

Former Head-Code Complications—I

By J. T. HOWARD TURNER and T. S. LASCELLES

THE general question of engine head-codes was dealt with in the February, 1940, issue of *The Railway Magazine* by "Voyageur," who made some reference to early practice. Few present-day readers can have much idea of the extraordinary variety and complication of head-codes on certain railways about the middle of last century, when a knowledge of all the different shapes and colours of headboards and arrangements of coloured lights used by the principal railway companies would have severely taxed the memory of the most ardent railway enthusiast! Some 45 to 50 years ago many more head-codes were needed than now, for there was much less "describing" from one signal box to another, and more through running of engines—as distinct from trains, often now hauled beyond the transfer point by the owning company's engines—over the lines of other companies when running powers were exercised extensively. These head-code variations had begun to diminish by 1900, and did so very markedly after 1910, by which time the Railway Clearing House code had obtained general approval and only a few lines continued outside it. The Southern Railway is the only main-line company still continuing to use its own code, save for the G.E. suburban services of the L.N.E.R.

In the 'nineties all lines appear to have used the foot of chimney headlamp position, which was probably the first ever used, while the positions at each end of the buffer beam soon followed. One or two lines (the G.N.R. and the L.D. & E.C.R., for example) had two lamp-irons, one above the other, on the chimney, and the Midland and the North Staffordshire secured the same effect by placing the second iron a short way down on the smokebox door. The L. & Y.R. had two irons side by side at the foot of the chimney, and the L.S.W.R., for a few years, had one in the centre of the smokebox. The Caledonian, the Highland, and, for a time, the N.E.R., fixed lamp-irons on the sides of the cab. The G.E.R. and the L.B.S.C.R. had irons low down on the smokebox, so that, when the latter company added the buffer-beam position, it could show lights there one above the other, for which vertical double irons—also seen on the District Railway—were also fitted, whereas the G.E.R. transferred its low smokebox

irons to the buffer beam. Several lines had two irons side by side over one or both buffers, and the buffer-beam centre position was also adopted by some companies. The L.S.W.R. and the N.E.R. used the side of the smokebox, and the former did not use the buffer-beam positions until later years. Engines used by the L.N.W.R. and the N.L.R. over the Outer Circle were fitted with headboard sockets on the sides—N.L.R. on the left side only—of the chimney, half-way up. Lamps, however, were not carried there. Engines which ran over the lines of other companies had to be fitted with the additional irons required by the codes used on those lines.

The headboards used by day were of several shapes, and marked in a great variety of ways; there were round, square, oval, diamond, and ring-shaped boards. Plain white boards were much favoured, but there were boards of several coloured designs, such as round white with black, blue, or red cross; round red with black cross, or white Maltese cross; round blue with white cross; round white with black ball; round red, green, or blue with white rim; square or round black with white diamond; square with one or two black bars, vertical or horizontal; round white with black diamond; round white with black diagonal cross; square white with black diagonal cross; square blue with white border; square green with white cross; square white with green cross; round red; oval white with green cross; and several others.

As there was no way of reproducing these signs at night, white and coloured lights in combination were resorted to, and as many as three colours appeared in one code. Green was the coloured light most favoured, as the most easily distinguished, but blue and purple were used also. Red was used by some lines, notably the G.E.R., on single-line sections, and in wrong-line working. The companies adopted different ideas in framing their head-codes. Some aimed chiefly at designating the class of train, and others at indicating the route to be followed. In certain cases the ideas were combined—that is, codes showing the class of train and its route were used together—but the practice varied in different districts of the same line, or according to the kind of the

