

FAMOUS TRAINS: XIV

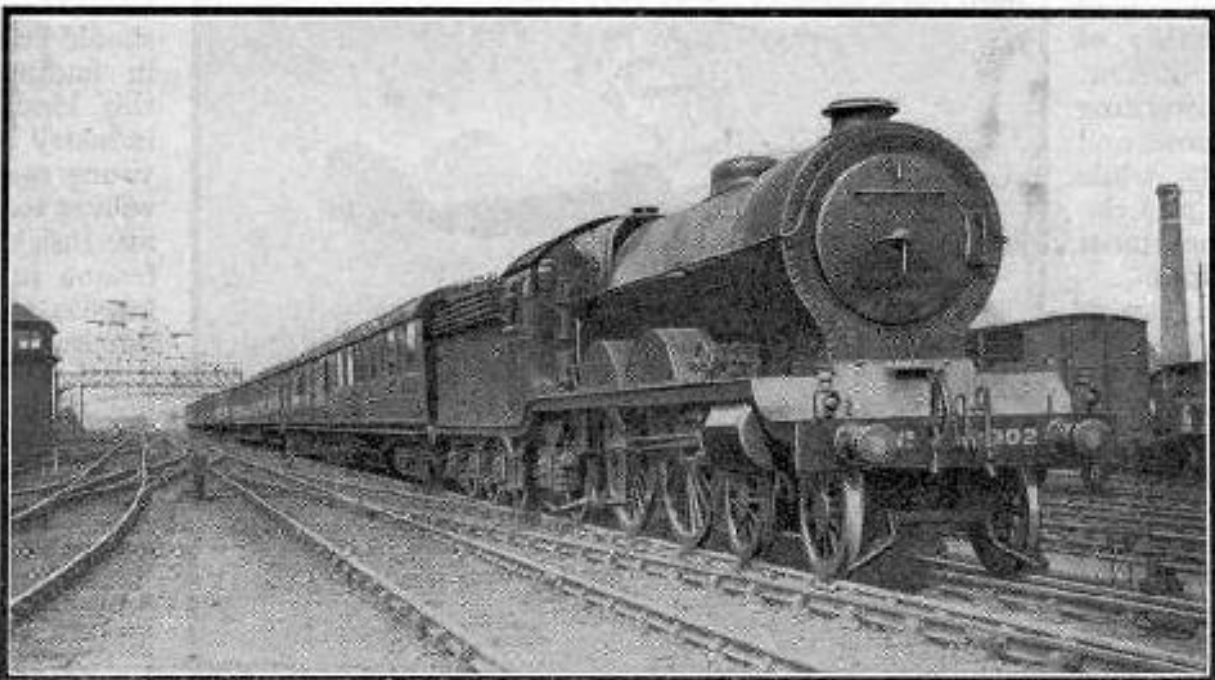
The "Aberdonian," L.N.E.R.

By Cecil J. Allen, M.Inst. T., etc.

No. 14 The "Aberdonian" L.N.E.R.

First published in the Meccano Magazine February 1928

In describing the runs of the express trains already dealt with in this series of articles we have in every case started our journey at the London end, with the solitary exception of the "Folkestone Flyer" in last month's "M.M." We have thus worked from London northwards, southwards, eastwards or westwards as the case might be and the result has been, that by the time we have reached the final and furthest most limits of each trip the precious space available has been exhausted. The last stages of the run, therefore have been passed over very hurriedly and I have had to excuse this, as the lynx-eyed reader may have noticed, on the plea that "by this time you must, of



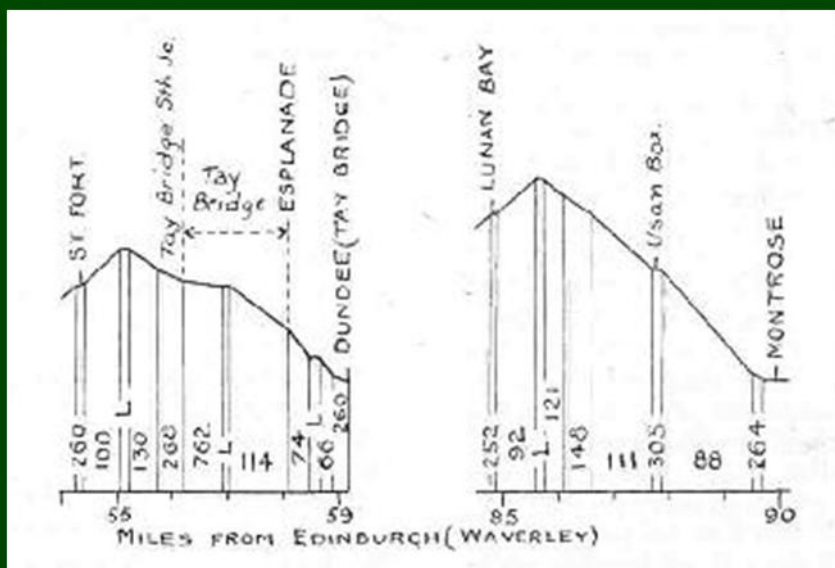
The "Aberdonian" leaving Aberdeen, hauled by 4-4-2 engine No. 992 "Highland Chief"

course, be tired and sleepy!"

