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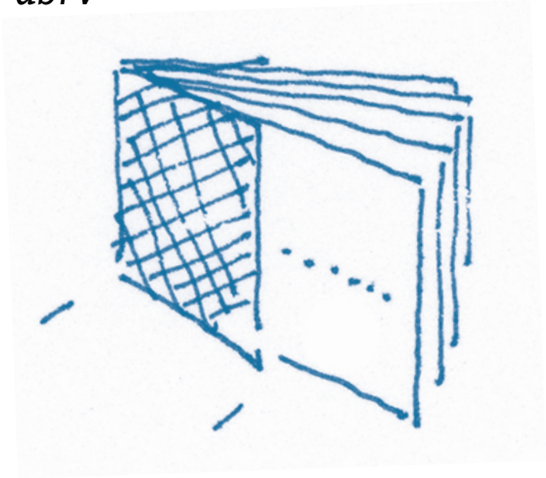

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THE GAS WORKS

As he explained in *MRJ* No. 36, GEOFF WILLIAMS had to resort to illusion to represent much of the townscape on his magnificent 4mm/FM model of Aylesbury LNWR. With the gas works, so typical of gas operations throughout the country, he had to create an accurate impression without recourse to trickery. Here, he outlines the basic ingredients of a realistic gas works and explains how 'representative selection' provided the model Aylesbury with a suitably impressive example of an essential period utility:

Position of the gas works relative to the railway. The retort house is on the right, the purifier shed in the centre. MIKE WILLIAMS

In the days before gas was reformed from the products of the oil industry and before natural gas came along, railways had a good steady trade with local gas undertakings, catering to their needs for coal and for the disposal of certain by-products. Even quite small country towns would have their own gas works, complete with private siding, the weight of traffic depending on the size of the town and the amount of local industry. A gas works is therefore a very suitable source of interest for a model railway. The Aylesbury branch had its share of this traffic and my model, representing the local works, forms the subject of this article.

The Southern Gas Board very kindly supplied me with a works plan of 'modern' vintage (unfortunately undated). I also have a print of a much earlier works layout. These and my own photographs and sketches formed the basis for building the model. I do not claim it to be a scale model of the original but I have tried to create a background scene for the layout with a few fairly authentic features to add realism. By far the largest of these are the two holders which dominate the skyline.

My main problem, apart from the usual necessity to ad-lib due to lack of space, was to produce a pre-Group period atmosphere (good word for a gas works!) somewhere between these two drawings. It seems that in pre-Group days, Aylesbury had a small horizontal retort house, later replaced by the more modern vertical version. As the name implies, the retorts — which heated the coal to extract gas — were horizontal and the coal was shovelled in by hand. The resulting hot coke was also extracted by hand. The building was of red brick, very dirty due to the fumes and dirt that came belching forth every two hours, and measured about 40ft by 60ft and perhaps 25ft to the eaves. It had a pitched roof with a jack roof above to provide ventilation. There were few windows, perhaps none on the viewing side, and featured a chimney at one end. Large openings at the ends provided access for the hand propelled steel barrows used to cart out the hot coke, which was then quenched by literally throwing buckets of water at it. It was stored in heaps ready for local sale off carts, or even for shipment by rail. On the far side of the model are the openings provided for shovelling the coal from the rail wagons into the retort house and to store.

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The gas coming away from the retorts was very hot and before it could be passed through the various processes it had to be cooled. Aylesbury had three condensers about 3ft square by about 15ft high. These were of cast iron plates bolted together and had inlet, outlet and by-pass valves on the gas connections, probably 10in diameter. My model has had to settle for two, placed at the end of the retort house.

Just round the corner of the retort house was a small building with a lean-to roof, housing the steam-driven exhauster and an overhead main, which also had inlet/outlet and by-pass valves to a washer. Prototypically this would probably have been duplicated and additional washers and scrubbers would have been provided. My model has to make do with one, measuring 50mm × 20mm × 20mm high overall.

Next were the purifiers — a set of four cast-iron boxes with steel lids having gas mains and valves to enable any box to be first in the stream with the others following in sequence, all visible under a corrugated iron roof. The model boxes measure 47mm × 60mm and the space between each box is 10mm. The roof is 225mm long, 78mm between columns, 50mm to the eaves with a 20mm rise. Simple hand-operated lifting gear is provided for removing the lids when the oxide in the boxes requires replacement. There is an area for the spent oxide to be spread out for revivication in the open air.

Right: Prototype set of purifiers similar to Aylesbury but without roof and with different lid lifting arrangement. Below left: Close-up of four condensers at a much larger works, showing construction and gas connections (the diagonal pipework is not common). Below right: Close-up of prototype washer (not Aylesbury). CTY: EASTERN GAS

The model also contains a representative selection of buildings for the meter, governors, stores, fitting shop, tar-loading pump, etc, plus a gas manager's house.

Last are the two holders. Both examples at Aylesbury were of the frame type — i.e.

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Aerial view of works. MRJ

the 'lifts' rose and fell on 'carriages' engaged in vertical rails on an external fixed framework. The smaller holder had a brick tank below ground and only one lift, but the larger one, which originally had two lifts, was later increased to three, with a steel tank above ground. This tank had a platform with handrails round the top with ladder access. As the holder rose, the inner lift filled and 'cupped up' to the next lift and so on. I hope my sketch makes this clear, as it is necessary to understand this operation before making a model.

My model works is almost entirely built from Plastikard. The numerous valve wheels came from small toy motorcars — which could prove expensive today. The overall shape of the site is roughly correct but suffers from lack of space — a common failing I am sure readers will appreciate.

It is impossible to do justice to this very complex subject in a short article suitable for publication in a model railway magazine. However, if I have encouraged others to produce a reasonably authentic source of traffic on their layouts I will be delighted. I would recommend anybody wishing to pursue the matter further to visit Fakenham, Norfolk, where Eastern Gas have preserved the local works in all its glory.

Above: Purifier shed and boxes, with oxide spread out to revivify. Note the coke heap and exhauster house. Right: More details of the holders, with the governor house in the background. MIKE WILLIAMS