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the rail enthusiast

Vol. 2 No. 3 November 2017

The Rail Enthusiasts' Society Quarterly

THE RAIL ENTHUSIAST

HISTORY

Dibru-Sadiya Railway

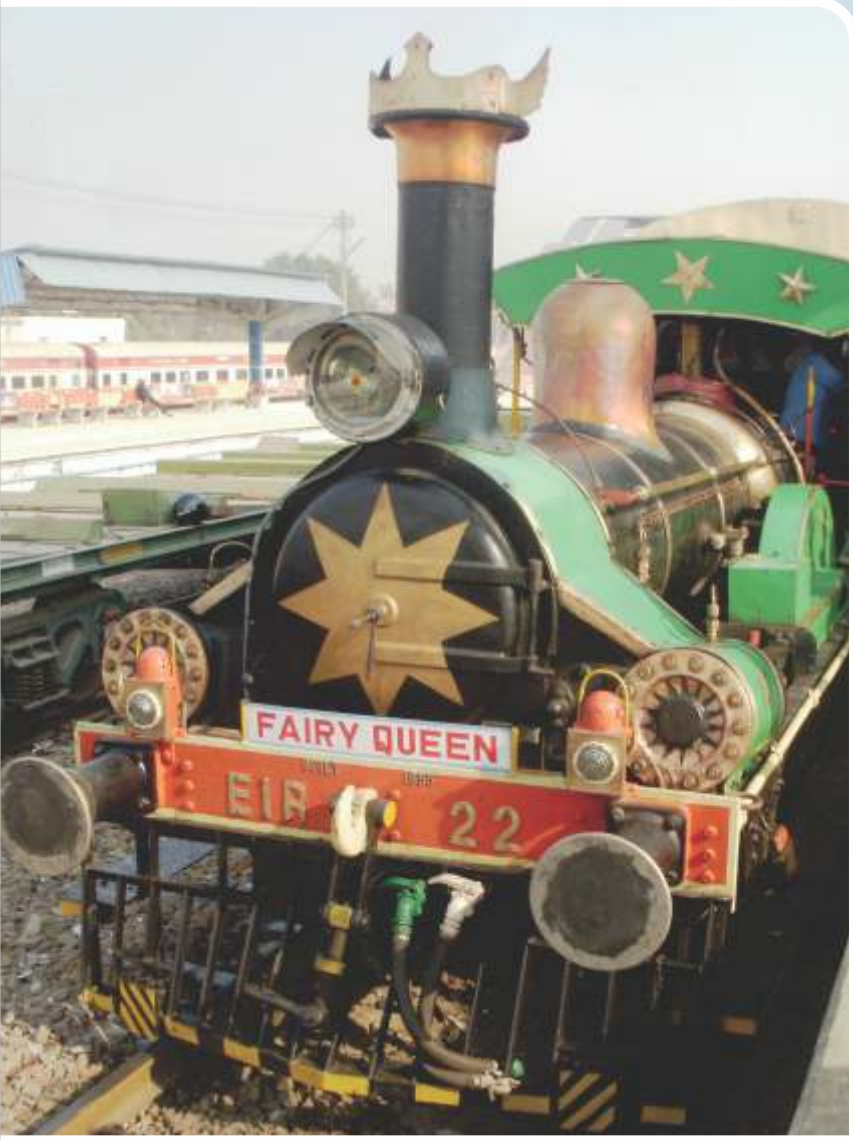
BRIDGES

PAMBAN BRIDGE

PHOTO FEATURE!

Patalpani Revisited

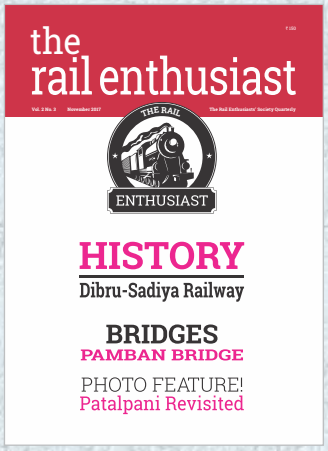
EIR 22 – The "Fairy Queen"



Certified by the Guinness Book of Records, the Fairy Queen has been accepted as the world's oldest working locomotive.

But the "Queen" has a challenger – its twin, EIR 21.

Please see inside back cover...



A Magazine
of the Rail Enthusiast,
by the Rail Enthusiast &
for the Rail Enthusiast

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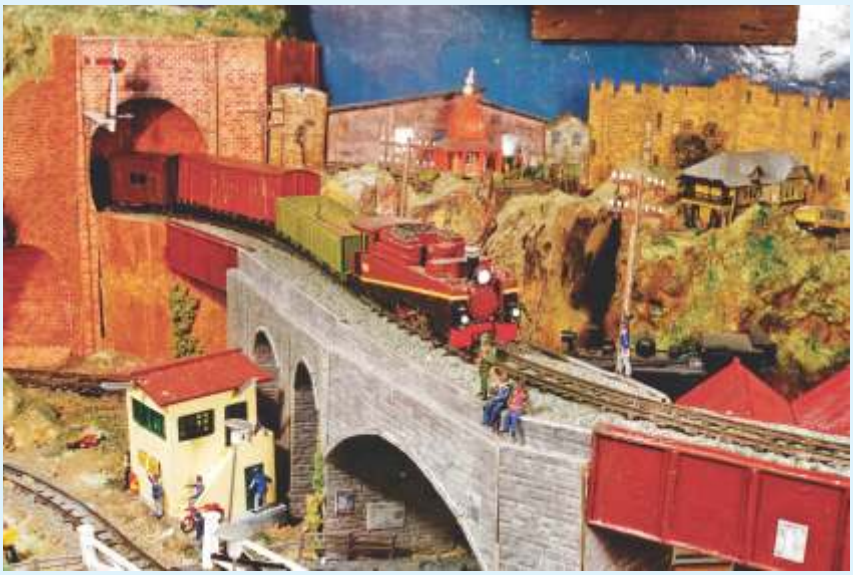
Musings of the Editor...

After the birth of a child, the first anniversary is always a significant and very big event. Parents leave no stone unturned to announce to the world that their child is now not some months old but a whole year. ***The Rail Enthusiast*** *completed a year of existence in August that just went by: but the event passed off quietly, without fanfare, without celebrations of any kind, without revelry or festivity. Why? You may well ask. The answer lies in our philosophy: we would like our output and results to speak for themselves and not try to show them through celebrations. The fact that we have survived a year and been able to bring out the 5th issue of the magazine is celebration in itself. It is our endeavour that we continue to produce the magazine, improving with each issue and reach a stage when we can celebrate the 50th issue. We promise an extravaganza of massive celebrations then.*

We would also like to take this opportunity to thank members of the ***Rail Enthusiasts' Society*** *and readers of the magazine for encouraging and sustaining us. Without you, we have no reason to exist.*



A model KC class locomotive over Prakashpur Bridge

As in our previous issues, we have tried to cater to all rail enthusiasts, whatever their area of interest. Since our magazine is very pictorial, there is enough for the rail photographer in virtually every article. For the rail modellers, Ranjeev Dubey has penned the second part of the write-up that he had presented in an earlier issue on the Kalka-Shimla Railway model that he has created. To the best of our knowledge, this is the only rail model in our country that has used an Indian setting as its prototype.

The lover of history can read of the Dibru-Sadiya Railway that came up in Upper Assam more than a hundred years back. Ranjit Mathur brings to life not only the setting up of the railway around Dibrugarh but also conveys the developmental and social milieu that led to the building of this isolated railway in the remotest part of our country. You can also read of the history of the Pamban bridge connecting Rameshwaram island to the Indian mainland. This article by Ravi Sundarajan covers the working of the Scherzer span that makes this bridge unique in India. The span

which normally allows trains to pass over it, can be lifted so that sea-going vessels can pass through the bridge.

Steam buffs can look at the world's oldest working steam locomotives – EIR 21 and EIR 22. Which is the oldest? Both are now in working order but only the latter has Guinness Book certification. Searchers of steam can also see two examples of classical steam locomotives in the Land of the Midnight Sun, i.e. locomotives that have been preserved in Finland and Norway in latitudes North of the Arctic Circle.

The Indian Railways have recently introduced two 'Vistadome' coaches, one on the East Coast Railway and the second on the Central Railway. Harshad Joshi travelled on the former that

Passenger train negotiating Pamban Bridge

runs on the Kothavalasa-Kirandul line that cuts across the Araku Valley not far from the port city of Visakhapatnam. While the vistas from the coach are excellent owing to the large windows and transparent dome of the coach, Harshad dwells on other problems besetting the coach.

Warren Miller, an Australian enthusiast, had enthralled us by his ride on the Delhi Ring Railway in our last issue. He now enchants us through his collection of rail time-tables of yesteryear. What he highlights is that apart from giving us

Ravine viaduct No. 2 on Patalpani-Kalakund section

A view of the Regional Rail Museum, Howrah

timings of trains, these vintage publications give us a host of other interesting information of that period.

***The Rail Enthusiasts' Society** organised a rail trip-cum-hike on one of the last vestiges of Meter Gauge track in the country. This was on the Mhow-Patalpani-Kalakund section running through the luxuriant Choral valley. Some of the breathtaking pictures that were shot during this trip/hike are the subject of our photo-feature in this issue.*

Two significant events have just gone by in the last few months. One is Durga Pooja while the other is our Independence Day. Today's populace of West Bengal will not remember that less than a century back, it was difficult for a person from the hinterland to have access to the markets of Calcutta (now Kolkata). The railways solved this by taking the market to the hinterland. Read this in the form of a newspaper report published recently. We also tell you of the Independence Day being celebrated by the erstwhile Bengal Nagpur Railway on the 15th of August 1947, among the first celebrations in an independent country.

Our regular feature, the first person account of 'The Train' that targets our budding enthusiasts, continues. Another first person account is by Locomotive No. 12140 WDG4 taking you down the Braganza Ghat between Hubbali and Goa. The well-known tourist attraction of the Doodsagar falls (literally 'Sea of Milk' in the Hindi language) is within handshaking distance on this rail line.

As recorded in the last issue of the magazine, while we are receiving a lot of feedback verbally, there is almost nothing coming to us in writing. We would like to once again request that you must give your criticism and comments without hesitation and preferably through an email or a letter.

Till the next time, happy reading,

(J L Singh)
Editor

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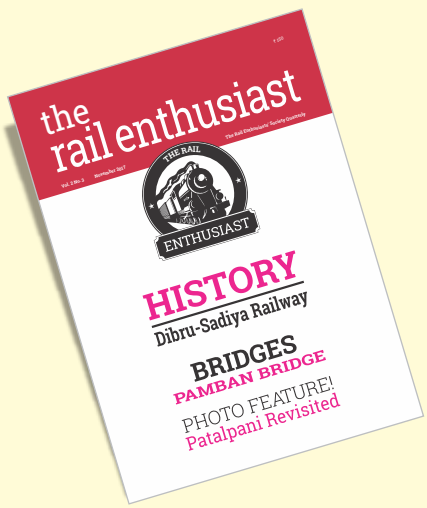

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The Dibru-Sadiya Railway

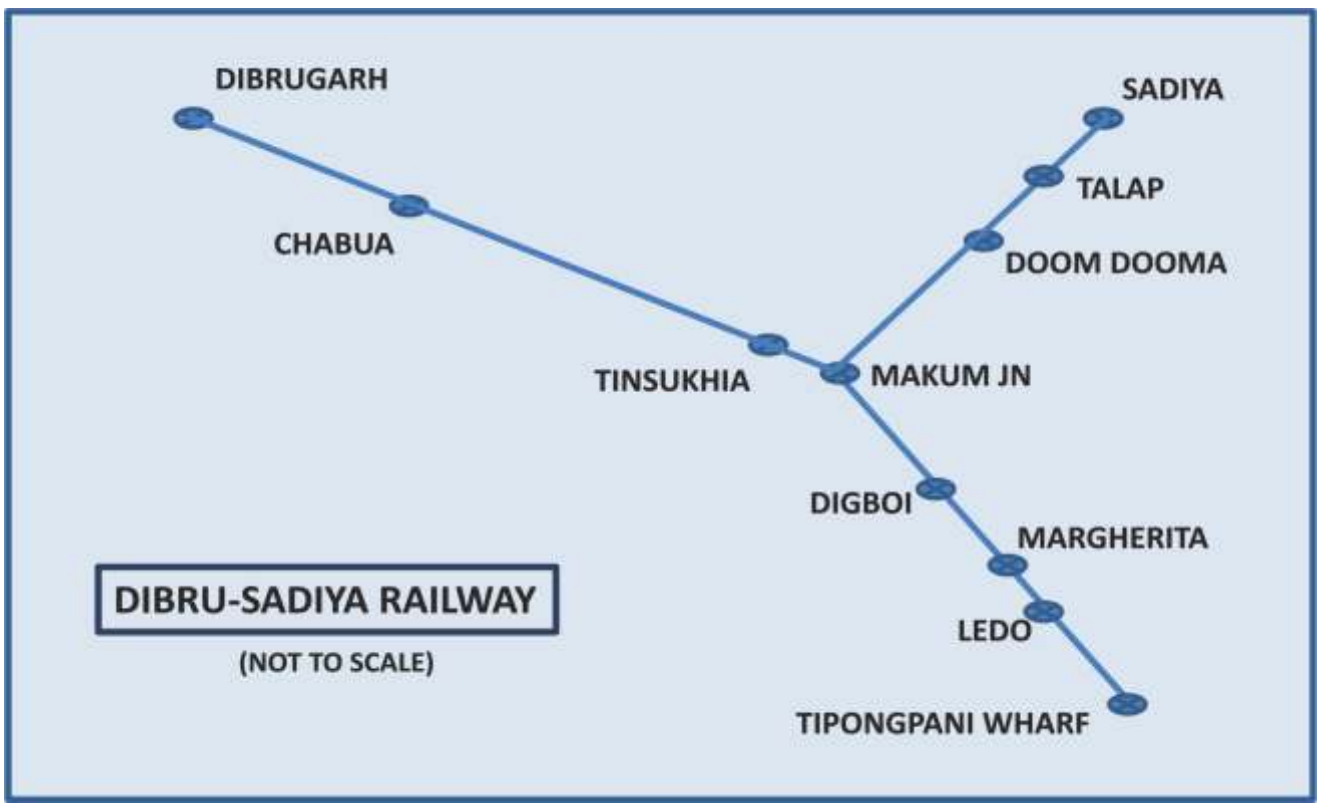
Ranjit Mathur

South of the mighty Brahmaputra in the extreme North-East of India, 19th century Survey of India maps show a railway line that looks like a small reclining 'Y'. It carries the title Dibru-Sadiya Railway (DSR). The cause and construction of this totally isolated little railway is illustrative of the zeal of our pioneering forebears and is an early example of user initiative in project-specific rail connectivity.