But I know my friends in Aberdeen too well to attempt any such excuse in the case of a train that bears the name of their illustrious city. I should not like to think of my good friend the Editor (Meccano Magazine) being deluged with complaints from indignant Aberdonians that their own very special express had not been properly treated, so it will clearly be the safer plan if we ride with the up train, and begin our expedition in the Granite City. If our journey is made in the summer-time we shall have the additional advantage, not only of seeing many miles of magnificent coastal scenery – for the East Coast Route, unlike its rival, is a *real* coast route!-but also of setting eyes on the greatest railway engineering wonder in Britain, the Forth Bridge, over which we must pass.

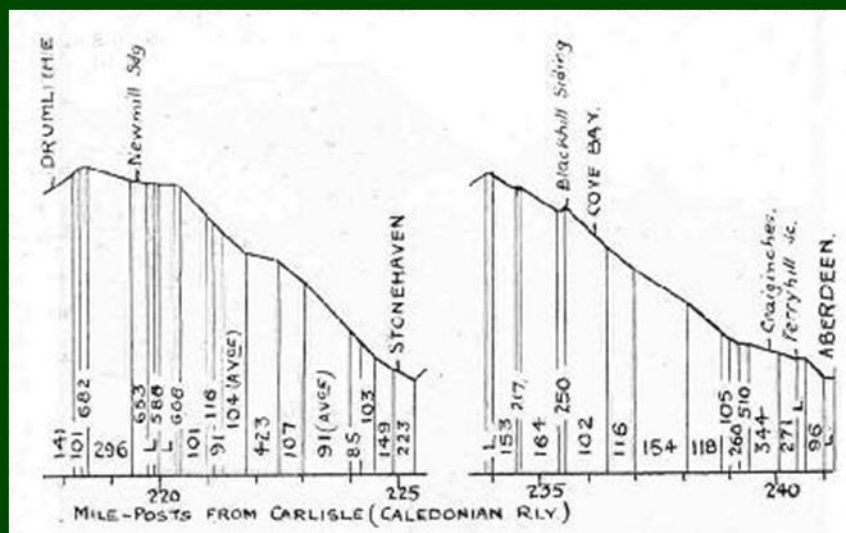


The "Aberdonian" is an historic train. It was away back in 1895 that the down "Aberdonian" was concerned in one of the most sensational happenings in British railway history. Seven years earlier, the companies comprising the East and West Coast routes had reached so great a pitch of excitement owing to the fact that the East Coast people had seen fit to admit third-class passengers to their "Flying Scotsman" – hitherto the best trains had been confined to the use of first and second-class passengers only – that they had for some days



conducted a real “race” over their respective tracks, in order to see which of the two “10 o’clocks” out of London could reach Edinburgh first.

This contest, however, was mild indeed in character as compared with that which in 1895, followed the completion of the East Coast Route in the opening of the great bridges across the Firth of Forth and Firth of Tay. The “Race to Aberdeen” began modestly enough; the first step was merely that the West Coast companies announced acceleration by 10 minutes of the time of their down “Aberdonian,” thereby coming within 5 minutes of the time of their rivals. Promptly the East Coast companies indicated a corresponding acceleration. From that time forward, in July and August, 1895, acceleration succeeded acceleration in bewildering sequence, until hours had been cut from the schedules of but a few weeks before. Finally the timetable was scrapped altogether, relieving trains being run behind the racing “flyers” to pick up passengers who might be stranded by the early running of the expresses.



So far as the East Coast was concerned the culmination came on the night of 21st August, when the 523 ½ miles from Kings Cross to Aberdeen, inclusive of stops at Grantham, York, Newcastle, Edinburgh and Dundee, as well as the terribly difficult gradients and sharp curves north of Edinburgh – whose acquaintance we shall make in a moment – not to mention a stretch of single track between Arbroath and Kinnaber Junction, north of Montrose, were covered at an average rate of over 60 m.p.h. throughout, in 8 hrs. 40 min. Not to be outdone, the West Coast, with their 915-ft. summit at Shap and the higher 1,015 ft. of Beattock, covered their 540-mile route in 8 min. less on the following night, the time of 8 hrs. 32 min., all stops inclusive, representing an average speed of no less than 63.4 m.p.h. for the whole distance. To-day the “Aberdonian” and the corresponding train on the West Coast Route, which between them afford the best service between London and Aberdeen, are allowed 12 hours in which to make the same journey.