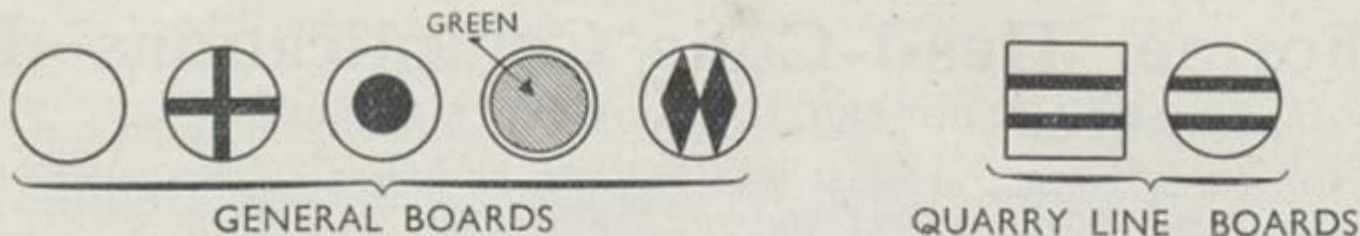


Fig. 1—L.B.S.C.R. headboards

train service on any particular part. Almost all lines had codes for indicating a special train. Some distinguished between very few different classes of train, whereas others had many distinctions. Much of this depended on the block telegraph rules in force, which in the 'nineties were far from uniform. Some lines had what were called "dial" signals on the block instruments,

for giving information about class and route, in addition to the block bell signals. The L.B.S.C.R. code was in many respects the most complicated. In the 'nineties it comprised the first five boards shown in Fig. 1, the proportions of which correspond with the official diagram. It is an extraordinary fact, however, that no locomotive depot painted the discs in strict accord

