the surplus overhanging wires. During soldering it is essential to apply copious amounts of solder, so that it runs freely and thus forms a reasonable imitation of the folds in the corridor connection, as shown in the section drawing, Fig. 2C. The length of channel section is now bent round a wooden former, starting and finishing at the bottom, at which place a spot of solder is applied to join them together—see Fig. 2D. This bending operation will produce a metal distortion at points "X" in Fig. 2D, but this is easily smoothed out by the application of smooth-nosed pliers. The "scissors", Fig. 2E, are simply lengths of 0.005in. thick hard brass cut to approximately 0.025in. wide, soldered at the crossover and drilled to take entomological pins on each arm, the latter being secured in position with a touch of solder. The whole unit is then pushed through four appropriately drilled holes in the corridor connection (No. 80's holes in copper is no problem) and secured

by soldering the four pins on the inside of the corridor. Snip off the surplus length of pin and lightly file to clean up. Finally, the canopy on top of the corridor connection is made from a piece of 0.005in. thick soft copper strip cut to approximately 0.21in. wide by ½in. long, then bent and crumpled to look like the prototype and glued in position using Evo-Stik (see photograph 4). This photograph also clearly shows the quality of louvre attainable by Mr. Hodges's method of "rubbing" wood with appropriately pitched teeth of a short length of coping saw blade. Of course there is a certain amount of "knack" required, as usual, to get the best results, but this can be acquired with a bit of perseverance. Do avoid my mistake, however, when I tackled my first louvred vehicle—i.e. the Siphon "F". From memory, this boasts a non-stop row of about 20 louvres, compared with only 12 on the Siphon "G" and was thus so much more difficult to produce as an initial attempt. In truth, I almost rubbed my right elbow away and used up so much 0.035in. thick sheet plywood that Hobbies Ltd. (the supplier) began to suspect I was using it for firewood! No, start with the 12 louvre vehicle first and you should have little difficulty.

[to be continued]



4 Close-up of corridor connection.