Until 200 years ago, Assam was an independent kingdom, ruled by the royal house of the Ahoms, of Shan origin, who had settled in the Brahmaputra valley in the early 13th century. By the end of the 17th century, the Ahoms were the dominant power in Upper Assam. In the 18th century, however, the kingdom was greatly weakened by internal jealousies and dissensions. This resulted in one crisis after another, in spite of British intervention, leading to a Burmese army entering the area in 1817 and the Burmese establishing themselves in Assam, Cachar and Manipur. In 1824, their defiant seizure of a British outpost compelled Lord Amherst to declare war. After defeating the Burmese, the British tried various solutions in the area but ultimately, by 1842, the whole of the Assam Valley was under British officers. Thus, the far North-East of India came under British control.

British interest in Assam had been awakened earlier. A Committee set up in 1834 to explore the possibility of growing tea in India had found that the tea plant was indigenous in Assam. The Assam Tea Company (which still exists) was set up in 1839 with tea gardens in Doom Dooma and towards Sadiya in Upper Assam. The middle of the century saw the pioneer planters laying the foundations of the great tea industry of the region.

But serious difficulties were crippling the infant tea industry. Foremost of these was the condition of the Sadiya Road that connected the tea gardens to the steamer ghat at Dibrugarh and was thus vital to Upper Assam's tea industry to reach Assam's great natural highway, the Brahmaputra.



Built in 1865, this 100-kilometer stretch of road was an unmetalled cart-track. In the rainy season it was “a perfect slough of despond, strewn with broken carts, burst rice bags and damaged tea boxes”. During the rainy season of 1878, the Civil Surgeon, Dr John Berry White (founder and benefactor of the Berry White Medical School at Dibrugarh), himself the owner of a tea garden on the Sadiya Road, represented to the Chief Commissioner, Sir Stuart Bayley, the shocking state to which the road had been reduced by heavy traffic and lack of timely repairs. He expressed the planters' fear that communication between the tea factories and the Dibrugarh ghat might cease altogether.

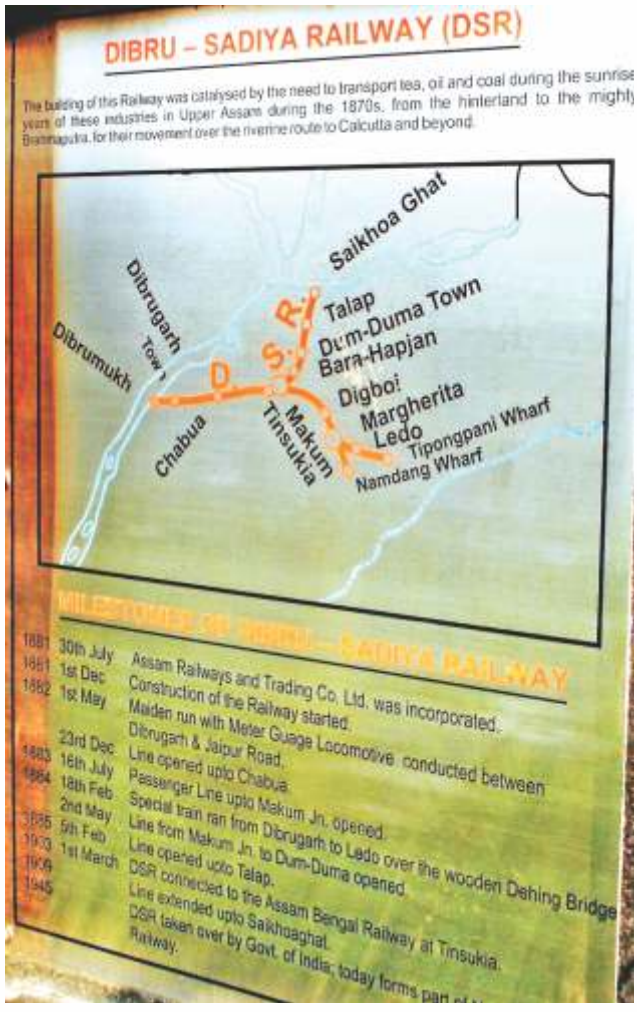
The estimated cost of putting the road back into a serviceable condition was greater than the entire annual budget of the Assam state PWD.

The outcome of the discussion was a letter from Shillong to the Finance Department of the Government of India.

“I am directed to report, for the approval of the Government of India, the following proposals….with a view to construction of a light railway on the Dibrugarh and Sadiya Road. ….During the last few years there has been an extraordinary development of the tea industry in this part of the district…The existing road is unmetalled; and Dibrugarh being the furthest point on the Brahmaputra to which commercial steamers ordinarily ply, these gardens have to depend mainly on this unmetalled road for the conveyance of their traffic of all kinds. The recent opening out of numerous gardens has been accompanied by a large development of cart traffic, and the unmetalled road, under the burthen of this traffic, becomes hopelessly and absolutely impassable during the rains…”

The letter contained a summary of the proposals, the chief being the construction of a metre-gauge railway from Dibrugarh along the Sadiya Road, on the express condition that the Government would guarantee an annual subsidy for a number of years. The Chief Commissioner's views were added:

“Compared with the cost of metalling the road, Sir Stuart considers that the sum is one which the province may fairly spend. He is the more inclined to encourage the present scheme, because, whilst he considers it not commercially unsound, it is the first instance of a united endevour on the part of an influential community to help themselves, and if successful, it will be the parent of many similar projects, and will thus tend to relieve the Administration of an onerous burthen in the way of providing means of communication – a burthen, I may add, which it is difficult to repudiate, and which, financially, the province is unable to bear.”



Information board at Rail Heritage Park, Tinsukhia

Government having agreed to a conditional grant of ₹ One lakh, a prospectus was issued on December 4th 1879 in London by Dr Berry White and his friends, inviting applications for shares in the Assam Railway Company Limited.

Initial response was poor and it appeared the scheme would languish indefinitely. This was partly due to the difficulties faced by any pioneering company in the region. These included the peculiarly isolated nature of the work; the entire absence of all local labour and assistance; the necessity of creating a manufacturing centre and workshop, stocked with all needful mechanical appliances, and skilled labour, in a place hitherto considered as almost to be beyond the confines of civilization, and of importing absolutely everything.

There was another difficulty: there was no organised source of motive power to maintain the working of the factories, although the existence of coal deposits in Assam had been known for many years. One of the earliest discoveries was near Safrai, where some coal was extracted in 1828. The Makum field was also scratched in 1865 but the dense jungle and the Dehing river rendered these fields

inaccessible. In 1880, the Doom Dooma tea factory imported 3,000 maunds* of coal from Raniganj (near Calcutta), which, arriving at Dibrugarh by river steamer, had to be transshipped and brought in small boats at least 50 miles up the Dibru river, and landed, after a total journey of about 1,000 miles to a point within 25 miles of the Makum coalfield. The existence of oil deposits had also been known. Oil was struck in 1867 south of the Dehing river by Mr. Goodenough. It was only later that Digboi attracted attention.

Fortunately, the rail project found a savior. Towards the end of 1880, the project came to the notice in England of Benjamin Piercy, an engineer with experience in railway construction in England and elsewhere. He agreed to support the scheme, which was widened on his advice to include the opening of the Makum coalfield in addition to timber and petroleum rights. But he wanted the facts verified. His brother, Robert, went with JE Wilson to Assam in January 1881. They returned a few months later to report that the scheme promised a most remunerative investment. On July 30th 1881 the Assam Railway and Trading Company was incorporated in London and soon its Bankers received applications amounting to 28% in excess of the required capital. One of the founder Directors was John Berry White of the Bengal Medical Service, who had also been a director of the old Assam Railway Company.

So great was Benjamin Piercy's faith in the project that he became the largest share holder and was appointed Director in 1887. Perhaps he was also attracted by the vast virgin forests of true Indian type with their variety of flora and fauna, including timber.

The Company set itself three immediate tasks, whose aims and objects were interdependent:

- Construction of the railway
- Development of the Makum coalfield
- Establishment of a steamer service

Thus, the Assam Railway and Trading Company (ARTC), with its conglomerate interests in tea, the rail project, timber, coal and oil played a great role in opening up the North East corner of India at a time when others “feared to tread” the jungles.

Benjamin Piercy quickly assembled a trust-worthy team: his brother Robert and three Italian engineers, Chevalier Roberto Paganini and two others, also named Paganini. All had worked together in Benjamin's last construction – a railway in the Mediterranean island of Sardinia.

In 1881, the nearest approach to Assam by rail was from Calcutta by the East Bengal Railway from Sealdah via

The 'maund' was an old unit of weight in India equal to about 37 Kgs.

Incumbency board at Dibrugarh Workshop

Ranaghat, Porada, Ishurdi, Santahar and Parbatipur to Kaunia on the Teesta river or Goalundo on the Padma river. From each of the two river-cum-railheads it took a fortnight to reach Dibrugarh. Dividing themselves into two batches to inspect both routes, the team reached Dibrugarh on 1st December 1881, while Benjamin Piercy remained in England to procure and send rails, locomotives and construction material. He had, however, instructed the teams to ensure that the route should approach the coalfields as well as any future oil wells.

Construction work could only start in January 1882, after surveying the line from the steamer ghat to and beyond Dibrugarh town and acquiring land for men, material and also a workshop where Robert Piercy established himself. Soon, the first consignment of rails, locomotives, etc. shipped from Britain arrived at Dibrugarh. The first few miles of track were laid and on May 1st 1882, the first metre-gauge locomotive in Assam passed over a section of line from the steamer ghat to a little beyond the town, giving birth to the Dibru-Sadiya Railway (DSR).

Rail construction was also commenced from the Dehing river-end. The site for crossing this river was fixed half way between the Makum fort and Kujugaon village, where in March 1882 Roberto Paganini established his quarters. From here he was to build a bridge across the Dehing, lay the tracks in the North and to the coalfields in the South beyond the river.

Since rivers were the major means of transportation in the area, the company planned to purchase its own riverine craft. Indeed, on his way to India, the senior Paganini had first visited Karachi to inspect river craft available there for immediate disposal and which might prove suitable for the construction work in Assam. These river craft, procured by the Scinde, Punjab and Delhi Railway for the rail-cum-river

project along the Indus, lay at Kotri, 100 miles up the Indus, surplus and abandoned. Arrangements were made for the long and hazardous journey of eight barges and five steamers to Calcutta. It took four months to reach Dibrugarh, with one steamer and two barges being lost en route.

The line first proposed in 1879 was to serve the tea gardens and therefore was to run along the Sadiya Road, which proceeds eastwards from Dibrugarh, swings in a North-Easterly direction after Tinsukia and runs due North from Doom Dooma. This was to be the "main line." But the march of events proved that the line to the coalfield (referred to in all earlier accounts as the "branch line") and with traffic already offering, was of greater importance than the Doom Dooma section through uninhabited country with no existing traffic. In fact, the urgency for coal prompted a change in construction priorities and in the rail alignment itself. Originally, the proposed location of the junction was to have been Doom Dooma. A timely decision was taken in 1881 to locate the junction nearer Dibrugarh, necessitating a change in direction of this line at Bogapani from Northward to Westward with the junction near Tinsukia. This location, 40 miles from the steamer ghat at Didugarh, was named Makum junction. For coal and oil traffic this not only reduced the distance to Dibrugarh but also saved reversal of trains. The line towards the coalfield has since come to be known as the "main line."

A site on the South bank of the Dehing River was chosen for the settlement for employees working on the coalfields and on the bridge and tracks. The site was named "Margherita," in honour of the Queen of Italy. Whether the Company's Directors so named the site as a graceful tribute to Chevalier Roberto Paganini – or it was Paganini himself, out of patriotism – is not clear. In either event, the result is the same – a lasting memorial to the Italian Engineer, who, having lived in the vicinity from the outset, founded the settlement and constructed the first bridge over the Dehing and the railway on both sides of the river.

The coal line was opened for goods traffic from Dibrugarh up to the Dinjan river (15 miles) on August 15th 1882; to Chabua on December 23rd 1882 and for passenger traffic to Makum junction on July 16th 1883. On Christmas Day, 1883 the lines converging from the Brahmaputra and the Dehing, having by then approached close to each other, the last rail was linked at Borbhil, in the heart of the forest, completing 61.5 miles of through rail communication.

The official opening of this line and the coalfield took place on February 18th 1884. A special train left Dibrugarh at 7 a.m. with some 400 people of all communities, including ladies, a detachment of the Lakhimpur Volunteers and the band of the 42nd Assam Light Infantry. The train left Makum Jn., at 10.30 after a short halt.

The Dehing bridge was reached at 12.30 pm. This was then of timber construction and not yet ready for passage of locomotives. The carriages were hand-shunted one by one across the bridge to the Margherita side of the river. Here the Volunteers paraded while the train was re-assembled. Another locomotive then continued the journey to the collieries at Ledo, where some of the party went into the incline to witness mining operations.

The train started back at 2.50 pm, and reached Margherita at 3.15 where the band played and the Volunteers paraded. The Chief Commissioner took the salute and gave an inaugural speech at lunch which was taken at 4.30 pm. The train finally reached Dibrugarh a little after mid-night.

In March 1900, Viceroy Lord Curzon visited the region and wrote: "As soon as my present tour of Assam was arranged, I wished from the first to include in it a visit to Margherita and the coal mines and oil wells and other industries which have been developed by the Company.....I find here a most interesting and enterprising corner of Her Majesty's Dominions."

The company-constructed line from Makum Jn. along the Sadiya road to Talap, including the Doom Dooma bridge, was still under construction. The first part (10 miles), as far as Doom Dooma, was opened to traffic on May 2nd 1884; and the next section on February 5th 1885. The 5.5 mile Margherita-Ledo Colliery line was opened on 17th February 1884. The 8.5 mile extension of the Company's railway from Talap to the Brahmaputra at Saikoaghat (across the river from Sadiya) was built in 1910 at the Government's request.

In all, the DSR had a route mileage of 91.25 miles. Of this, 32.38 miles were laid on 60 lb rails, the rest with 50 lb and 41.5 lb flat foot steel rails. Sleepers were of local *sal* and *ajhar*. The capital outlay was ₹ 1.23 crores. Government had given the land free and promised an annual subsidy for 20 years. This subsidy, amounting to ₹ 5,112, was terminated in 1903 in respect of the main line and in 1920 in respect of the Ledo Colliery line. The ARTC was free to fix fares and freight charges but Government could intervene after 5 years if profits (all of which accrued to the Company) exceeded 12% of the paid up capital. In 1922, the gross earnings of the line were ₹ 14 lakhs and the Operating Ratio under 65%.

The DSR was separated from the railway system of India for many years and by many hundreds of miles. It was only in 1903 that the Assam Bengal Railway (begun in 1891) was extended to provide a junction at Tinsukia with the Company's railway; access to the sea at Chittagong came in 1904. The East Bengal line to Amingaon was not completed until 1910. The line from Gauhati via Chapramukh reached the Assam Bengal Railway line at Lumding in 1920.

For maintenance of the locomotives and other rolling stock, workshops were built at Dibrugarh. The old Dibrugarh workshops were cramped for space and located inconveniently at a site where the river was eroding its banks. In 1911, thirty years after the first workshop was built, a new one was constructed further inland and included the Erecting Shop, Boiler Shop and Smithy, Foundry, Machine shop and the C & W Shop. New General Stores buildings were completed in 1919. The site of the original workshop is now under water.

