

SOUTHERN RAILWAY

The unified Southern Company more or less perpetuated the Engineering Divisions of the former London, Brighton & South Coast Railway, the South Eastern & Chatham Railway and the L.S.W.R. The Clapham Junction Office became London West, and it is interesting to relate that employees there were known as the 'Metropolitan' men. In 1939 this Divisional Office moved to Woking, but remained 'London West'. The other two Companies' London Offices were amalgamated as London East; the ~~Brighton's~~ ^{LBSC's} Brighton Division was renamed the 'Southern' and the S.E.C.'s Ashford the 'Eastern' Division. There is a rather mysterious 'Portsmouth Division', apparently a Brighton appendage, which figured on plans etc. in the 1930s. Mr Gilbert Szlumper, the L.S.W.'s Chief Engineer was appointed as the S.R.'s Chief Civil Engineer.

It might be thought the latter's appointment would have influenced the Southern's p.w. policy. There were, however, other factors. The Railway Engineers' Association (R.E.A.) had already recommended, under the former Midland Railway's urgency, standardisation of the Big Four's permanent way. In fact the G.W.R. excused itself, but the S.R., L.M.S., and the L.N.E.R. soon produced their own standard (to R.E.A. recommendations) S.&C. diagrams by the late 1920s. The S.R.'s date from 1928. The historical complications of S.&C. and their variations need a paper to themselves, suffice to say here that plain rail 95 RBS in 45 and 30 foot lengths (manufactured in S.Wales) was the Southern's mainstay until 1937. In that year a fleet of BORAIL wagons started to enter service to transport the new 60-foot lengths.

Other common designs of the ~~the~~ three Companies were S1 chairs, AS screws and the 8'6" sleeper. For switch and crossing work the L.S.W. favoured straight planed switches 9,12,15,18,24, and 30 foot (ie tip to heel). The S.R. adopted the R.E.A. Semi-Curved (straight planing with a curve thence to the heel) switches in the complete 'A' to 'F' range (7 ch. to 57 ch. radii). Standard leads (tip to nose) for the SR extended from 47' for A/5 to 168' for an F/20. All pre-grouping material was still manufactured until 1939 and in case it is thought there is none about, not so. Many older sidings will have some LSW chairs, a rail or two in double-head; look at any older buffer stop, even trenails and spikes in situ in Bournemouth Carriage sheds. Poole gang have an interesting 1890s vintage turnout, complete with collared bolts, under their care at Hamworthy Quay. Standardization is an expansive word, even today under B.R., but the S.R. persevered with theirs until Nationalisation in 1948. The advent of high speed trains was leading the L.M.S. into the Flat Bottom rail field in the late 1930s. Some 110 BS was laid in at Woking in 1939 however.

Where the S.R. did depart from the usual concerned the old joint problem. Mr George Elson, an S.E.C.R. man appointed as C.C.E. in 1927, invented his 'Elson Joint'. The SR's pre-war electrification programme produced intensive train services and the arrival of the heavy motor bogie. ~~It~~ ^{This joint} was quite successful but manufacturing costs possibly prevented its wholesale adoption. Another favourite of the Southern's was the spring nose found where sidings or little-used crossovers trailed into a main line.

Although the Central/Eastleigh Division was hardly affected, the third-rail electric conductor as standardised by the L.S.W.R. was taken up by the S.R. Eastleigh, however, did get a taste in 1938, when that part of the Division from Bosham to Portsmouth

Harbour was electrified (Victoria/Coast line from Brighton). Conductor rail maintenance was originally a separate CCE department, but after Nationalisation was devolved to the Section Inspector.

As mentioned before, the LSW took stone from Meldon in Devon to the ends of the system. After 1923 the SR took it further, especially when the Eastern Division main lines were refurbished in the late 1920s. Quantities of stone also came from the Kit Hill Quarries on the Callington Branch in Cornwall. Much was carried in four-wheel wagons, and a lot of ballasting was done in the day (the present-day Section 'Q' of the Rule Book) from ordinary local goods trains.

The S.R. was in the forefront of the concrete age. A large manufacturing depot was established by the L.S.W. in 1913 at Exmouth Junction which the S.R. included a concrete product plant. A variety of railway parts were turned out from fence panels to huts, chipping bins etc. The most interesting were the sleepers. These appeared in the 1930s for use in branch lines, bull-head chairs being attached by through bolts. It was a successful experiment, but was not extended to more than medium speed lines. Some were even made for the S.R.'s only narrow gauge line - the Lynton & Barnstaple (closed in 1935).

The rise of Redbridge as the principal Civil Engineer's Depot was discussed by Mr Smith in a recent paper to this Section. Creosoting sleepers and timber was mechanised here by the Southern and the production of planed switches and crossing parts was concentrated

here. There were two other significant Depots however, the former S.E.C.R. Angerstein Wharf (which also shared timber production) and Norwood Pickle Yard.

The use of cranes by the railways is a story in itself. The headlines belonged to the Mechanical Engineers' breakdown cranes, but the P.W. (with the Bridge Departments) maintained their own from an early date. Originally hand worked in Victorian days and of light capacity, they grew in size and were naturally steam powered for lift and for local propulsion. Layouts became more complicated and longer reaches were required, but it should be remembered that only switch and heavier crossing work was dealt with by crane. All plain line was laid by hand.

The Stephensons possibly originated the use of cant and even transitions. It appeared to be a somewhat inexact science on the ground and the the office draughtsman was only sent for occasionally it would seem! The Southampton & Dorchester Railway of 1847 abounded in curves but cant was known to have been applied. The curves and transitions are somewhat peculiar in places, and the transitions look as if they have been introduced at a later date, tending to sharpen up the true curves at the 'top' of the transitions. The Hamworthy Branch still retains some of its tangent-to-circle geometry! The S.R. and Eastleigh Division in particular, made a complete tidy up after amalgamation and every line and branch was 'monumented'. Hence another product of Exmouth Junction appeared everywhere. You can now see the origin of the Monument Gangers, now really Alignment Gangers, because the objects of their work have nearly all been cleared for ballast cleaning.

I should like to thank Mr D.Wroe whose extensive research, together with that of ~~Mr~~ Mr.T.Page of the South Western Circle, provided the basis of the L.S.W.R. part of this paper, also Mr. Alan Blackburn of C.C.E. Croydon, whose knowledge of the S.R.

scene seems boundless. Lastly our Chairman, Arthur Maber, naturally told us all we needed to know about Eastleigh Division - who else to ask?