There are, however, a good many reasons why the tremendous speeds of the “Race to Aberdeen” could never be made permanent. In the first place, the average passenger, entraining at either end of the journey at the comfortable hour of half-past seven in the evening, has no particular

wish to be turned out of the train, on arrival at his destination, much earlier than 7.30 the next morning. It must not be forgotten also, that the racing trains of 1895 weighed from 70 to 100 tons, as compared with the weight of the modern Anglo-Scottish expresses, which frequently exceed 400 tons. Such speeds as those just mentioned, though doubtless still possible of achievement, with 400-ton trains, by the aid of our vastly more powerful locomotives of to-day, could not be maintained as an everyday proposition. There is little question, on the other hand, that substantial accelerations of Anglo-Scottish running times are practicable, but it is the day service rather than the night service that calls the most loudly for exploration.



The famous Tay Bridge

When we join the up "*Aberdonian*" at Aberdeen, we shall probably find the weight of the train to be but little less than 400 tons all found. The composition of the express varies considerably, as between the winter and the summer service, but we may be certain of finding, next the engine, a restaurant portion for Edinburgh, consisting of a 12-wheeled composite restaurant car flanked by open first-class, or possibly the last-mentioned and a composite brake coach. Then comes the London portion – the "*Aberdonian*" proper – which is generally one of the magnificent articulated "twin" sleepers, weighing 62 tons, a composite corridor coach, one or two third-class corridors, according to the season of the year, and a couple of large brake-vans. In the summer there is the Lossiemouth sleeping car and third-class brake to be added to these. The train is then made up, usually by the addition of vans of fish, attached at the rear, either to maximum capacity of one of the North British "*Atlantics*," or, if heavier still, to a double-headed load.

Almost certainly we shall find one of the "*Atlantics*" at the head of the train. Disappointing in their early performance, the Reid "*Atlantics*" of the late North British Railway may be numbered among the numerous classes of express locomotive in this country whose work has been

transformed by the addition of superheating equipment. It may be a matter of surprise, in view of the exceptional difficulty of the grading of all the chief routes over which they work, that their designer did not choose the 4-6-0 wheel arrangement in preference to the 4-4-2, but he brought down the maximum weight practicable on his coupled wheels – 40 tons – and to-day these engines appear to possess all the requisite adhesion for their hard uphill work. The hardest of this climbing is between Edinburgh and Carlisle, by the Waverley route, where the two summits at Falahill and Whitrope, respectively 900 and 880 ft. above the sea, are approached by many miles of climbing at 1 in 70, and maximum unpiloted tare loads have to be limited to 290 tons. But over the East Coast main line, between Edinburgh and Aberdeen, with gradients in part equally steep, but fortunately shorter, the maximum tare load to-night we shall find that our driver has his work cut out to keep time; and we shall note particularly how, after climbing each bank, he gets a good start down the other side by refraining, for a mile or so, from “notching up,” so as to snatch fractions of minutes wherever he can. We shall have no time to spare, indeed, on any stage of the very difficult run between Aberdeen and Edinburgh.

We must spare a glance, first of all, for the fine Joint Station at Aberdeen, before we start our journey. It was at one time the headquarters of the Great North of Scotland Railway which, in the grouping, becomes the Great North Scottish Area of the L.N.E.R. It is interesting to note that, in relation to the parent system, this area is “marooned,” being cut off physically from the nearest point on the main L.N.E. system, just north of Montrose by 38 miles of “foreign” line, once Caledonian, and now of course, L.M.S. territory. Once we are past Ferryhill junction, on the south side of Aberdeen, therefore, the “*Aberdonian*” has to exercise what are known as “running powers” over L.M.S. metals, before it passes again on to those of the L.N.E.R. Aberdeen Joint Station is partly terminal, with four terminal platforms at the north end and five at the south end, as well as four long through platforms, 1,596 ft. in length, giving through communication from north to south. It is from one of the south platforms that we start away, at 7.35 p.m.

The timetable of the “*Aberdonian*” reveals no startling feats of speed, but the gradient diagrams reproduced will show something of what is before the engine in the four successive starts from Aberdeen, Stonehaven, Montrose and Dundee. From Aberdeen we must toil for six miles without a break, in the first ½ - mile at 1 in 96, and then four miles at between 1 in 118 and 1 in 164, but steadily accelerating to a maintained speed of between 35 and 40 m.p.h. on the upper part of the climb.