Apart from the workshops, at most locations approaching the coalfields, 2-ft gauge tracks were laid for tubs to convey the coal from the tunnels of the mines to railway sidings, which had been constructed to reach out to the mines.

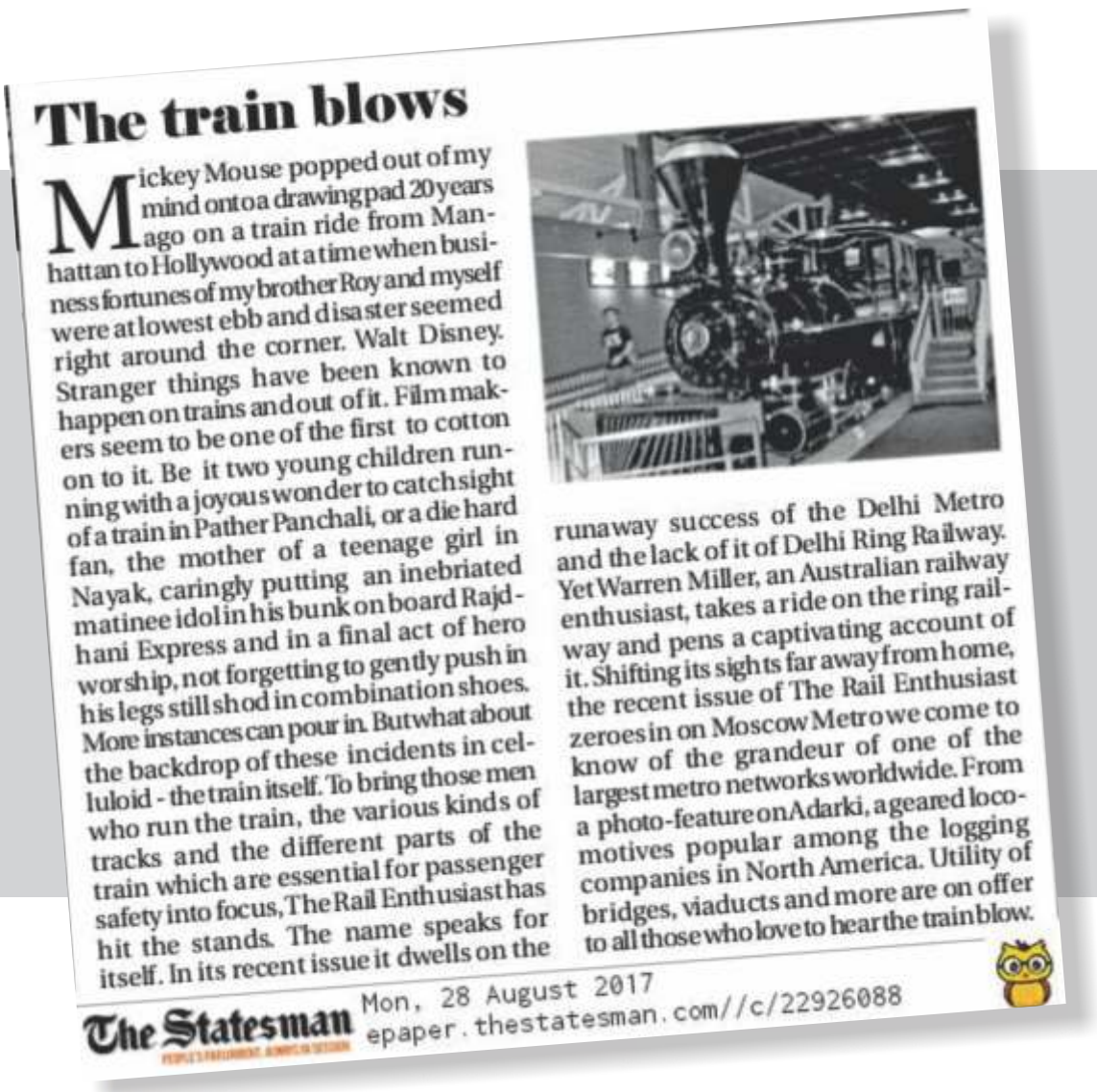
Having eased itself from other pioneering activity in the area (rail, coal, petroleum and timber) the Company finally retained interest only in tea – the original *raison d'etre* for coming to Assam.

In 1942, the Japanese advanced into Burma. It was decided that for operational purposes all railways in Assam should come under one management. Accordingly, in April 1942, the Government of India assumed responsibility for the Company's railway, paying a fixed rental. The Company staff remained in position locally.

After three years during which time increased facilities, including many new sidings and buildings, plant and machinery, locomotives and rolling stock, were furnished at Government expense to transport heavy military traffic, it was only to be expected that the Government of India decided to incorporate this busy little railway into its main line system. The Government and the Company having agreed to a suitable figure, the former then purchased the Dibru-Sadiya Railway and Colliery Lines in April 1945.

Thereafter, in 1946, sixty-five years after it was opened, the Assam Railway and Trading Company closed its Dibrugarh office.

Photos: Archives of the Rail Enthusiasts' Society



The train blows

Mickey Mouse popped out of my mind on to a drawing pad 20 years ago on a train ride from Manhattan to Hollywood at a time when business fortunes of my brother Roy and myself were at lowest ebb and disaster seemed right around the corner. Walt Disney. Stranger things have been known to happen on trains and out of it. Film makers seem to be one of the first to cotton on to it. Be it two young children running with a joyous wonder to catch sight of a train in Pather Panchali, or a die hard fan, the mother of a teenage girl in Nayak, caringly putting an inebriated matinee idol in his bunk on board Rajdhani Express and in a final act of hero worship, not forgetting to gently push in his legs still shod in combination shoes. More instances can pour in. But what about the backdrop of these incidents in celluloid - the train itself. To bring those men who run the train, the various kinds of tracks and the different parts of the train which are essential for passenger safety into focus, The Rail Enthusiast has hit the stands. The name speaks for itself. In its recent issue it dwells on the runaway success of the Delhi Metro and the lack of it of Delhi Ring Railway. Yet Warren Miller, an Australian railway enthusiast, takes a ride on the ring railway and pens a captivating account of it. Shifting its sights far away from home, the recent issue of The Rail Enthusiast zeroes in on Moscow Metro we come to know of the grandeur of one of the largest metro networks worldwide. From a photo-feature on Adarki, a geared locomotives popular among the logging companies in North America. Utility of bridges, viaducts and more are on offer to all those who love to hear the train blow.

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epaper.thestatesman.com//c/22926088

Engineering Marvels

Pamban Bridge

Ravi Sundararajan

An engineering marvel of yesteryear – the Pamban Bridge – 103 years old and counting!!

In the mid and late 19th century, India witnessed proliferation of its rail network at an extremely fast pace. With the automobile still some decades away, the railway system excited the public while at the same time threw up new challenges in terms of creation of rail lines, operations, management, etc. for the rail companies. Nevertheless, railways being the primary industry then, it had attracted the best managerial and engineering talent. People took pride in working for and having an association with the railways.

Southern India had 3 railway companies: South Indian Railway (SIR), Mysore State Railway (MSR) and Southern Mahratta Railway (SMR). SIR was the company expanding the network towards the southern part of Madras Province (now Tamil Nadu). SIR built rail lines from Madras Beach Jn. to Tiruchirrapalli Jn. (via Cuddalore, Tanjore) and further to Madura Jn. (now Madurai) all the way up to Tuticorin. It developed a branch line from Madura to Mandapam and Rameshwaram/Dhanushkodi. Rameshwaram/ Dhanushkodi is a small island in the Palk Straits that separate India and Sri Lanka and an important pilgrimage centre for Hindus. However, the British had a different agenda. This was to provide connectivity of two major ports of Madras Province to the provincial capital. There was a master plan to extend Madras-Dhushkodi rail link to Ceylon (now Sri Lanka).

Summarising, by 1914, the Meter Gauge (MG) line from Mandapam had been extended to Dhanushkodi. At the same time, in Ceylon, a Broad Gauge (BG) line had been laid up to Talaimannar, across the Palk Straits from Rameshwaram/Dhanushkodi. The Dhanushkodi-Talaimannar link would not be by train but by steamer.

The Mandapam-Dhunshkodi/Rameshwaram rail line required a sea bridge to connect Rameshwaram island to

Passenger train to Rameshwaram on Pamban Bridge

Spans of the bridge lift for a ship to pass

the mainland. Since the sea link cut across the Gulf of Mannar and Palk Strait, the 2.06-kms long sea bridge that was proposed needed provision of a span that could open to sea traffic as and when required, thus enabling ship movement. This requirement posed a serious challenge to the railway engineers 100+ years back. The solution was an "open-close" mechanism using the Bascule bridge design concept. This was designed by the Scherzer Rolling Lift Bridge Company, Chicago, USA and constructed by Head Wrightson, Thornaby-on-Tees, UK. This is the span that has given uniqueness and a distinctive quality to the bridge that was built. This is the Pamban Bridge. Construction commenced in 1911 and the bridge was opened for traffic in February 1914 with an MG single line. The Pamban bridge, with 143 piers, is the second longest sea link in India after the 2.3-kms Bandra-Worli sea link on Mumbai's western coast.

A bascule bridge or Scherzer span, is a moveable bridge with a counterweight that continuously balances a span/ leaf, throughout its upward swing to provide clearance for boat traffic. It may be single or double leaved and Pamban bridge has two leaves.

Typically, such a bridge span consists of a curved structure (like roller) with a long span on one side and a counter weight on other side. Rails are mounted on the long span.

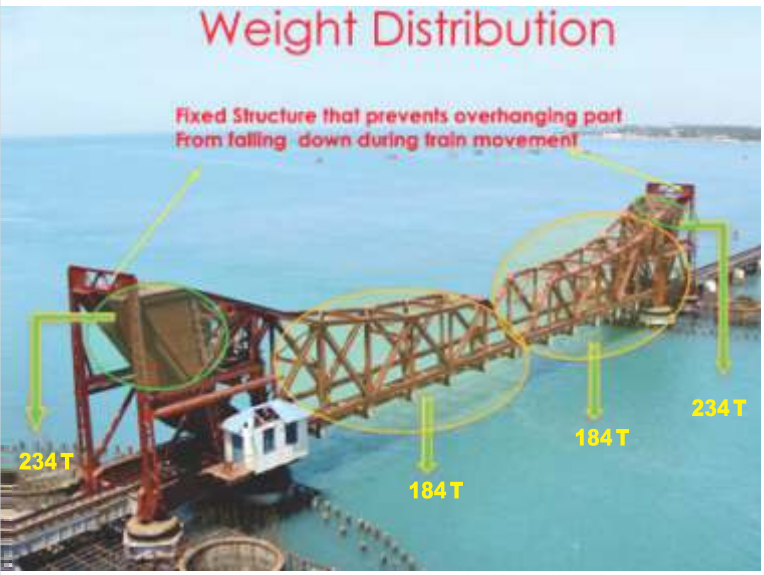
The curved structure rests on a horizontal platform and can roll on this platform. The counter weight is heavier and at a higher level than the span and creates unstable equilibrium (by design) resulting in a rolling effect on the Scherzer span. Thus, a natural upward lifting tendency is created on the span such that the span does not fall into the sea. On the Pamban bridge, the span weight is 184 Tons and the counter weight itself is 234 Tons.

During train movement, the cumulative weight of the rolling stock/loco and span weight exceeds the counter weight on the other side. This creates a reversal effect and a vertical force is created on the counter weight. Outer pillars on which these platforms are fixed are specially designed to handle this upward tensile force created by the vertical forces on the counter weight.

The Scherzer span can be opened or closed by a cranking wheel which in turn rolls the curved structure on the horizontal platform. During the cranking operation for opening, the cantilever portion of the span with the rail moves upwards and counter weight comes down. To avoid the lifting up of the span, it is always kept in closed condition and ratchet mechanism (brakes) arrest the upward lift of the span. In effect, the Scherzer span is a rolling cantilever bridge and the point on which the curved structure rests is the fulcrum. The fulcrum location is dynamic and changes to various points on the horizontal platform whenever the Scherzer span is opened or closed.

The Scherzer span has another challenge, that of 3-dimensional rail alignment unlike rails on firm ground or platform. Longitudinal, lateral and vertical alignments are to be precise to ensure safe train operations. Longitudinal alignments are not a problem and gaps are adjusted by local engineering staff. Each Scherzer span is heavy by itself (418 Tons) and does not pose lateral alignment challenges. Vertical alignment is the real challenge. The span thus has a male/female inter locking mechanism and while closing the span, the bridge operator ensures that this is securely locked. Additionally, rails are also bolted with fishplates and secured.

Since the opening and closing of the span requires close co-ordination between the railway and marine authorities,



a well-documented sequence of operations is followed whenever the span has to be opened or closed. Among the areas to be taken care of is the presence of the lifting team which comprises of a minimum of 16 men for cranking (4 people for each side and on all 4 sides), a few at the centre location to co-ordinate the unlocking and locking operations to open and close the span respectively. Also present are a bridge operator and his assistant as well as a bridge inspector.

On the night of December 24 1964, a super cyclone struck the area and the Pamban-Dhunskodi Passenger was washed away by a tidal wave killing all the occupants (around 115 passengers) on the way to Dhanushkodi. The cyclone caused many girders of Pamban bridge to be washed away but the Scherzer span withstood its fury. The bridge was restored by E. Sreedharan, who later earned a name for himself as the "Metro Man", in a record time of 46 days. It should be noted that the accident did not take place on the bridge itself.

Project Gauge conversion of the Indian Railways affected this bridge as well. Work of converting the MG line to BG was started in 2006 and completed in mid-2007. Various factors like the higher size and weight of the rolling stock, tighter dimensions and financial viability were taken into account. An international tender was floated for consultancy and execution but given up owing to high costs. Finally, an indigenous solution was found with the help of IIT Madras who came out with a solution to lower rail level by 2½ feet to accommodate the additional height requirements of BG rolling stock. Width was never a challenge as the original design could easily accommodate BG rolling stock. The original design of the Scherzer span structure and mechanism were retained.

The main challenge was reduction of the weight of the Scherzer span and was achieved by avoiding guard rails, use of wooden sleepers instead of metal sleepers, etc. With only 4400 mm from rail level, further restrictions were imposed on rolling stock and locos due to very tight vertical clearances. Only WDM4, WDP3A (and a few similar locos) are allowed. WDP4/WDG4, good trains, multi-locos are not allowed and possibly even electrification will be impossible on this section. Heavier BG train movement increased the upward thrust on the outer pillars and 4 new diagonal reinforcement members were constructed for safe train operations.

The bridge is located in a highly corrosive environment making its maintenance a challenging job. Structural members need frequent checks, painting, reinforcement by additional supportive plates by welding, etc. Special painting and anti-corrosive treatment is regularly undertaken and moving parts are lubricated regularly. Even special rails with anti-corrosive properties are being tried on this bridge.