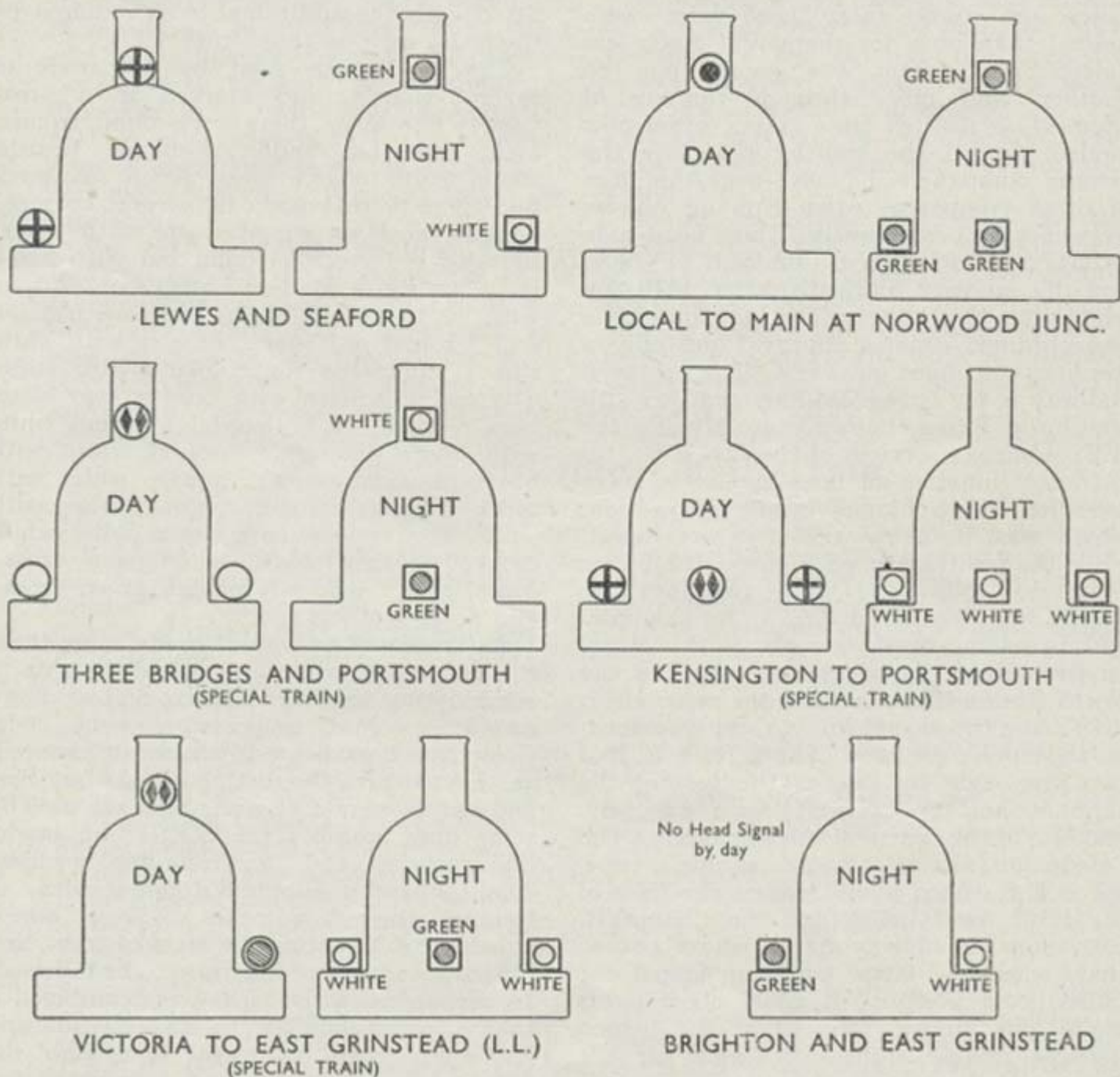


Fig. 2—Examples of L.B.S.C.R. head signals in 1897

therewith. At Brighton the green disc was given a broad border, thus making it in reality a white disc with green centre, while at New Cross the white disc with black centre was painted as a black disc with white rim, using the same sized border as that officially prescribed for the green disc. New Cross alone painted the double diamond disc in the official shape, using "fusils," the points of the diamonds extending almost to the edge of the disc; the other depots painted "lozenges," leaving a noticeable white space all round. In 1897 there were no fewer than 99 items (not including "specials") in the Brighton code list,

On the opening of the "through" (or Quarry) line between Coulsdon and Earlswood, in April, 1900, the square double stripe board was added. It was carried, in conjunction with the boards previously displayed for running *via* Redhill, to distinguish trains travelling over the new route. (This board was in existence before that, but for the sole purpose of indicating the engineer's inspection engine; it was not therefore part of the general code. A round form of this board also came into use, with the same meaning, when, so it is understood, there was a stock of round boards available). The square board, however, was strictly the