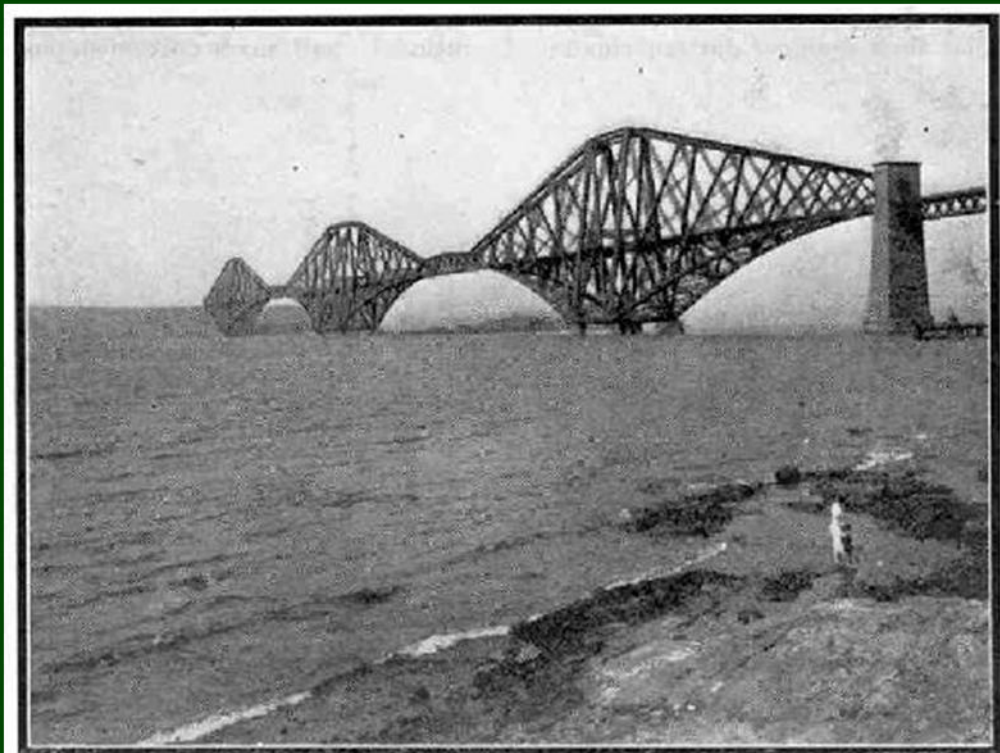
Then follows a descent to Stonehaven, where the sight of the distant signal “on” prepares the driver to stop, as this is a “conditional” halt, made only when passengers require to be picked up. I once remember a driver being thus compelled to stop at Stonehaven to pick up one solitary lady, and I was ungallant enough to think that it would have been cheaper to have compensated her suitably, if need be, and sent her on by the train in front! For at Stonehaven, at the bottom of steep gradients in both directions, we need all the momentum we can muster to help us up the formidable ascent to Drumlithie, and a stop destroys it completely, compelling a restart on an incline of 1 in 149.

Once more, however, we get away well, and with the fillip to the speed given by the short 1 in 423 “breather” in the middle of the climb, which again brings us up to 35 or even 40 m.p.h., we pass Drumlithie, seven miles from Stonehaven, in between 13 and 14 minutes. If we have taken 25 min. to run the 16 ¼ miles from Aberdeen to Stonehaven, and have stopped there a minute, we have

now 18 min., or a little over, in which to complete the 17 downhill miles to Montrose. This is a matter of no difficulty. We may and probably shall exceed 70 m.p.h. at Fordoun, and again below Marykirk – exchanging our East Coast views temporarily for a magnificent prospect of the Grampian Hills far on the west of us – until a drastic slowing indicates the approach of the Kinnabar Junction.

Kinnabar is a name of historic memory. Here it was that the down racing trains of 1895 converged on to the one track for the final 38 miles of their run, and to the lasting credit of the signalman there be it said that on one night, when the “is the line clear” bells for both the racers sounded simultaneously in his cabin, he chivalrously gave the “foreigner” the preference –Kinnabar is, of course, a Caledonian cabin – so that on that night the East Coast train arrived in Aberdeen first. Our severe slowing is not alone in order to take the converging junction, but the “tablet” for the single-line section from here to Montrose. At the latter station we stop at 8.33 p.m. , having now travelled 40 ½ miles from Aberdeen.