The bridge has a permanent speed restriction of 15 Km/hr and like any other bridge, loco pilots are to coast at constant speed without any abnormal notching or braking. The bridge is prone to high velocity winds regularly and also prone to cyclones. An anemometer is installed at the middle of the bridge to measure wind velocity and trains

A road bridge parallel to the rail bridge was built in 1988

A Scherzer span

are not permitted whenever the wind velocity exceeds 58 Km/hr. Bridge entry signals are interlocked with the anemometer and the signal cannot be taken off if the wind exceeds the prescribed limit.

Some trivia about the bridge will interest rail enthusiasts.

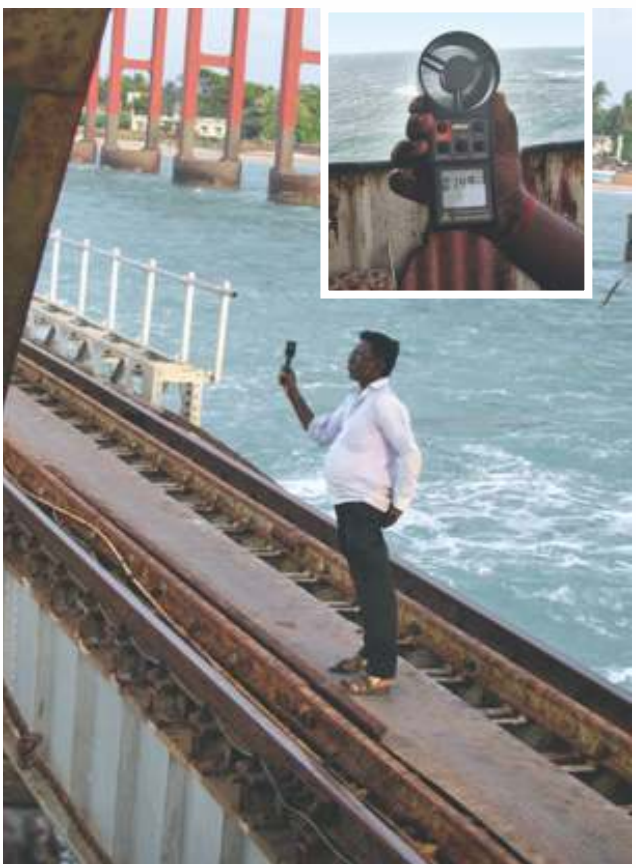
- It is over 100 years old and still going strong
- Many structural members and beams in the Scherzer span that were made in England are still intact
- Weighs about 1000 Tons during train movement with a Dead Weight of 836 Tons
- 3 to 5 ship movements a month (Average)
- First Sea Bridge in India
- Then Railway (SIR) had Marine Department at Dhanushkodi to oversee passenger and parcel transshipment from rail to ship
- SIR/SR issued Tickets & Passes from India to destinations in Ceylon. The Madras Egmore-Dhanuskodi train was called Indo-Ceylon Express for some days and later it was called Boat Mail
- After the 1964 super cyclone, Pamban-Dhanushkodi line was not restored and the village Dhanushkodi was declared "Unfit for living" by the then Madras government

The bridge was initially built by the British as a strategic line to assist in troop movement and other requirements of the colonial power that governed India as well as Ceylon. The Indian Railways now consider this to be an unviable line and many feel that the bridge has outlived its usefulness. With the completion of the Annai Indira Gandhi Road bridge in 1988, the need for this rail link has diminished further.

This line may be closed and the bridge abandoned with newer alternatives. But that will be a sad moment for many old timers and rail enthusiasts. After all, nothing is permanent in this world and ultimately, even for the Pamban bridge, only nostalgia will remain.

Photos: Courtesy the author

Measuring wind velocity manually



Recreating the Raj Railway in Miniature – Part 2

Ranjeev C Dubey

Roots of the Kalka Shimla Railway

In the December 2016 issue of ***The Rail Enthusiast*** *Ranjeev Dubey had presented the first part of his write-up on "Recreating the Raj Railway in Miniature". We now bring you the 2nd part which is actually a prequel and not a sequel as you might expect. Here, Ranjeev tells you of how he got into and developed this passion of his and gives beginners and budding rail modellers good lessons on how to go about the hobby. The final result of his experimentations and innovations resulted in the Kalka-Shimla Railway in miniature that you read about in Part 1.*

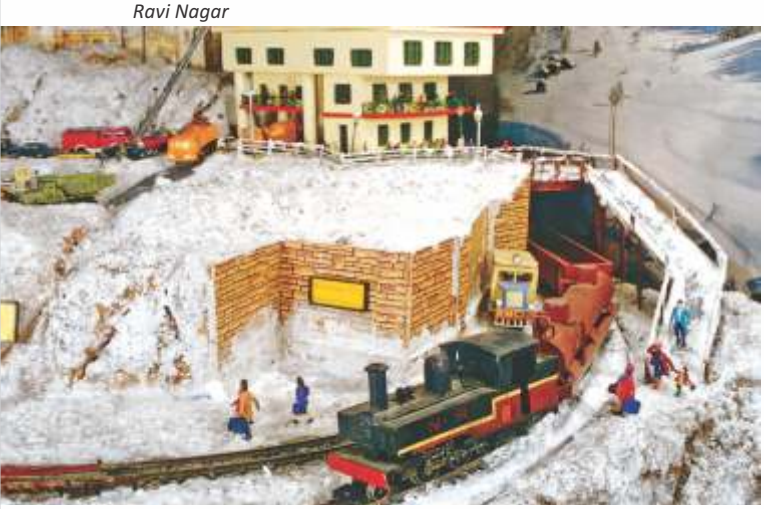
Long and Winding Road

A successful life is frequently a succession of happy accidents. That is most certainly true of my model building. Back to September 1984, I spotted on a pavement in Connaught Place, a coffee table book on the railways for ₹ 5/-. The railways fascinated most everyone those days, but in truth, I bought the book because it was cheap. It was only after I got home that I realized that it was about model railways, triggering off a lifelong passion, which ironically has been anything but cheap!

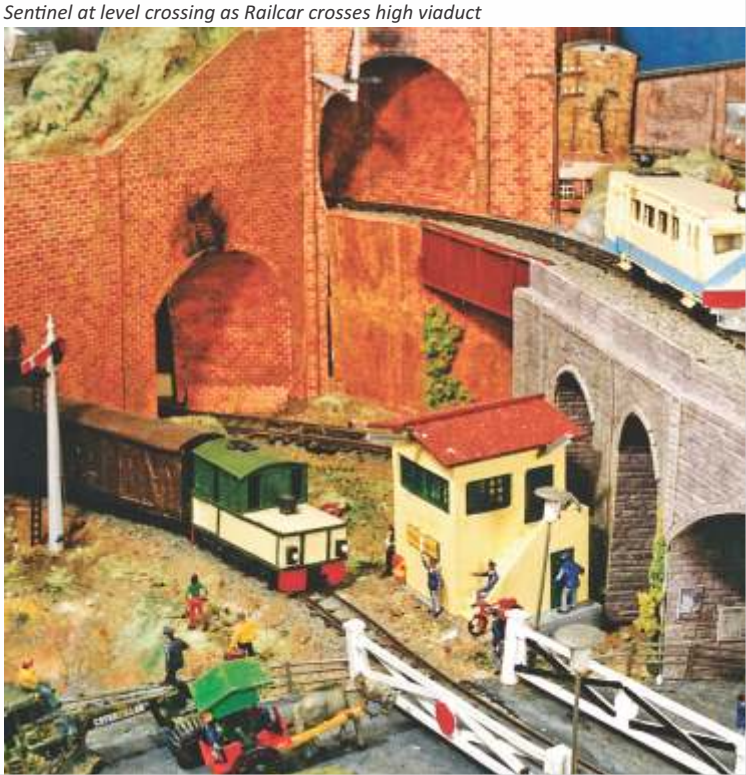
The book described model railway building in UK. Britishers worked mainly in OO scale (1:76 or 4 mm to the foot) those days and had a wide variety of proprietary material available to them from Hornby, Dapol, Triang, and a whole host of small boutique garage industries. Knowing no different, this is where I started. That one book triggered a manic obsession that still smoulders in my heart 35 years later. I just had to enter the hobby. I was a struggling lawyer on a Yezdi Motorcycle: I had no law practice, no chamber, no office, no credit card and no money. All I could do was go shoe stringing. I started to build in cardboard harvested from detergent boxes. Before the year was out, I had built a basic OO scale building using free cardboard, toothpicks, soda straws, and ballpoint pens all put together Fevicol *se*! All I needed to really buy was engines and wagons.

I asked around and was told there existed something called the India Hobby Centre in Connaught Place. They worked mainly with aero modellers but they had some train stuff too. They introduced me to Ashwin Mehta from Bombay, who was single-handedly trying to promote the hobby in

Ravi Nagar



Sentinel at level crossing as Railcar crosses high viaduct



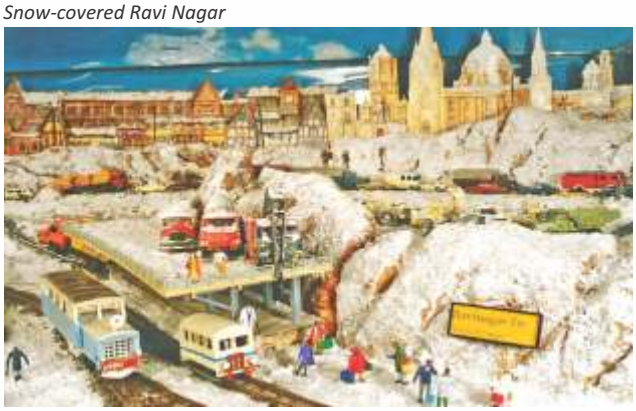
India. He produced rudimentary folded brass sheet track with one left hand turnout (no right hand turnout!). His primitive 0-4-0T locomotive ran on a crude six-volt motor but he had imported several dozen Pemco Co-Co diesels (a Hong Kong company that soon shut shop!) and he supplied stocks of these to India Hobby Center in Connaught Place (which also eventually shut shop!). My first layout was laid on plywood using automobile gasket material from Kashmiri Gate using Ashwin's folded brass track and stock. It didn't work much, if at all! Still, I was ecstatic.

By a happy accident at this point, I discovered another railway modeller in Delhi: Rakesh Govil. It was at his place that I discovered the real world of model railways: magazines, kits, stock, track and details but mainly I discovered German N scale (1:160). Rakesh was generous to a fault. He let me invade his privacy every Sunday, borrow his magazines without limit and take the N scale equipment he could spare. Since he didn't have unlimited equipment to spare, I spent a long time in a feeding frenzy over pen pal lists that regularly appeared in magazines and Sunday newspapers, writing to people all over the world, looking for someone to trade with.

Eventually, I found a German lady who exchanged Indian Railway memorabilia with me for N scale supplies for a while before she found out I was marking up my exports! She was deeply offended, though from my own convoluted standpoint, I could price anything I sent out at whatever I could get for it. To this day, the cultural issue remains unresolved in my mind: hopefully, that is not because lawyers are incapable of comprehending ethical issues! Somewhere in this period, I also found a Russian modeller and it was really quite funny because I was sending him Ashwin's rudimentary models and he was sending me cheap Russian toy trains and both of us were imagining that each guy was testing the other when neither of us actually had any trains to trade. Eventually, I ran out of junk and sent him some Indian tea and he ran out of junk and sent me some cheap oil based cologne which stained my shirt! In my salad years, a lot of my relationships started with a bang but ended in a whimper!

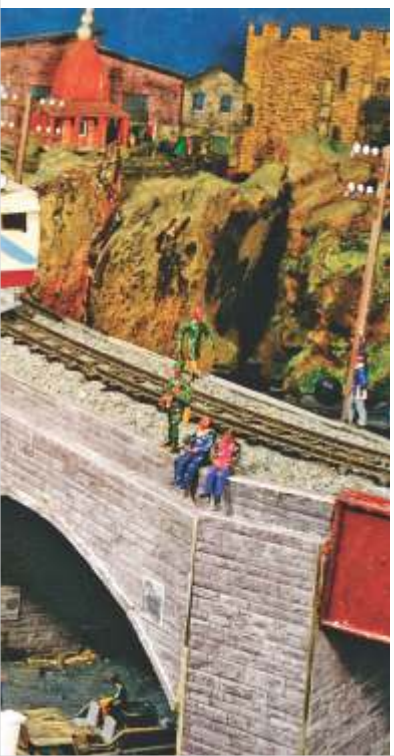
Through another common contact, I also found an English friend – Patricia Wick – who became my mail supplier for nearly 25 years, till credit cards and internet sales became common in India about Y2K. Eventually, I gravitated to