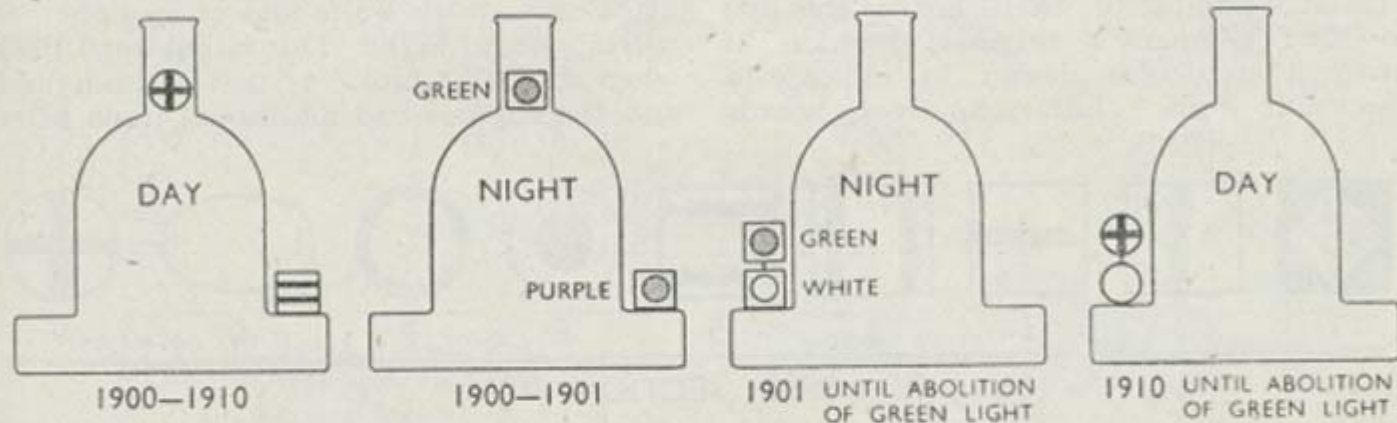


Fig. 2a—Victoria to Brighton (via Quarry Line) head signals

although many of these were, of course, repetitions as regards the boards carried. Every conceivable train movement was catered for (with special train codes, in addition). There were times when head signals had to be changed during the journey, and it is not surprising to find the instructions saying that if drivers "should be in doubt as to what to carry, they must refer to the traffic staff in charge"!

The night signals were given with white and green lamps. A few routes, such as the main line from London Bridge *via* Redhill, and the South London line, had no day head signal. The double diamond board was the distinguishing mark for special trains, though not invariably, as a few did not carry it, while there was even an "ordinary" service which did! In general, the round white board was replaced by a white light and the black cross one by a green light, but there were exceptions where discordance between day and night seemed almost deliberately made, as in the first example in Fig. 2. The green board was replaced in practically every instance by a green light, but even here there were exceptions. In other cases the day and night signals were hopelessly at variance, as the few examples in Fig. 2 will show.

official design, and is seen in the illustration on page 94 of "Voyageur's" article; the round form appeared on page 97. The latter is again seen on page 625 of the December, 1940, issue, where a train at Addison Road is carrying the Kensington and Brighton head-code—white disc with black centre over each buffer—and the Quarry board in addition. On page 338 of the November, 1936, issue, an L.N.W.R. engine is seen at Brighton carrying the same head-code.

Until July, 1901, the night distinguishing signal for Quarry line trains was a purple—practically a mauve—light, but at that date a new code of night signals was introduced using double height irons over each buffer (hitherto used only on the engineer's engine), or irons so placed as to produce that effect, and the purple light was abandoned. The "ordinary" night signal for Victoria and Brighton *via* the Quarry line, previously a green light on smokebox and a purple light on the left side of buffer beam, became a green light over a white light on the right-hand buffer. The day signals remained unchanged, however, so that the discordance between night and day became more pronounced than ever! (Fig. 2a shows the development of these code aspects). In 1910

this confusion was swept away by taking the night code as the basis and rendering it during the day by the use of the white disc to represent the white light and the black cross disc to represent the green light. In 1917 green lights were abolished, and an "all white" system was introduced.

The railway employing the greatest variety of boards was the S.E. & C.R., made up of the previously-existing South Eastern and London, Chatham & Dover arrangements, as seen in Fig. 3, involving 14 different boards! (Boards 1 and 11 were, however, in effect the same, the black portions not really being part of the sign). The large number of S.E.R. boards was due to that company's original practice of using a particular design to indicate a particular route. Later, however, boards

highly complicated; a few examples appear in Fig. 4. The oval board was not always carried by special trains. Such trains on the Oxted line carried the main-line board (No. 1) in addition to their regular board, while on the Greenwich line the black cross board was merely moved from the funnel to the centre of the buffer beam to denote a special. It was, of course, often necessary to change head signals during the journey.

The great difficulties of this system led the S.E. & C.R. in 1917 to follow the example set by the Brighton in 1910 and adopt a code denoted by two boards only, namely, round white and round white with black cross, with white and green lights, to correspond, at night. This lasted until 1923, when an "all white" system was adopted, and the engines had additional irons fitted