From Montrose there is another bad start, steeper, even if shorter, than those from Aberdeen and Stonehaven. The single line continues from here over the summit, 4 ½ miles distant, to Lunan Bay, where double line running commences, and downhill we run swiftly to Arbroath, the next stop. For the 13 ¾ miles from Montrose to Arbroath the time allowance is 21 min., and in view of the severity of the immediate rise, this proves none too much. Strikingly in contrast, the next 17 miles to Dundee, right along the sea coast past the well-known golfing resorts of Carnoustie, Barry, and Monifieth, are dead level throughout, for which the timetable makes a more than generous allowance of 23 min. Dundee, the famous city of jute – and marmalade! – is reached at 9.20 p.m.

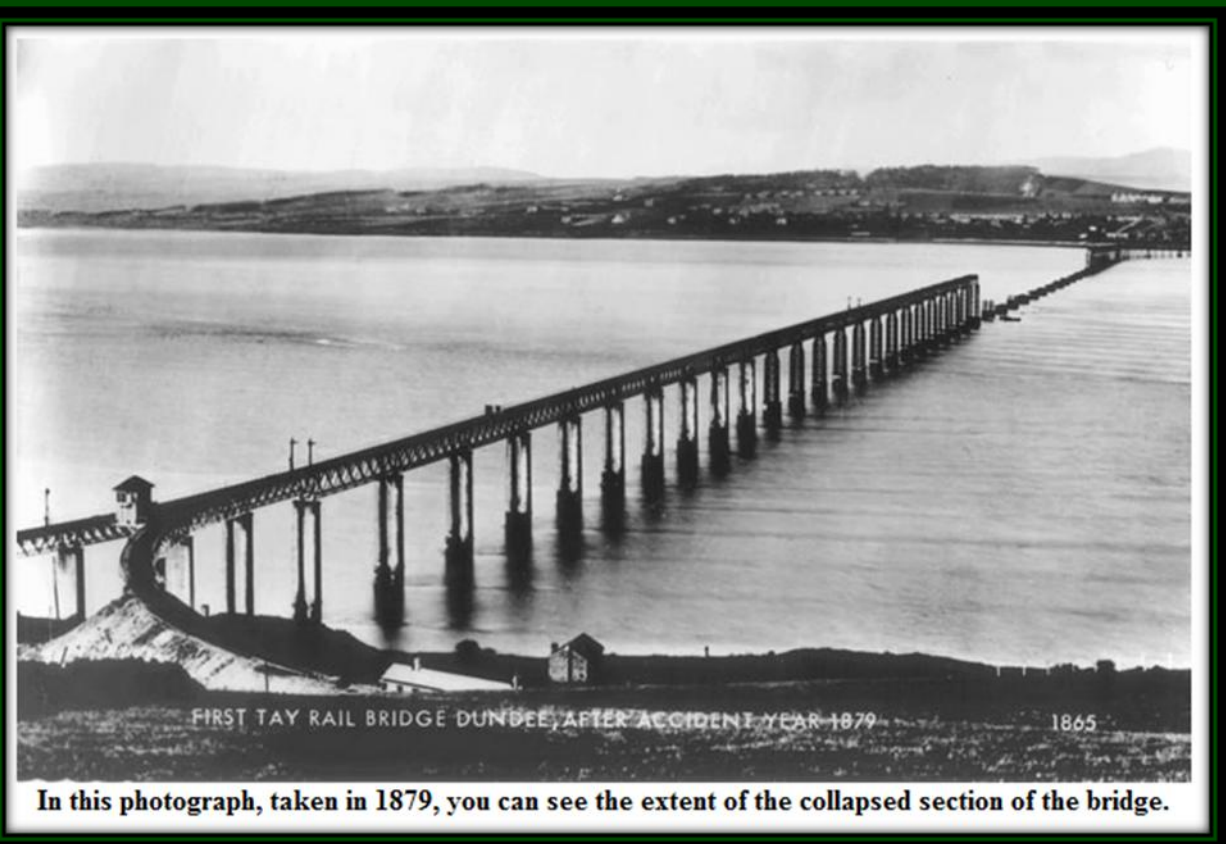


The Forth Bridge

It is, of course only in the height of summer that the engineering wonders of the next section of the journey are clearly visible. From Dundee, where quite possibly we may change engines –substituting for our “Atlantic” another, or a “Director” 4-4-0, piloted if necessary, or, at a not distant date, a new three-cylinder “Shire” 4-4-0 – the first of these wonders soon bears into view. Rising sharply out of the depths of the Tay Bridge Station at Dundee, and very likely banked in rear up the initial 1 in 66 and 74 to Esplanade Station, we soon come into full view of the length of the Tay Bridge, curving away to the left for two miles across the waters of the Tay.