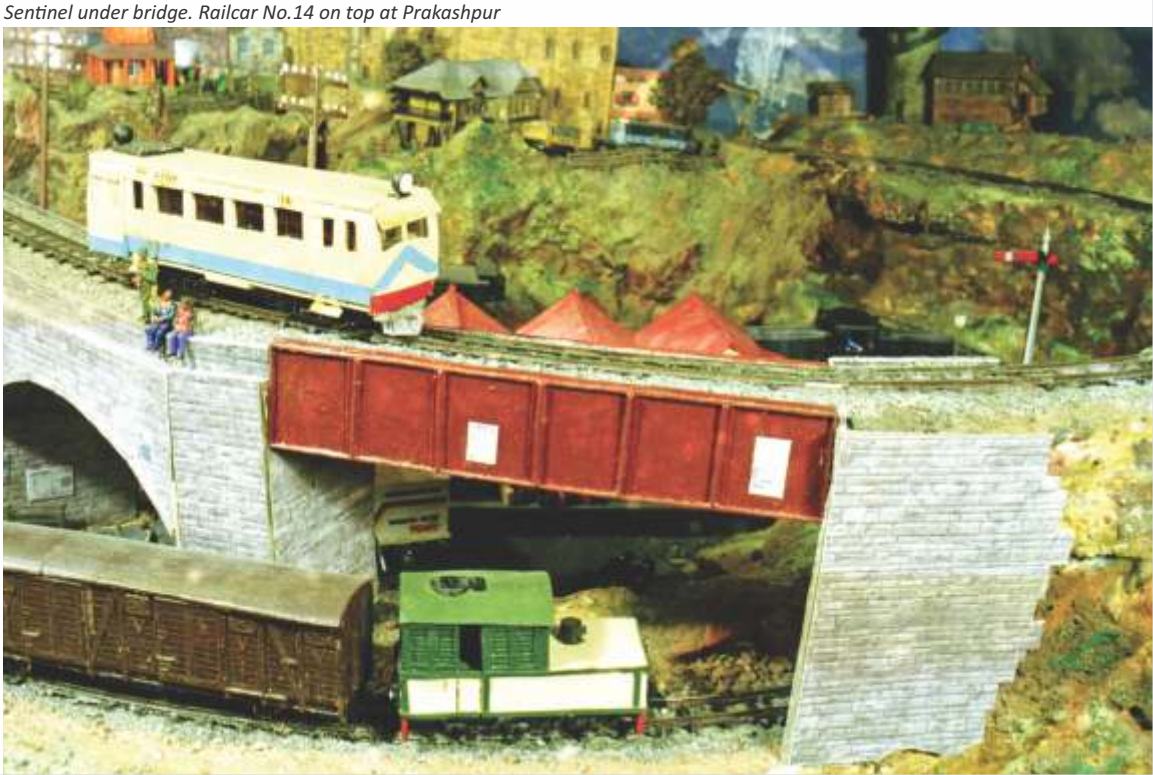
Snow-covered Ravi Nagar

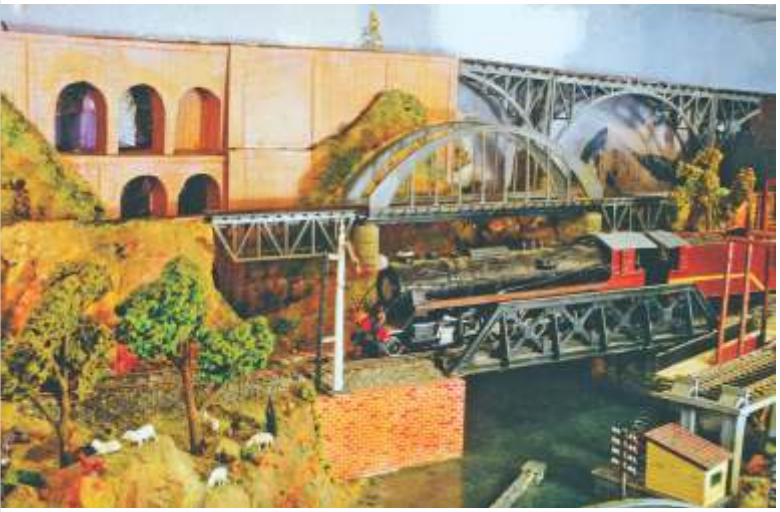


Snow plough and road vehicles

Sentinel under bridge. Railcar No.14 on top at Prakashpur



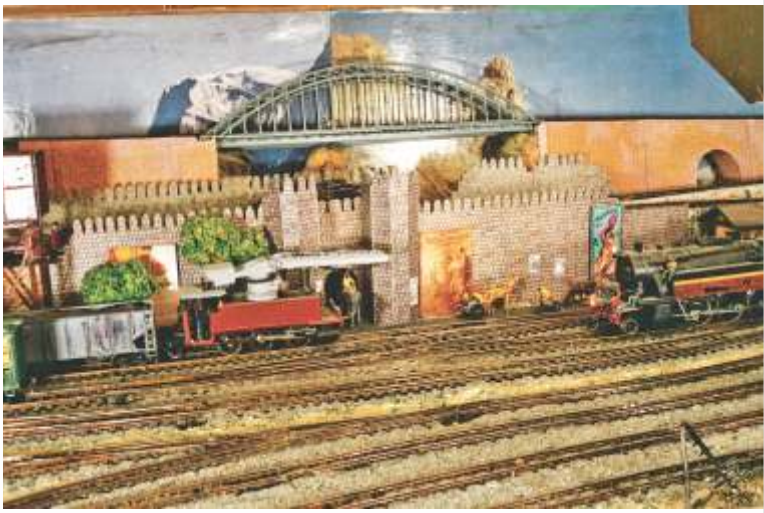




WG crosses the Rohinpur bridge

BG WT at Rohinpur

Broad Gauge WG class locomotive



Crane loco at Rohinpur with a class WT locomotive

building N scale interconnected wall hung 1 x 4 foot shelf railways from an article I read in Model Railroader magazine (February 1977 issue, I think). It allowed me to experiment with electronics, track and scenery but mainly, it allowed me to migrate my trains from flat to flat as I slowly chipped away at my professional profile. I built baseboards using a basic wooden frame over which practically everything was built of cheap white thermocol. I built small hill railways and desert railways. It was the idiot proof road to self-discovery because it allowed me to discover what I wanted out of my modelling life four square feet at a time.

Early Lessons

As I look back at my modelling years, building model railways one small module at a time was without doubt my greatest innovation. One module cost me little in money or time to make, allowed me to experiment as I honed new skills. Destroying these modules because they weren't satisfactory didn't leave me devastated either. This remains my advice to start up model builders everywhere. If you decide to get into this hobby, consider building a very small layout. The truth is that no matter what you build, in a year or two, you will dislike it. The bigger your early layouts, the more layout you will destroy! Small is beautiful.

My second advise to young modellers is to always go budget in the beginning. This hobby caters to all kinds of people: from those who want to buy a toy locomotive for ₹ 5000/- to those who want a highly detailed brass model for ₹ 50,000/-. Money doubtless buys you superior quality but when you begin, it's all about honing skills and it's always easier to destroy things that are not worth too much. This applies not just to model engines but to pretty much everything on the layout.

Let me illustrate what I mean. It is possible to control turnouts (where tracks diverge) with solenoid motors, slow action coil motors connected to addressable digital controllers, motorcycle cables, bicycle spokes, wire in tubes connected to slide switches or proprietary mechanical ground throws by the side of the track. Which one is right for you? I tried them all and liked the wire in tubes the most, but not before I had experimented with all the other methods. Within a year of entering the hobby, I purchased 24 solenoid motors at a time when I only owned one black

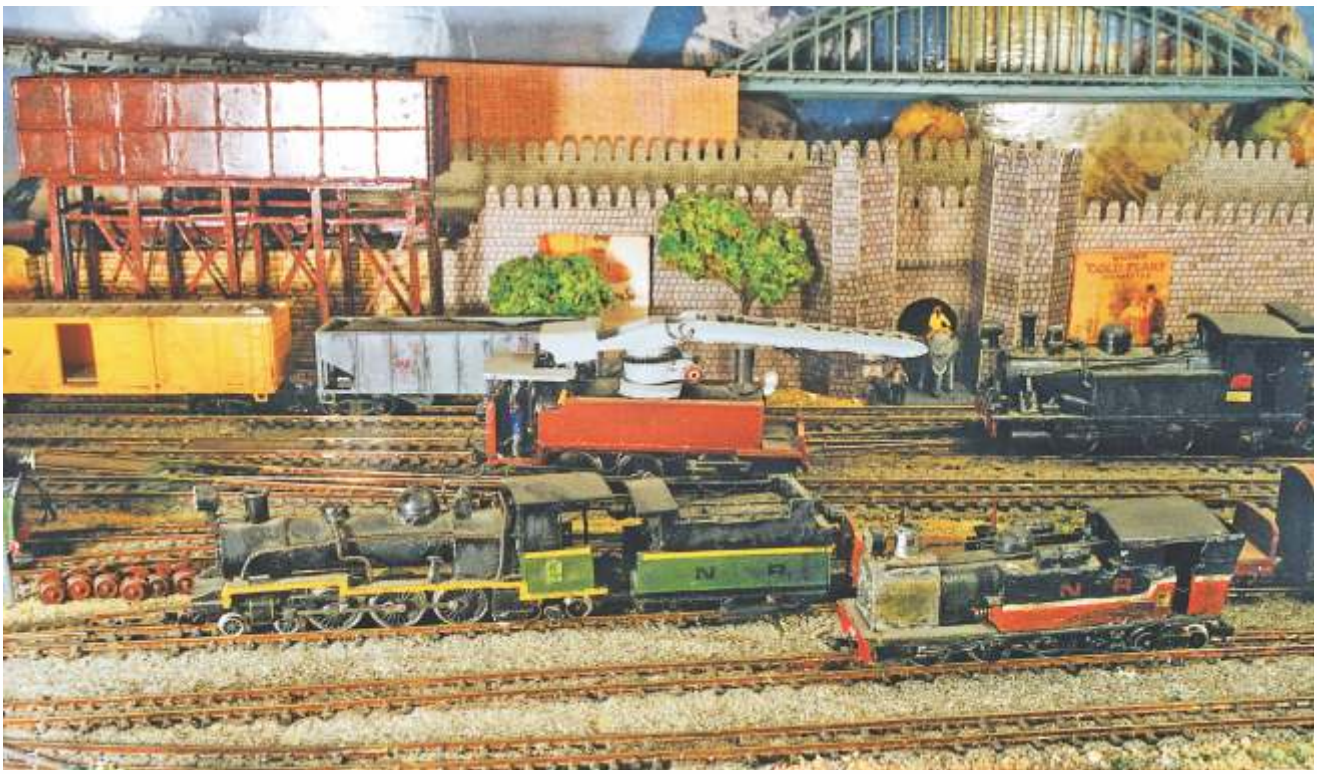
coat and six trousers. I didn't like the complexity of the maintenance so I threw them away after a while, absorbing a loss I really couldn't afford. If you don't know what you will eventually want, why spend the money till you do?

Similarly, it's possible to build scenery using Plaster of Paris over wire mesh, paper mache, expanded polystyrene (thermocol) sheets or spray can foam. How would you know what you like till you've tried them all? I did, and eventually settled for blue foam sheets commonly used as insulation in the construction industry. I use them as baseboards to lay my track on and I carve them to represent rocks and mountains. My layouts now are nothing but blue foam in various *avatars*. What is not blue foam is generally plastic of one kind or another!

The good sense in experimenting till you truly know what you want is also good with scale gauge combinations or for that matter, the sort of layout one builds: large mainline railways, small branch line railways, Narrow Gauge railways like my own Kalka Shimla, odd ball curiosity railways (meaning item girls!), minimum space track twisting rabbit warrens, micro layouts... Railway Modelling is a voyage of discovery. It is wise to contain your raging hormones and keep experimenting till you meet the girl you want to marry!

Looking back, the fun part was the condition in which all my bachelor pads looked in those days. There were 1x4 modules all over the place: hanging off the walls, running into walk-in closets, clamped to banister railings of landings, snaking around the kitchen door, and ducking behind the geyser outside the loo. I used to breed Lake Malawi Cichlids too in those days in four antiquated aquariums but that is another story! It was a godawful mess in there, but man, was I happy!

This period was a time of tremendous learning and I developed a modelling philosophy I have never changed since: KISS a.k.a "keep it simple stupid"! In practice, this means shoe stringing and something very fashionable in the license-permit Raj of the time: "import substitution"! I do everything in my power to keep everything as uncomplicated as possible. If I can do it, anyone can do it. I have no specialized modelling tools and no special skills. I don't understand electronics and I can barely solder a wire to a track section. I have always had minimal electrical circuitry, no turnout motors, no working signals, no complex electronics and no lighting in the buildings, then or now. I still built shelf railways; only the shelves are getting a bit deeper, a bit taller.



NG locos lineup at Rohinpur

Being Indian

As the years went by though, it was painfully obvious that I wasn't building a model of anything real: just American wagons and German engines on English track running through an Indian countryside. Learning how to build is not the same thing as understanding what to build. I was and remain deeply nationalistic in the sense that I don't

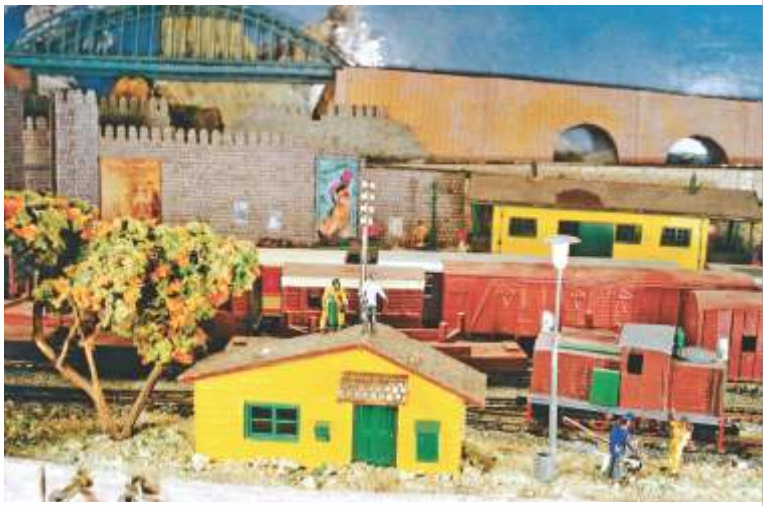
complain. I have never lived abroad and have no desire to do so. It was natural for me to want to build an Indian railway. Nothing was available of course. If I wanted an Indian railway, I would have to build everything myself. I decided it was better to build an Indian layout badly than a foreign layout well. How about an Indian layout in N scale? N scale (1:160) is still the smallest practical scale for those who want to have a real operating model railway, as opposed to some sort of gimmicky display stand. I tried to hack up British N scale engines to look like something vaguely Indian. Given that N scale engines are only about an inch or two in length, I was particularly proud of some of these efforts. I modified an old Peco Jubilee 4-6-0 to look like the Indian BESA standard HGC. Others ended up as specific non-standard Indian locomotives. I measured and photographed locomotives in the Chanakyapuri Railway Museum and then made models of them. It was fun, and the learning was great, but beyond a point, it was clear that my heart was not in building Indian broad gauge railways. It was time to move on.

This is when I finally started to lock down on my dream layout, but there was still a steep learning hill to climb. I moved to HOe scale – meaning HO scale (1:87 or 3.5mm to the foot) running on N scale track (9 mm gauge). A first attempt at HOe rail modelling became Rheasganj, a bookshelf railway inspired by Shimla station. Rheasganj grew as it expanded its tracks into Rohinpur, a duel gauge mainline railway station. The layout was freelanced in the sense that it did not represent any one location, but Rohinpur station was inspired by something you would likely find in the Himalayan foothills. Eventually, the layout expanded further and became the dual gauge double deck Ritu Valley Railway that filled half a room. By then, I had built a whole array of narrow and broad gauge Indian engines, wagons and coaches in plastic over proprietary HO mechanisms. It was prototype freelancing, but at least there was a prototype inspiring me. With the benefit of hindsight, I would say it was a good place to start. I say so because it's when you begin to move from casual model building to prototype freelancing that you transform from

Shimla Railcar No. 14 passes a Nagpur ZD

NG and BG locos line-up at Rohinpur

NG diesel being turned on Rohinpur turntable



The busy Rohinpur yard

NG ZD crosses the bridge in tandem with a BG WG

someone who plays with trains to someone who engages in this fascinating hobby called Model Railways. What separates toys from scale model railways is in the history they represent.

Before going further, please allow me to apologize for the poor quality of these photos. They were taken with a decent camera but I did not store the transparencies well. When transparency scanners first became available for home use, I bought a cheap model and scanned everything, not understanding that the software was very rudimentary. Two years after I scanned a few thousand transparencies, new scanners and better software vastly improved results. Well, I wasn't going to do it twice so there you have it!

Shoe String Landscapes

Considering that I had no money and very little access to imported material, how did I manage to build the railways you see in the accompanying pictures? Some things I have told you already. At that stage, the base on which I built my trains was still 12 mm commercial board. I overlaid this with 3.2 mm cork from Kashmiri Gate and then laid the track on top. My track came mainly from Peco in UK, though I have used Fleishmann and Minitrix N scale track from Germany in the past.