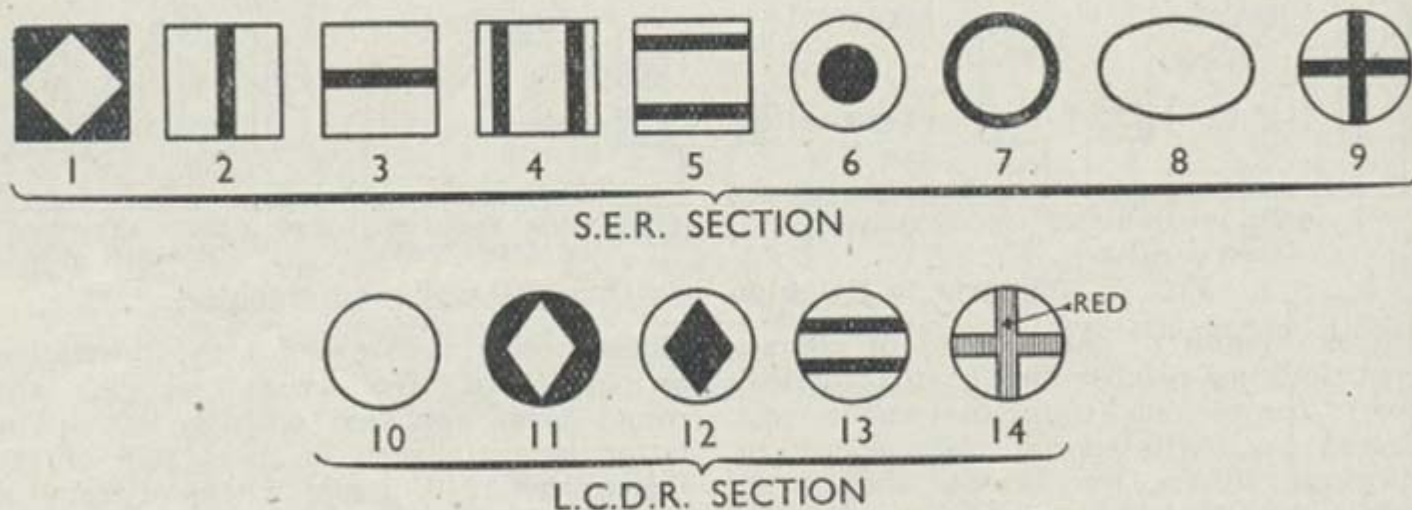


Fig. 3—Headboards used on the S.E. & C.R.

were used in combination. The principal uses of the boards (see diagram) were:—

1. Main Line, via Sevenoaks (no board for main line via Redhill)
2. North Kent, via Blackheath
3. Dartford Loop; Ash and Aldershot
4. Bexleyheath line
5. Charing Cross and Cannon Street; Blackfriars loop; Elham Valley (with No. 1, Hastings line)
6. Mid-Kent, Hayes, and Oxted lines
7. East London line
8. Special train board (not special boat trains)
9. Greenwich, Bexhill, and Caterham lines (with No. 1, Chislehurst loop; with No. 10, Orpington loop)
10. Chatham section main line and some other routes
11. Metropolitan line; through services to Midland Railway
12. Hastings, via Orpington loop; Otford line
13. Catford loop and certain local services
14. Clapham Junction services (boards 4 and 5 had the stripes near the edges, not as on the Brighton "Quarry" board)

On the Chatham section the codes for down and up trains over some routes were entirely different. The night signals, composed of white and green lights, as on the L.B.S.C.R., had naturally not the least resemblance to the day codes, and were

on the smokebox sides to give the further combinations required. When it is remembered that the trains of other companies (Midland, Great Northern, etc.) carrying still different shaped discs and lights of other colours (blue, purple), ran over the S.E. & C.R. lines, the combinations to be memorised by a London district relief signalman before 1917 are astounding.

The other southern line, the L.S.W.R., had a simpler system. In the 'nineties it had four ordinary boards, of which three were round (plain white, white with black cross, and white with red cross) and the other was a plain white diamond. (From the beginning of 1895 a round white with black centre—or a purple light—was added to any head signal combination to denote a special.) The "aspects" were all fairly simple, and very often day and night agreed, a white light replacing the plain round board, and a green light any other design, but this was