The Tay and the Forth Bridge between them have been the making of the East Coast Route, so far as concerns the portion north of Edinburgh. The Tay bridge, which owing to the comparative shallowness of the Tay estuary, was considerably the easier engineering proposition of the two, was the first to be completed. In the earlier design, however, insufficient allowance had been made for wind-pressure, and on a wild night in December 1879, when the night mail was actually crossing, the whole of the centre portion of the bridge was blown down and the train and every soul on board was lost. There is a perpetual reminder of the tragedy in the stumps of the piers of the old bridge, which may still be seen above water level to the east of the present bridge.

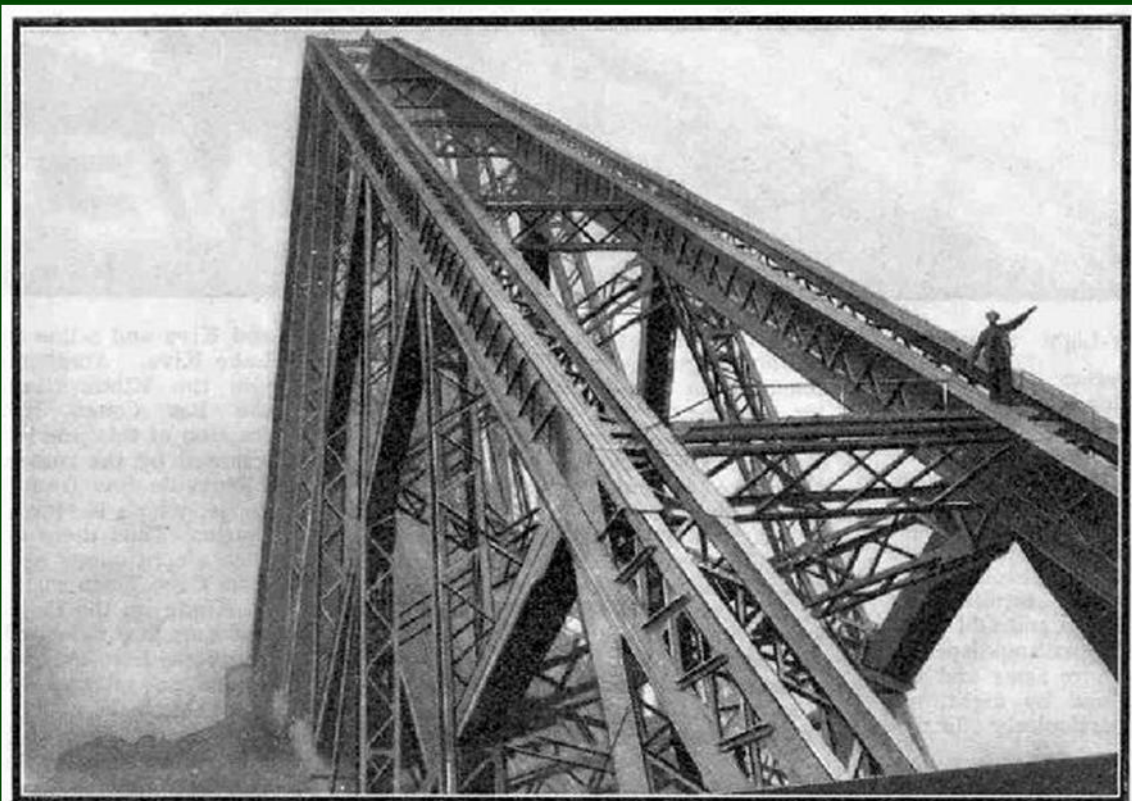
At a later date the Tay Bridge was re-built on a much more substantial plan to carry a double instead of single line. It has eighty-five spans in all and a total length of two miles. The track continues to rise sharply to the centre of the bridge, on a gradient of 1 in 114, after which it is level to the far side, which we may expect to clear six or seven minutes after starting.



Past Leuchars Junction and Cupar to Ladybank Junction the gradients consist of moderate undulations only, save for a short rise at 1 in 107 to Springfield, and we may expect an average speed of round about a mile-a-minute from Leuchars to Cupar. From Ladybank almost all the way to Edinburgh, however, the grades are desperately hard. First we rise for 3 ½ miles, at 1 in 95 to 111, to Lochmuir cabin, from which we fall sharply to Thornton Junction, where speed must be reduced. Then follows another sharp rise for two miles to the 29th mile-post, followed by a long stretch of mostly falling grades, past Kirkaldy and Kingshorn to Burntisland. Full advantage of this cannot be taken however, owing to curves, and it is unlikely that the speed will exceed 60 m.p.h., while as we approach Burntisland there has to be a very severe reduction of speed owing to the sharp curve north of that situation.