Once the track had been pinned down, I installed the control rods for the turnouts. I used bicycle spokes in those days and ran them to the edge of the layout, pushing or pulling the rod to switch turnout direction. After the track had stabilized, I painted the rails a rusty brown. Then I ballasted the track using river sand and stuck it all down

Railcar No.2 enters the station

Rheasganj Loco Shed

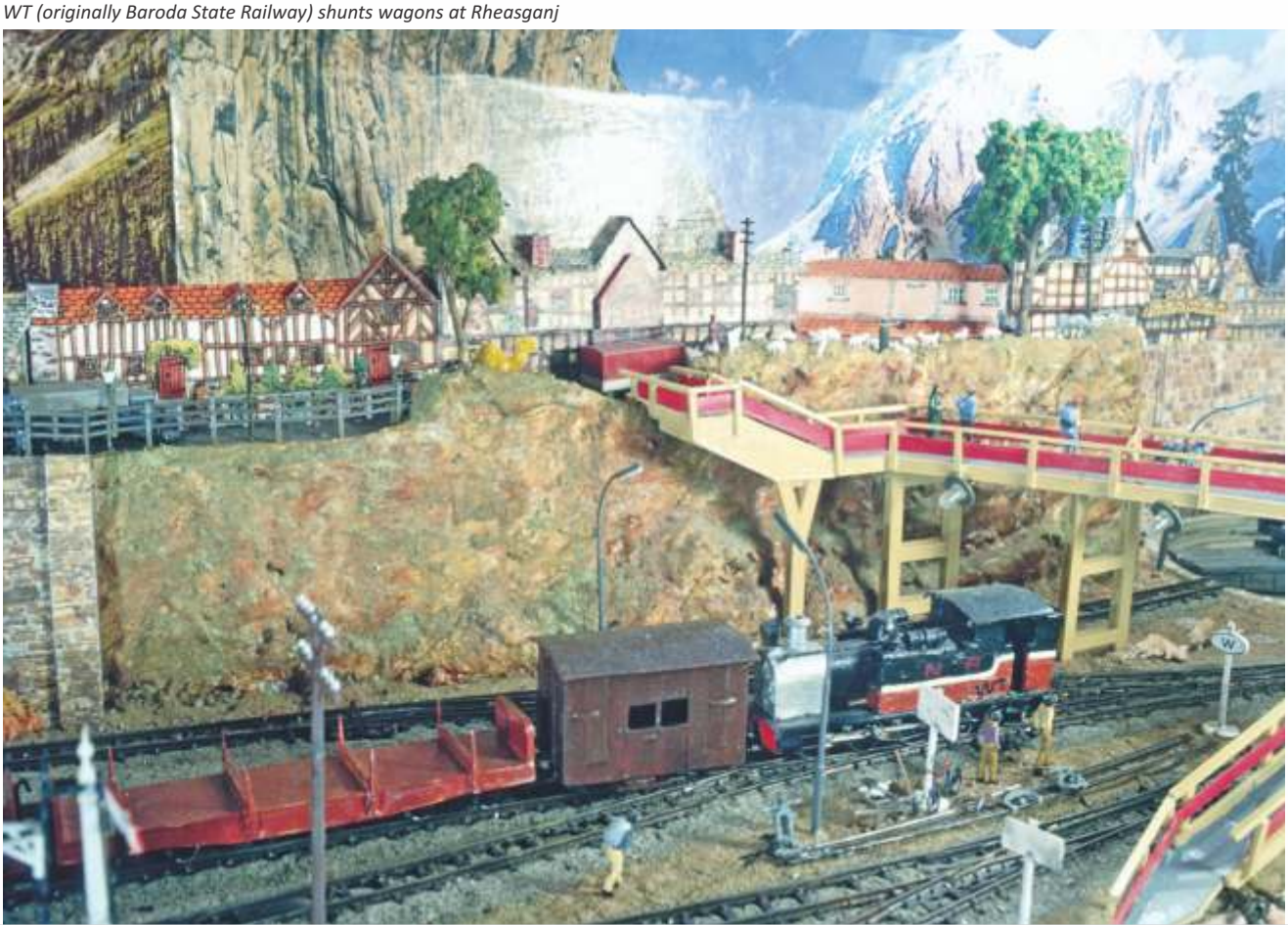
with diluted Fevicol. It was now time to build buildings. In those days, I generally built all buildings using HIP (High Impact Polystyrene) sheet obtained from Paharganj. I painted them straight for a cement effect, or used readymade paper sheets to cover the buildings if I was looking for a stone or wood effect. I used to get these sheets from UK and Germany and they still cost no more than Rs. 100 each at most. These days, you can simply download pictures of various building surfaces, print them out with a color printer and stick them onto your plastic 'wall', making everything even easier.

You will notice that the roofs of the buildings in the accompanying pictures have various textures. Some are optical illusions, where printed paper sheets represent ceiling tiles, while others are genuine scale plastic moulded sheets of tiles, or shingles, or even corrugated tin. Such sheets are available from UK and German suppliers and they still cost less than ₹ 250 per sheet of 8 by 10. You can make several buildings using just one sheet.

You will also notice that I represented the background landscape using photos. My work in this area was really crude in those days and consisted of creating a collage using color photos from old calendars. It didn't really work. I kept simplifying my methods as I progressed. These days, I just paint the backdrop a simple blue. It looks better and doesn't distract from what's in front. What about foliage and trees? Back when these photos were taken, the basic building block of foliage was ground foam. It was home made. I broke an old foam pillow into small chunks and ran it through my wife's blending machine in the kitchen when she was out for the day. I then soaked lots of this blended foam in different shades of green and yellow acrylic (fabric) paint and sun dried it in my wife's stainless steel 'katoris'. The maid conspired with me so the crime was not discovered till much later. For a delicate branch structure, I used lichen. This grows on trees and rocks in the high Himalayas. I was a serious trekker in those days and my trips always ended up with bags of this stuff coming back with me. It's easy to preserve lichen by soaking it in hot water for a while, drying it and then soaking it in glycerin for a day. Once dry, it remains fresh and soft for years. I dropped the foam directly on the baseboard to represent tiny growths, and dropped it over lichen to represent larger bushes which

ZF class locomotive on Rheasganj turntable

WT (originally Baroda State Railway) shunts wagons at Rheasganj



I then stuck down on the baseboard with white glue. The basic armature for trees came from garden hedges. It was easy to build up the branch structures over the hedge off cuts using more lichen till the lot could be sprinkled over with ground foam. For the standard of the day, it worked pretty well.

That leaves just the lineside details. Telegraph poles, street lights, signals, figures, benches, luggage and so forth, are ready made, available widely in Europe and America. I obtained these mainly from German sources, which at the time was quite hard. Now, with Ebay and Paypal, it takes nothing to get this stuff into India.

Finally, there's the snow scene. Those who have been to Shimla will recognize the Bus Stand and the Goods shed in this scene. The snow is nothing but Plaster of Paris into which I mixed the glitter that ladies use when they are in a mood for some seriously heavy make-up. To this I added some talcum powder to improve the texture. I stuck it all down with white glue. This part of the layout smelled really nice for years.

Rheasganj: A Darjeeling class B shunts the mechanical crane

Railcar No. 2 entering the platform

WT class 0-6-4T and ZF await departure

Then it Ended

The Ritu Valley Railway was a very good example of what could be done using mainly homemade techniques in India in the early 1990s. Like all good things, it all had to end though. My broad gauge railway ran fine but the layout was too small and the locomotives had nowhere to go. Mainly though, I had a big problem with HOe. Not only had my lack of experience led to some bad choices (for instance, bogie mounted standard N scale couplers do not work in Hoe). I also could not get myself to build the kind of bullet proof track that is *de rigueur* for HOe. Between the dust, the oxidization, the poor track and the poor mid 1980s locomotive mechanisms I was using for my locos, it never quite got to the reliability I wanted. Would it have helped if I had worked in a larger scale gauge combination? I thought so. My broad gauge railway always worked fine so why not use HO standard track of 16.5 mm gauge and scale the railway up to O scale (1:43 or 6.6 mm to the foot) to build my beloved Kalka-Shimla Railway? It looked like it would work.

An industrial diesel at Rheasganj

Now that is the story I will tell you the next time the editor lets me.

Photos: Courtesy the author

Rail Timetables

Timetables from the Past

Warren Miller

Railway timetables are ephemeral publications; once out-of-date they are of little use and are soon discarded. However, they often contain a wealth of information on more than just the times at which trains run. Passenger facilities, catering, conditions of travel and tourist information are often included, which can make old timetables a valuable resource for rail enthusiasts and historians.

In the very early days of railways, the railway companies themselves published only quite basic timetables, often limited to only the services provided by the railway concerned. It fell to private publishers to compile and sell more comprehensive timetables. In Britain, Thomas Cook and George Bradshaw were the main timetable publishers. The term 'Bradshaw' became a synonym for a rail timetable. "Newman's Indian Bradshaw" was a popular timetable in India for many years, but Indian Railway's "Trains at a Glance", as well as the various zonal timetables, eventually superseded it.

Before the creation of Indian Railways, the private railway companies (even if under Government control in their later

1

No. 1

The timetables of the various private railway companies showed a range of graphic styles, even if their contents were rather similar. They covered each railway's territory in a similar way to the zonal timetables published by Indian Railways

No. 2

Getting a meal while travelling by train could get a bit complicated when you had to keep track of the tiffin carriers

No. 3

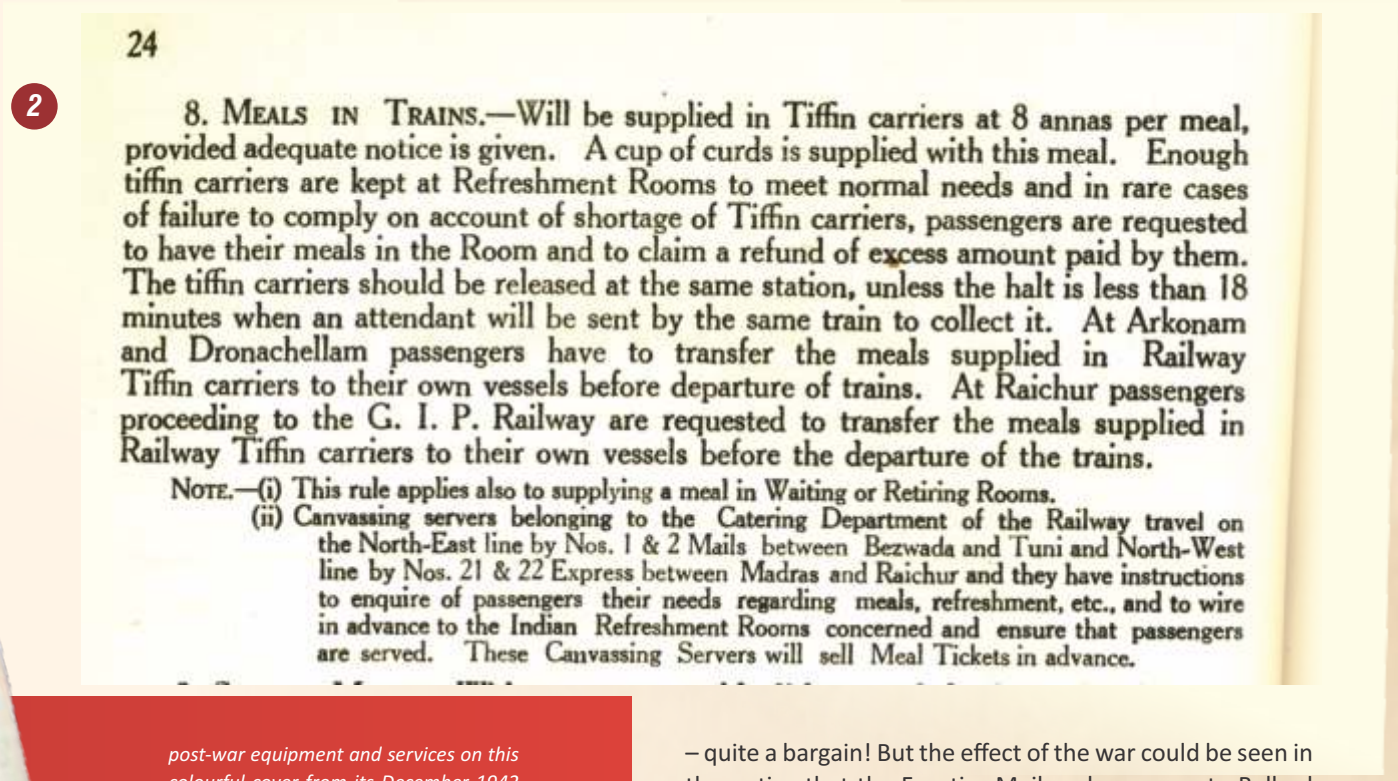
To encourage tourist business, the railways offered good value circular tour tickets, with flexibility in travel dates and break-of-journey

No. 4

The Great Indian Peninsula Railway promised travellers improvements in its

years) published their own timetables at frequent intervals. These can sometimes still be found in old collections, or on the Internet on Ebay, and they provide a fascinating insight into travel and social conditions of years past.

The October 1941 edition of the Bombay Baroda and Central India (BBCI) railway gives information on much more than train times. A calendar of fairs and festivals is included – hopefully encouraging travel to these events by train. Also included is a list of the dates on which various sections of line on the BBCI were opened (useful for the historian, but of little concern to the normal traveller). A list of Dak bungalows near the BBCI's stations is also given, with rates, together with the distance from each station. The railway's own retiring rooms are also covered, but only briefly. Among the general information is the fact that the population of Bombay (now Mumbai) was 1,486,971! The BBCI advertised attractive circular tour tickets around India, and tour number 3 covered 5,520 miles (8,800 km) for ₹ 75



24

8. MEALS IN TRAINS.—Will be supplied in Tiffin carriers at 8 annas per meal, provided adequate notice is given. A cup of curds is supplied with this meal. Enough tiffin carriers are kept at Refreshment Rooms to meet normal needs and in rare cases of failure to comply on account of shortage of Tiffin carriers, passengers are requested to have their meals in the Room and to claim a refund of excess amount paid by them. The tiffin carriers should be released at the same station, unless the halt is less than 18 minutes when an attendant will be sent by the same train to collect it. At Arkonam and Dronachellam passengers have to transfer the meals supplied in Railway Tiffin carriers to their own vessels before departure of trains. At Raichur passengers proceeding to the G. I. P. Railway are requested to transfer the meals supplied in Railway Tiffin carriers to their own vessels before the departure of the trains.

NOTE.—(i) This rule applies also to supplying a meal in Waiting or Retiring Rooms.

(ii) Canvassing servers belonging to the Catering Department of the Railway travel on the North-East line by Nos. 1 & 2 Mails between Bezwada and Tuni and North-West line by Nos. 21 & 22 Express between Madras and Raichur and they have instructions to enquire of passengers their needs regarding meals, refreshment, etc., and to wire in advance to the Indian Refreshment Rooms concerned and ensure that passengers are served. These Canvassing Servers will sell Meal Tickets in advance.