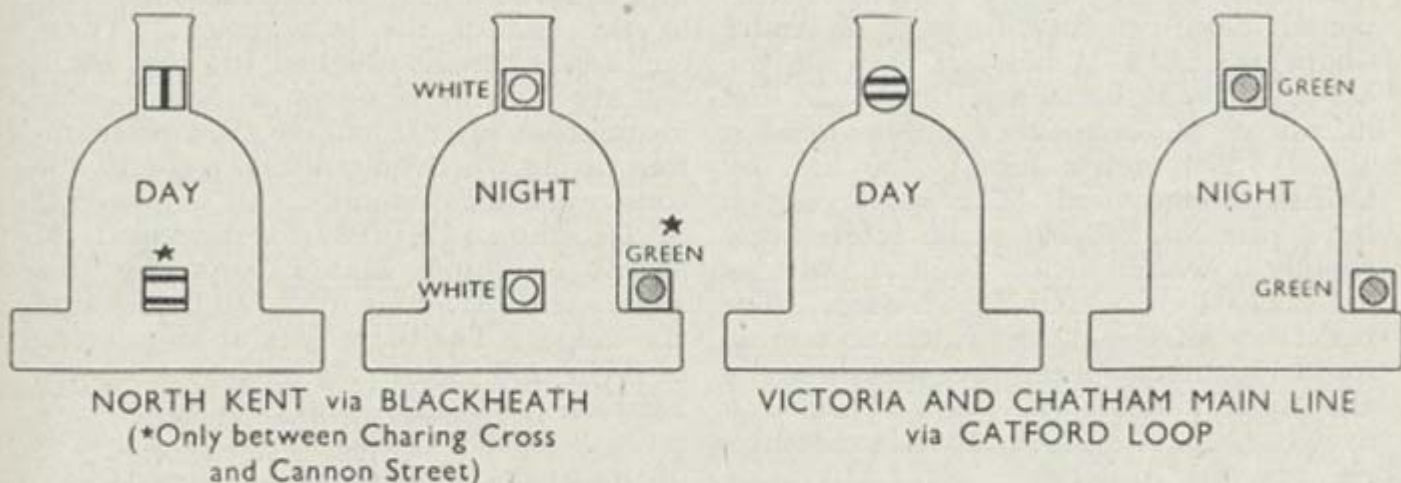
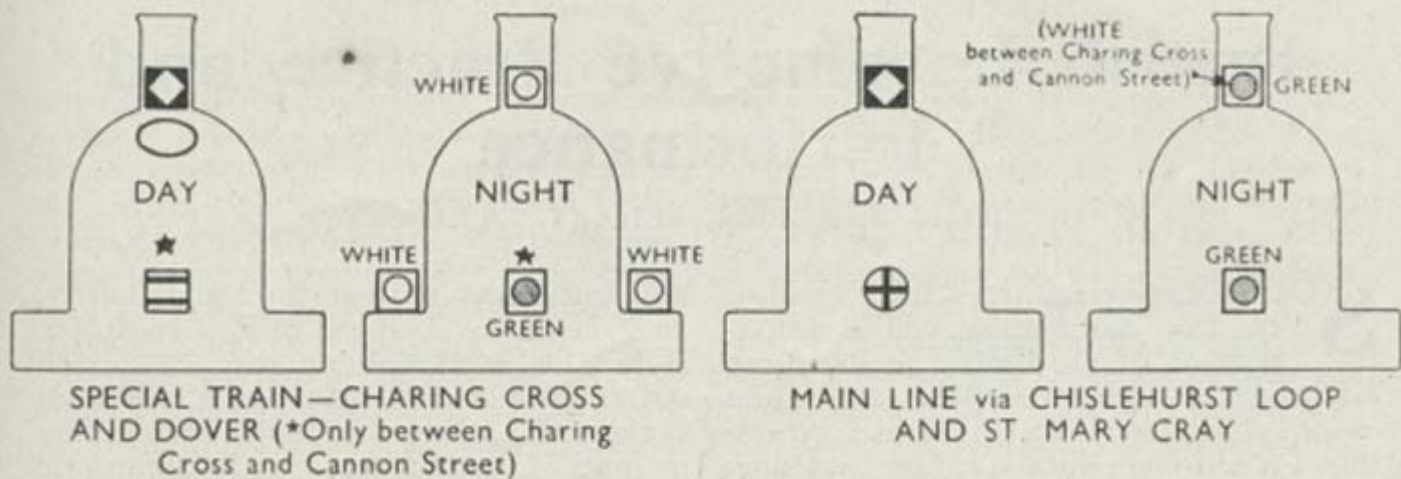