Once again we have lost momentum where we most need it, and we are to do so yet again by the equally bad slowing through Inverkeithing, as between these places we have to rise for three miles at 1 in 100 from Arberdour up to Dalgetty cabin, and then, having recovered speed on the ensuing down-grade, the slack at Inverkeithing ruins the drivers chances of “rushing” the last and desperate two miles at 1 in 70 up to the Forth Bridge.

In such circumstances the schedule of 84 min. for the 59 ¼ miles from Dundee to Edinburgh is far from excessive; with such a load as this, indeed, it is distinctly “tight.” To Tay bridge South Box, 3 ½ miles from the start, the time allowed is 8 min., and the next 16 ½ miles to Ladybank consume about 20 min. 11 minutes for the 8 ¼ miles over Lochmuir to Thornton, and 13 min. for the 10 ½ miles to Burntisland leave no margin. Then comes 10 min. for the seven miles to Inverkeithing, 8 min. up and over the Forth Bridge, to Dalmeny, and 14 min. – the only part of the schedule which, given a perfectly clear road to Waverley, allows a small recovery margin – over the final 9 ½ miles

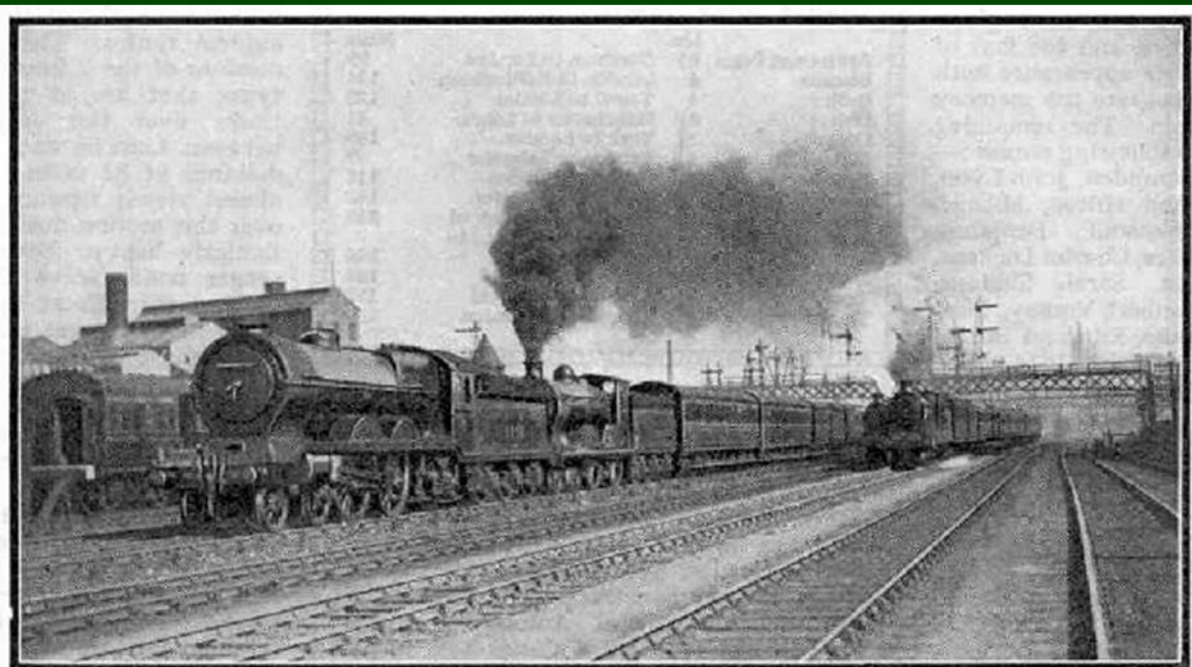


A remarkable view of the Forth Bridge, taken from the top of one of the cantilevers.

from Dalmeny into Edinburgh, where we are due at 10.50 p.m.

It is as we are travelling along the shores of the Forth, between Burntisland and Aberdour, that we first catch sight of the Forth Bridge. As we toil up the 1 in 70 from Inverkeithing, through rock cuttings and tunnels, we lose it again, until suddenly we are ushered on to the great structure, at a speed, probably, of not more than 20 m.p.h., at North Queensferry. Volumes might be written of this amazing bridge, which still, we are proud to remember, holds its head high among the engineering wonders of the world. The lessons of the Tay Bridge disaster were not lost on the engineers, for after that the Forth Bridge designs were completely altered in order to make adequate allowance for the effects of wind pressure. Seven years from 1883 to 1890, were occupied in the colossal task of its execution.