2

post-war equipment and services on this colourful cover from its December 1942 timetable. The locomotive illustrated looks very American though

No. 5

A high level of graphic design, in the style of the period, is evident on this BBCI timetable cover. Cover designs ranged from very plain to elaborate full colour illustrations, but the majority of timetables kept to a simple design

No. 6

The plans for the tourist carriages are of interest to historians and model makers. These illustrations from the BBCI timetable for December 1941 show a very comfortable level of accommodation for those who could afford it.

– quite a bargain! But the effect of the war could be seen in the notice that the Frontier Mail no longer ran to Ballard Pier due the uncertainty of sailings by the steamers resulting from the war.

Travellers of 75 years ago had a good range of dining options: between refreshment rooms and dining on the train with meal orders being taken at a preceding station. Dining carriages existed but were not common. The Madras & Southern Mahratta Railway's timetable (October 1942) lists only one broad gauge and two metre gauge refreshment car services, but gives extensive details of the locations, menus and tariffs of refreshment rooms, showing separately the facilities for European, Hindu and Muslim dining. Its helpful advice to the traveller includes "…. to state whether "boiled" or "fried" eggs are required", and it notes that "butlers will reserve seats at the Refreshment Room tables for the number of meals ordered by resting the chairs against the table". The telegraphic codes used to order meals are also given: for example, a substantial breakfast with fish, bacon and eggs, etc. was code FBT or FBC (T=tea, C=coffee). It makes one hungry just reading the

range of meals available! However, Indian Railways today feeds vastly greater numbers of travellers, though without quite the same level of choice.

In the years before the Second World War, the railways offered tourist carriages for charter, aimed at the European traveller planning a tour. The Bengal Nagpur Railway's timetable gives details and floor plans for the two tourist carriages (broad gauge) that it provided. Perhaps they weren't quite 'Palaces on Wheels', but it must have been a fascinating experience to live in one of these moving homes for a week or more while travelling around the country. The BBCI's timetable shows details of 9 broad gauge and 9 metre gauge tourist carriages, along with 16 pages of tourist information on temples, tombs, forts and other sites. However, this feature of the timetables disappeared during the war and following the end of the war, and independence, this aspect took second place to the needs of providing for the day-to-day needs of regular travellers. All the same, tourist information did re-appear in "Trains at a Glance" in recent decades, with the audience being both, the Indian and the overseas travellers. The luxury tour trains of today are an attractive (if costly) way to travel, but the old timetables give a peep into the time when privately chartered carriages and individual tour itineraries were the way to go.

A few timetables include a simple map of the railway concerned, with its connections to other lines, though most did not. A fold-out map was generally needed and this

3

4

5

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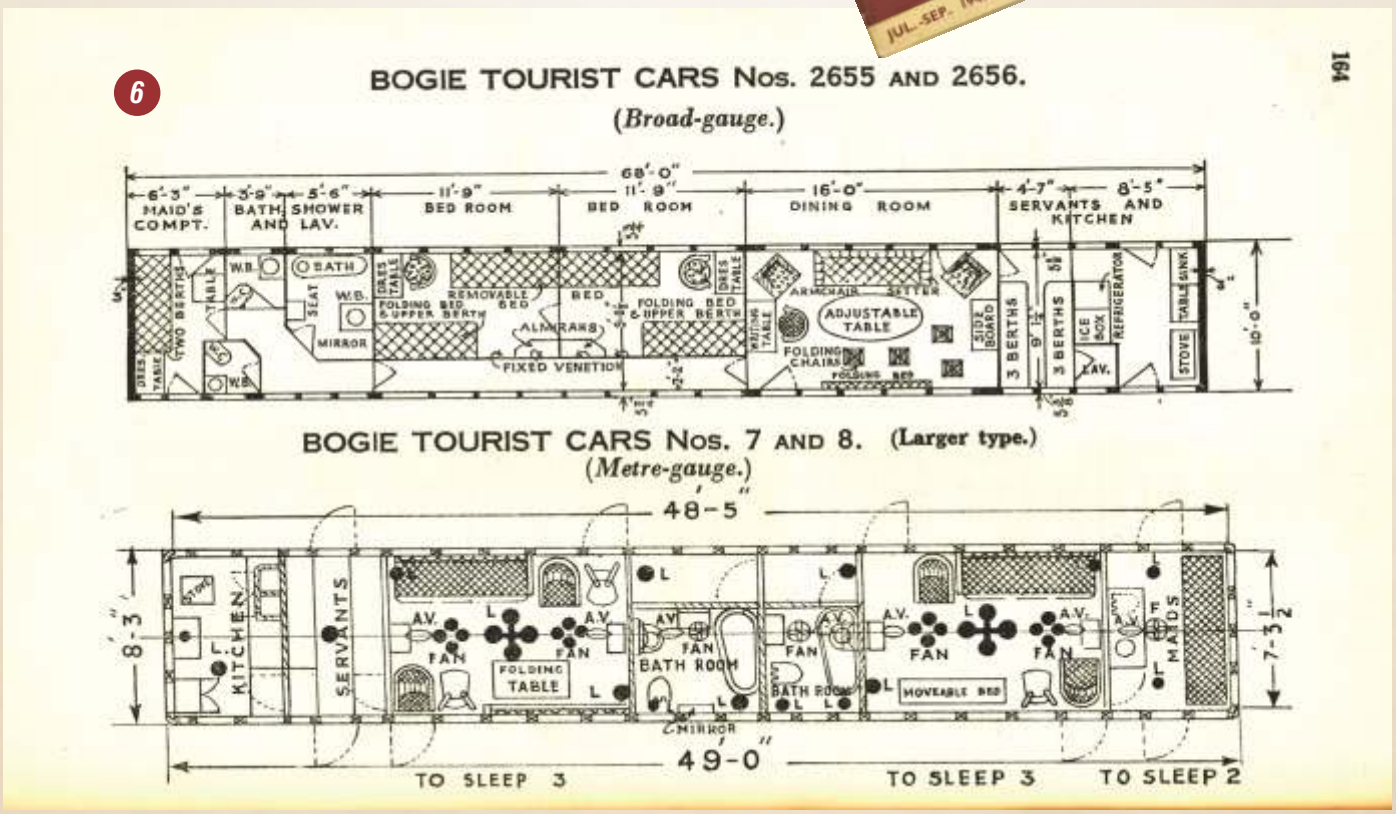


As new editions of timetables were published frequently, it was practical to advertise items of short-term interest such as recent movies, as well as consumer products and services. In this BBCI example, photographs from a new movie, and a coloured bookmark also advertising movies, are included

would add to the cost of production. To keep costs low, paid commercial advertising was often included, always on the back cover, and often inside as well. Subjects varied, but popular products were jewellery, watches, electrical goods and, of course, hotel accommodation. Where timetables were published at frequent intervals (e.g. bi-monthly) movies that were showing at the time of publication were sometimes advertised. The BBCI's July 1945 timetable includes photos from a current movie *'Ek-din-ka-sultan'*, and unusually the timetable includes a bound-in bookmark, printed in colour advertising forthcoming movies *'Shah Jehan'* and *'Pahle aap'*. Does anyone remember them? These days "Trains at a Glance" carries advertising, but the subjects are very different from 70 years ago, reflecting the many social changes since then. Railway timetables often included lists of the railway's directors and managers, and more interestingly, members of local advisory committees, made up of representatives of local and regional government, business groups and agricultural interests. These were effectively customer forums, whose members were generally Indian, while the directors were generally British at that time.

By the mid-40s, after several years of war conditions, the timetables had become slimmer and less detailed. Indeed, the services themselves were more limited than those of the pre-war time. The Great Indian Peninsula Railway (GIPR), in its December 1945 timetable, held out the promise of better conditions to come, and even though it was by then Government controlled, its proprietors had probably not envisioned that post-war improvements would take place under independence rather than 'business as usual' from before the war. The subsequent development of Indian Railway's own timetable publications is outside the scope of this short article. Indeed, the rich variety of information to be found in the pre-IR timetables has only been touched upon briefly here.

For the future it may be that printed timetables will not be around for long. With Internet access to train times and much related information, the concept of printed paper timetables looks decidedly out-of-date. The colourful and informative timetables of years past will not be missed by the travelling public, but the rail enthusiast may regret their loss.

Photos: Courtesy the author

Trip Report

Down Braganza Ghat

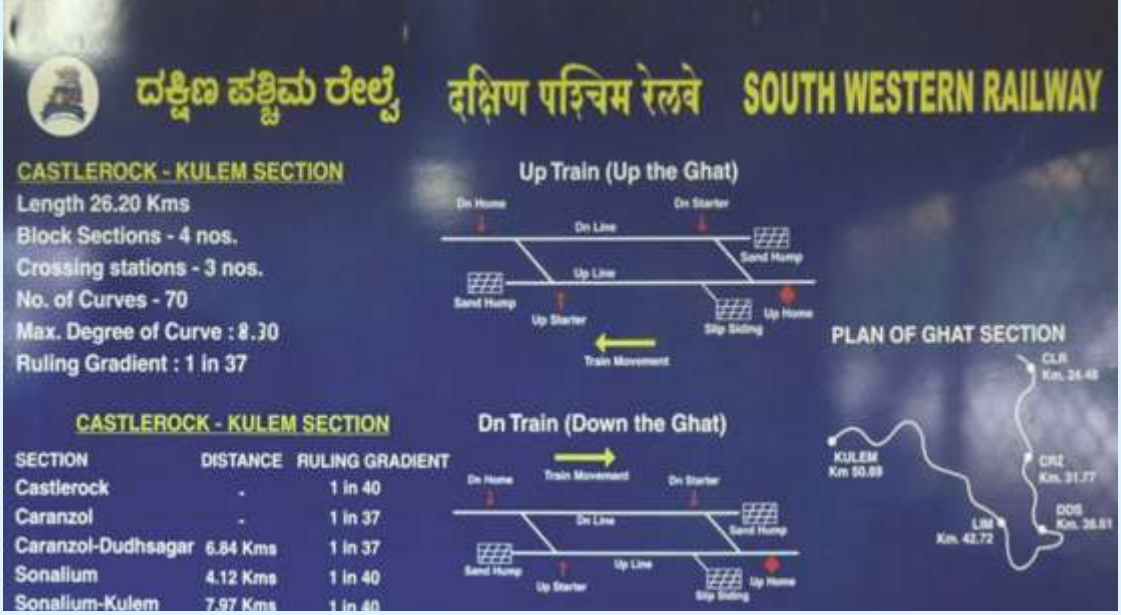
Loco # 12140

I don't have a name: my identity is # 12140 WDG4. Yes, all you rail enthusiasts reading this will know immediately that I am a Broad Gauge (1676 mm) diesel-electric locomotive of the Indian Railways designed to haul freight trains. The '4' at the end indicates that I generate a healthy horse power of 4000 or above but less than 5000. I have a cousin aptly named WDP4 who is at the head of passenger trains. She is like a Cheetah, fast and sleek. I am more like an eagle – ponderous but far more rugged and capable of hauling bigger loads.

Of course, I am not unique. I was the 127th EMD locomotive built by the Diesel Locomotive Works (DLW) of the Indian Railways in Varanasi in November 2007. Since my birth at DLW, my home has been the Diesel Locomotive Shed at Hubbali on the South Western

Start of Braganza Ghat

3 - Loco consist with loco No.12140 WDG4 in the lead



Display board at Castle Rock station

Railway (SWR) Zone of the Indian Railways, along with another 180 of my siblings.

I will not bore you with my history. Suffice to say that since I am a freight locomotive, I have been hauling (or even pushing) such trains for more than 10 years. Going back a year and a half, on the 21st day of April in the year 2016 to be precise, I was part of a 3-loco consist working on the Braganza Ghat of SWR. In Indian rail terminology, a 'ghat' is a section of rail line that is on a steep slope. Among some of the well-known ghat sections are the Thule Ghat between Mumbai and Nashik or the Bhore Ghat between Mumbai and Pune. Like the Braganza Ghat, both these sections go up and through the Western Ghats, a range of hills separating the West coast of India from the Deccan plateau.

At the time in April 2016 that I am referring to, the main rail traffic on the Braganza ghat was the movement of coal from the Goanese port of Marmugao to interior locations in Karnataka. These coal loaded trains go up the Braganza Ghat from Kulem station (Code QLM) at the foot of the ghat to Castle Rock station (Code CLR) at the top, a distance of 26.1 kms. What makes it tough for me and my fellow locomotives is the fact that the gradient that we have to negotiate is 1 in 37 for a major part of the distance. The figures mean that for every 37 units of distance the train moves forward, it climbs up 1 unit. This may not sound like too much of a grade to a lay person but let me tell you that most of time, in the plains, trains move on gradients flatter than 1 in 200 and even 1 in 150 is considered quite steep for the 5000 tonnes that we locos are expected to pull.

As a result, the 3-loco or Triple Loco Consist (TLC) of which I was a part on the day in question, was being used to push trains that came from the port of Marmugao. Till it reached Kulem, the train was pulled by two locos in multiple operation. The technical word for assisting a train up the ghat by pushing it is called banking. At Kulem, my TLC or other TLCs like mine are used as bankers to assist the two locos in front. When we get to the top of the ghat at Castle Rock, we are detached and need to be returned to Kulem to push the next train up Braganza's steep slope. We normally return by being put at the head of the train going down the ghat. Thus, the train going down has 5 locos at the head although the train is empty bulk of the time and two locos would suffice to provide sufficient braking to take it down. Five locos are needed for braking if the train going down is also loaded and heavy.

Sometimes, it just happens that there is a need for a TLC at Kulem when there is no train available for us to be attached to for taking us down. We then go down on our own without a train. This is exactly what happened on that day, the 21st of April, and we were ordered to go down to Kulem by ourselves.

So, there we were, the three of us who comprised the TLC, ready to leave Castle Rock at around 4 in the afternoon. Attached behind me were my brothers from Hubbali Diesel Shed, Loco Nos. 12087 and 12032. The interesting thing about these consists is that all three of us are electrically and pneumatically connected so that one loco pilot on the

In the middle of nowhere - Caranzol station

The exit from tunnel No.2

first locomotive (me in this case) controls all three locos and separate pilots are not required on them. Waiting in my cabin for the starter signal to turn green were my loco pilot, Mr. A K Solanki from Hubbali and his Assistant, Mr. Sanjeevan Kumar, from Castle Rock.

I was wondering why the starter was taking so long for giving us the all clear. Just then I heard the rumble of locomotives as they strained to pull a fully loaded train up the ghat. The train soon came into sight: it was a rake of coal from the port. Almost immediately after the train was fully in Castle Rock yard, the signal turned green and Mr. Solanki operated my throttle handle to ease me into motion. The time was exactly 4.21 in the afternoon.

As we left Castle Rock station behind, I could see the single line that I was moving on plunge downward almost as soon as we left the station.

Curved track of Caranzol station

"...the number of shades of green that you can see..."