Fig. 4—Typical S.E. & C.R. head signals

not always the case, as Fig. 5, shows. The side positions were on the smokebox, not

the buffer beam. On certain single-line sections one of the lights in a code was made

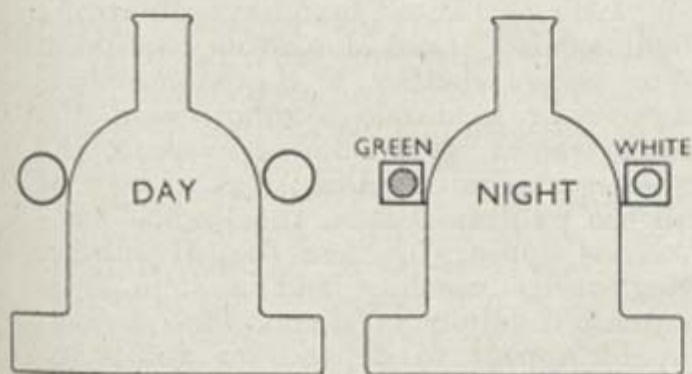
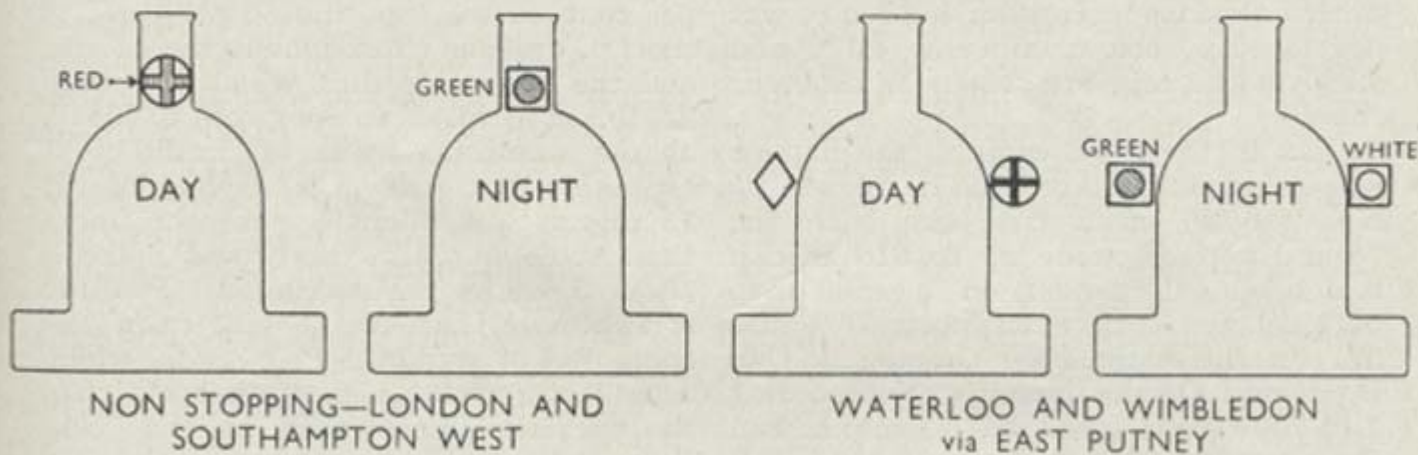


Fig. 5—Three L.S.W.R. head-codes of 1892

red. In 1905, a system using the round white (white light) and diamond (green light) was introduced, so making day and night agree. By 1911 there were no codes formed entirely of diamonds (green lights), so that a green light always appeared in conjunction with a white one. (In the 1905 instructions the now-familiar Royal train code of four white boards was given.) Just at the end of 1917 the diamond—and green light—disappeared, and an "all white" system came into use.

(To be continued)