The total length of the Forth Bridge, including approach viaducts, is 1 ½ miles, and there is only one greater span in the world (in 1928) – the 1,800 ft. of the Quebec Bridge across the St. Lawrence River in Canada – than the two 1,710 ft. spans of the Forth giant. In order to obtain a good idea of their length we may think of between 28 and 29 modern corridor coaches strung out in a line, which would suffice to reach from one side of each span to the other. As to height, the underside of each span is 157 ft. above water level, and from the water to the top of the cantilever towers is 361 ft., or within 4 ft. of the top of the cross on St. Paul's Cathedral dome above the pavement. Some 54,000 tons of steel were worked into the Forth Bridge, with its foundations and approaches, held together by 6 ½ million rivets. Forty-five men are employed unceasingly on the painting of the bridge, to protect it from corrosion. The complete task of painting occupies three years, after which the time has arrived for a recommencement, so that the painting never stops.



Double-headed Aberdeen Express leaving Edinburgh

Slowly we run across the bridge, with its magnificent views, through Dalmeny, down the sharp dip to Turnhouse, with a final mile-a-minute maximum, up to Saughton, and then along the

level through Saughton and Haymarket, the Haymarket Tunnel and Princes Street Gardens into the busy Waverley Station at Edinburgh, where we run into the west end of the main up platform, 1,680 ft. in length and even then – astonishing to relate – shorter by 30 ft. than one of the great spans of the Forth Bridge, which also exceed the still longer platform at York.

It is just ten minutes to eleven, and our engine or engines move off with the dining cars, after which the remainder of the train is pushed forward to join a portion that is standing waiting for us at the east end of the same platform, including a through sleeper and coach from Glasgow to London. A “Pacific” is now in charge of the train, and in charge of “Pacifics” we shall doubtless run through all the way from Edinburgh to King’s Cross. But we have been over the route before in the “*Flying Scotsman*,” so that we are quite justified now in seeking our beds and over the perfect permanent way of the East Coast Route, in going soundly to sleep. It is quite likely that we shall be unconscious of all that is passing until the “*Aberdonian*” is rushing through the tunnels of outer London, and deposits us safely and punctually in King’s Cross terminus at 7.30 the next morning.



4-6-2 "Pacific" "*Flying Scotsman*" used in an image based around the wonderful painting 'Green Steam Engine,' by artist Kevin Walsh.

Thus ends a journey in which we have been carried through no fewer than 18 English and Scottish counties. If it were notable in no other respect, the bridges that are crossed by the train would make it remarkable, for these include the world famous bridges that cross the Firths of Tay and Forth; in addition to the famous Royal Border Bridge at Berwick and the magnificent King Edward V11 Bridge that spans the Tyne.

Supplied freely with the 7th edition - November 2013 of 'Just the Ticket,' an independently produced e-newsletter, serving all with an interest in modern coarse scale O gauge model trains. Copies are available on request from d.upton355@btinternet.com

And so with issue No. 14; "*The Aberdonian*", the full-of-promise '*Famous Trains, and the Routes over which they run*' series came to abrupt halt in 1928 without apparent explanation. Meccano took the first 13 editions of the series and bound them into the Meccano Library No. 1, as it was referred to, and as you have read, '*Famous Trains*' No. 14 would appear, but nothing more, which was a great shame considering some of the famous trains which were still waiting to be written about by Cecil Allen. With nothing more forthcoming from him, the Meccano Library No. 2, which one assumes was originally envisaged, did not appear.

Cecil J. Allen; 1886 – 1973, was a very regarded writer and engineer and from Wikipedia the following information is supplied.

"A qualified civil engineer, Allen worked for the Great Eastern Railway and later the London and North Eastern Railway, becoming an authority on steel rails, inspecting them for quality. He was also the second contributor to the long-running '*British Locomotive Practice and Performance*' series in *The Railway Magazine* from 1909 to 1958 after which he went on to write for '*Trains Illustrated*' (now *Modern Railways*), which at that time was edited by his son Geoffrey Freeman Allen.



He was a committed Christian and an accomplished organist, writing a chorus "*The Lord has need of me.*" He was offered a place on the train when Mallard broke the world speed record in 1938, but declined the offer as the run was scheduled for a Sunday morning and clashed with his regular, Brethren Assembly church attendance." More about Allen

can be read [via this Wikipedia link](#).

FAMOUS TRAINS

Thirteen chapters of Mr. C. J. Allen at his best!

All Railway enthusiasts should have this book. It contains much reliable and valuable Railway information, including the leading dimensions of many of the most famous express passenger locomotives in this country.

Price now 1/9 post free from

**MECCANO LIMITED,
Old Swan, Liverpool.**