Crossing freight train approaching Caranzol station. Note that the headlight is switched on as the train has just left a tunnel

Doodsagar falls

Except for the railway station, there is not much at Castle Rock to write home about. In the midst of a dense forest, I feel sorry for the few railway men who work here. Theirs must be a dull solitary existence with little contact with the outside world except the trains that keep rolling in and out. There are some interesting resorts around the area, like the Doodsagar Jungle Resort and Trini's Jungle Resort. There is also a resort with a rather quaint name – Whistling Thrush Home Stay. More about Doodsagar later as we will be crossing a station with that name.

I like going down the ghat as it is beautiful. I am told that the other ghats a little to the North that take trains from Mumbai to Nashik and Pune are not as scenic and verdant as the Braganza Ghat. It is difficult to imagine the number of shades of green that you can see as you plunge down. On the same slope you see bright green giving way to solid army green that blend into hues of emerald, fern green and shamrock green. I am always amazed by the greenery at this time of the year as this is the beginning of summer and there has been no rain since last October.

Two kilometers out of Castle Rock you get the impression that we were running straight into a hill side. Of course, having traveled down this section a number of times, I knew that we were approaching a tunnel. I don't like tunnels; they give me feelings of claustrophobia. But there is no way to avoid them, there being sixteen of them on this route.

Four tunnels followed one another, roughly one every kilometer. The second one is the longest on this section – 409.5 m. It took us almost a minute to pass through it. All I

Portrait of locomotive No.12140 WDG4

could see was a patch of light ahead of us where the beam from the headlight that Mr. Solanki had switched on fell. I was happy that the other three tunnels in this stretch are all less than 200 meters.

I had heard one of the loco pilots mentioning that on most of the other ghats between tunnels there are usually viaducts. This is particularly true for the Shindawane ghat that is between Miraj and Pune where tunnels and viaducts alternate. On the Braganza, we cling to a hillside and every now and then bore through a tunnel with almost no intervening viaducts or bridges.

"Caution," shouts Mr. Sanjeevan, the Assistant Loco Pilot. He has just spotted the signals outside Caranzol station (Code CRZ), the first of three stations on the way. Mr. Solanki slows down and enters the station yard. Like the other two stations that we will cross, this is an A-class station with two lines. There is a sand hump at the end of each line as shown in the diagram on page 27 for me to run into in case the pilot is unable to control our descent. These are basically crossing stations only but I was hoping that we would run through and not have to wait for a train coming up the ghat. My hopes were dashed when the station master standing in front of his dilapidated station building indicated that it was a crossing.

We waited, and a train went by. I noted that the headlight of the loco was on; that's because it had just come out of a tunnel. We were given the green signal to proceed almost immediately after the train passed us and were on our way again, to Doodsagar station, the second on the route.

Doodsagar station (Code DOS) is named after waterfalls that are located immediately after you cross the station. Going towards Kulem, we have a steep hillside to our left and a valley to our right. The falls cascade down the hill's slope, pass under a culvert over which the train line passes and then continue to flow down the hill to our right. The white foam that is created as the water spills over the top of the hill gives the falls their name, meaning "Sea of Milk". At this time of the year at the start of the summer, the falls have little water but even that little water is quite impressive. Once the monsoons hit this part of the country, the falls are a torrent: the pilot has to shut his window to avoid getting drenched in the spray that the falls generate. I would strongly recommend that you visit Doodsagar falls just after the rains when they are in their full splendor. You will savour the visit as long as you live.

Last station on Braganza Ghat

We crossed another train at Doodsagar station, this time a goods train. It was now getting dark and I could not see anything except the part of the track in front of me where the beam of my headlight fell. We crossed Sonalium station (Code LIM) in darkness, thankfully without another crossing and reached Kulem a little after 8 p.m. With two crossings en route, this was good time for completing this journey.

Editor – Loco No.12140 WDG4's words have been translated in to the English language by the Rail Enthusiast Society

Photos: Archives of the Rail Enthusiasts' Society

Photo-feature

Patalpani Re-visited

The lead story in the inaugural issue of **The Rail Enthusiast** was "Train to Patalpani" by Vikas Chander. The journey commenced from Mhow (now renamed Ambedkar Nagar), took you past the Patalpani* waterfalls, down the Choral Valley, and onwards to Omkareshwar and the "Char-ka-Ankda" at Dhulghat. Inspired by this report, the Rail Enthusiasts' Society organised a rail trip-cum-hike on the Mhow-Patalpani-Kalakund section on the 28th of October 2017. This is the only Meter Gauge section, now totally isolated, left in the area as all other connecting lines have been converted to Broad Gauge or are in the process of conversion (see schematic on page 58). Eight diehard rail fans started the odyssey from Patalpani at 6.30 in the morning and hiked the 10 kilometers to Kalakund station along the rail line. Going past high viaducts and old bridges, four tunnels and a number of cuttings, the pleasure of the hike was only matched by the enthusiasm of the participants. In the next few pages, we present you some of the results of the ever-ready-to-shoot-anything-in-sight shutterbugs.

Editor: See "News and Events" for a detailed report on this trip/hike.

** Literally, "Water of Hell"*

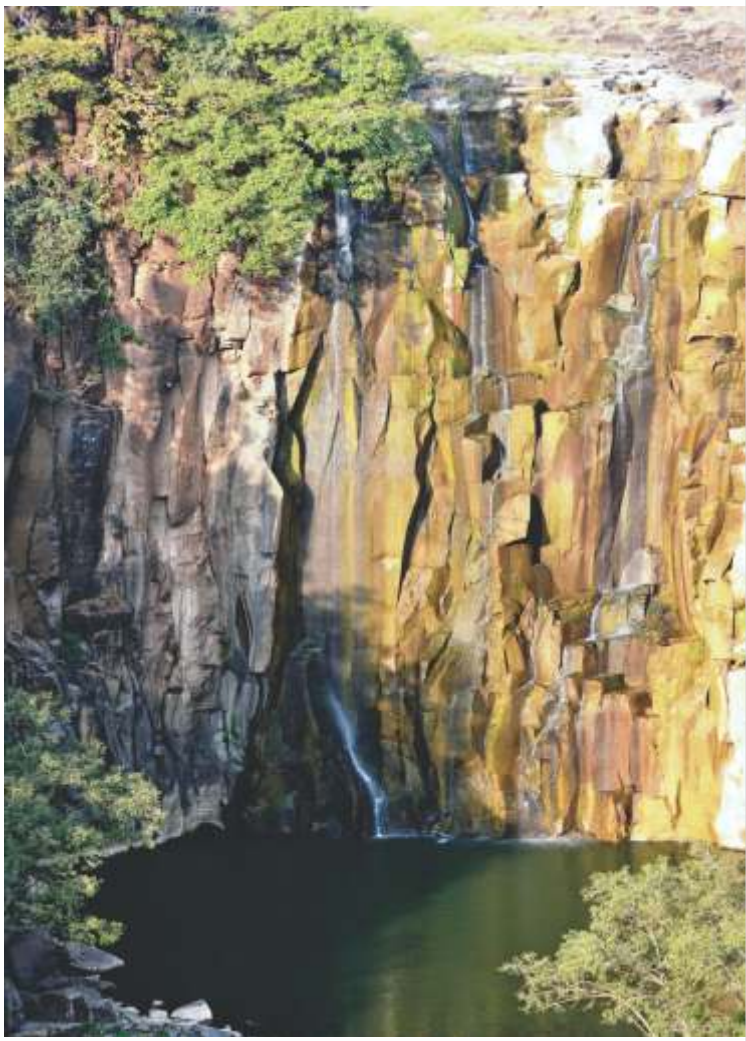
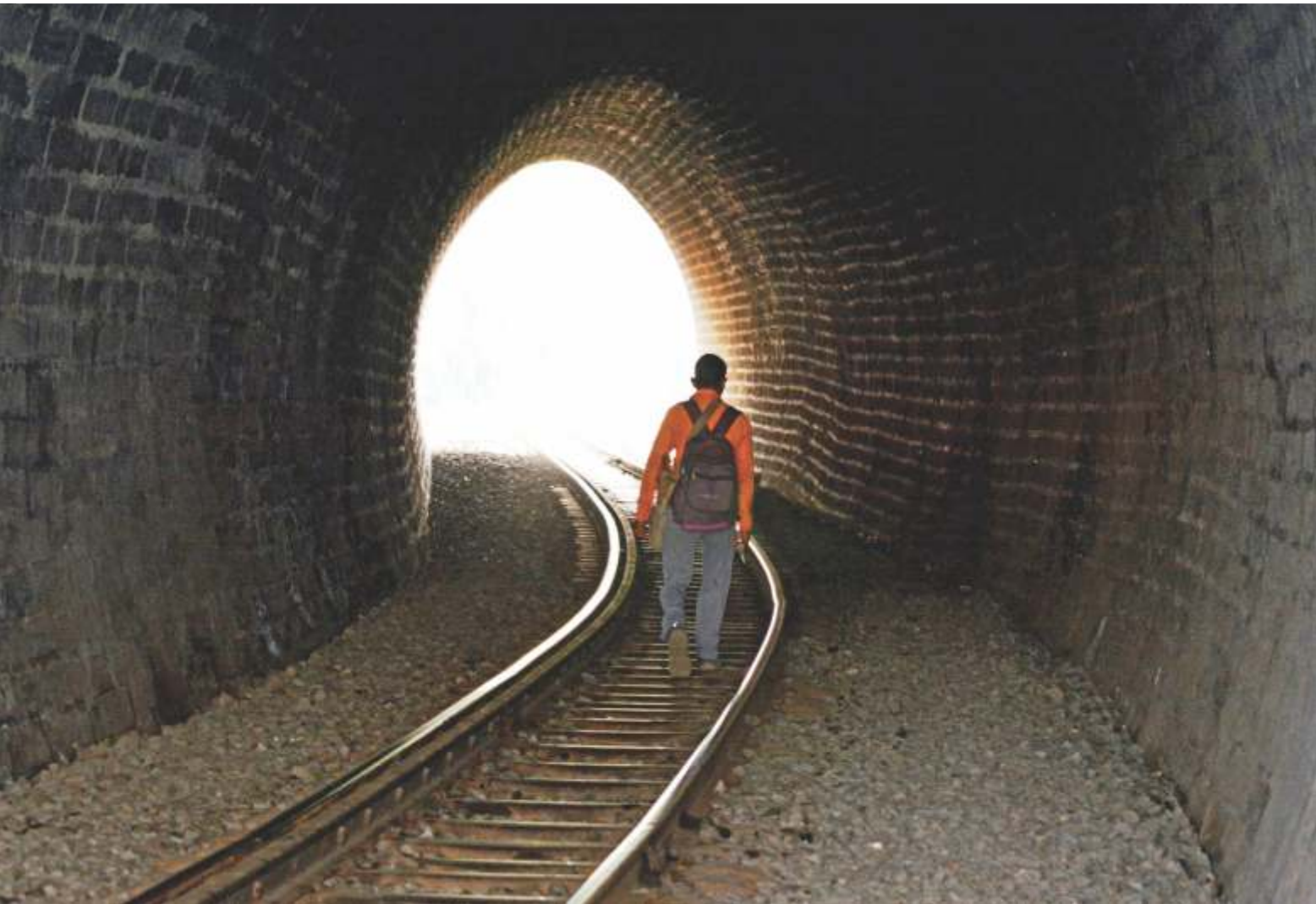
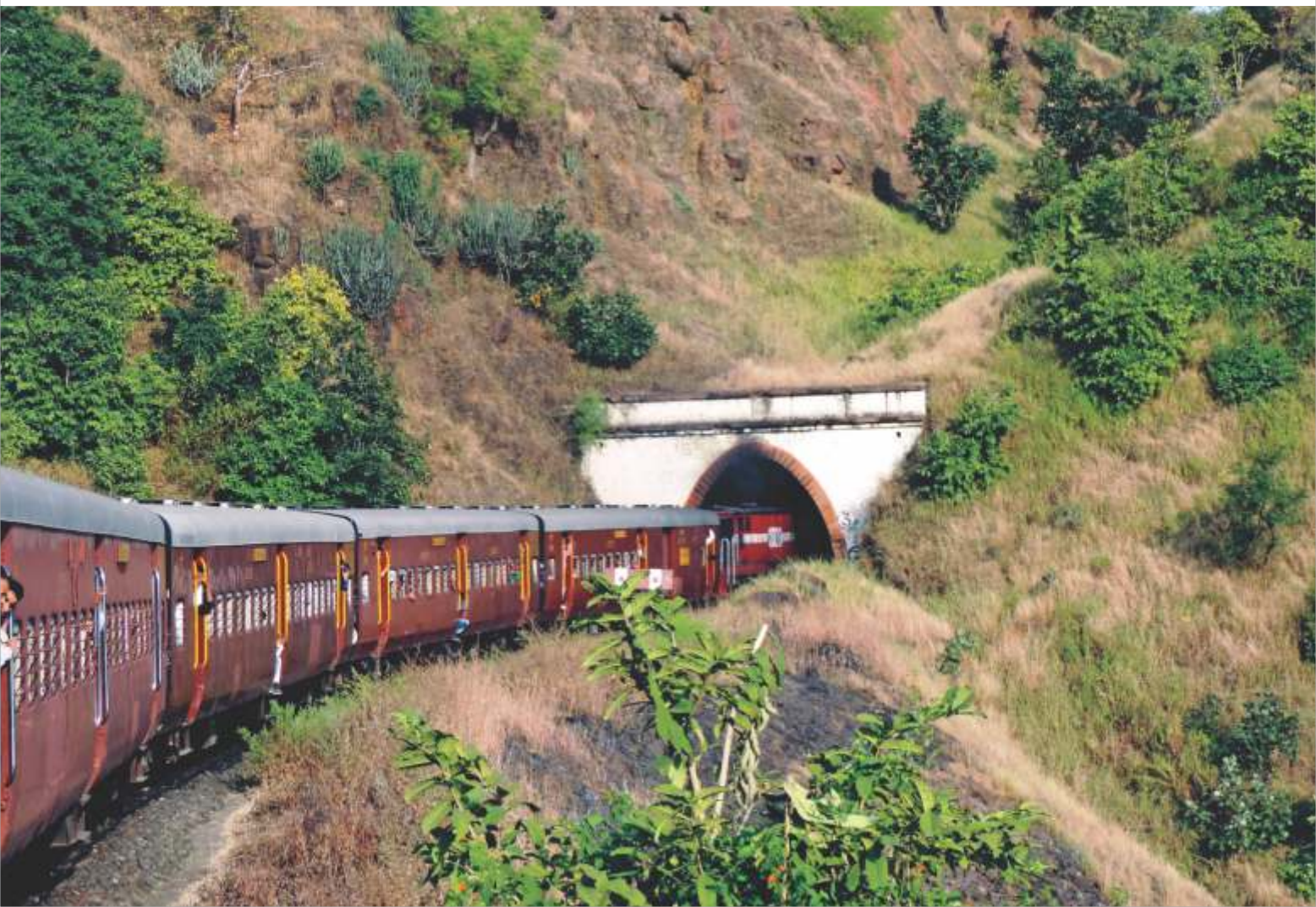


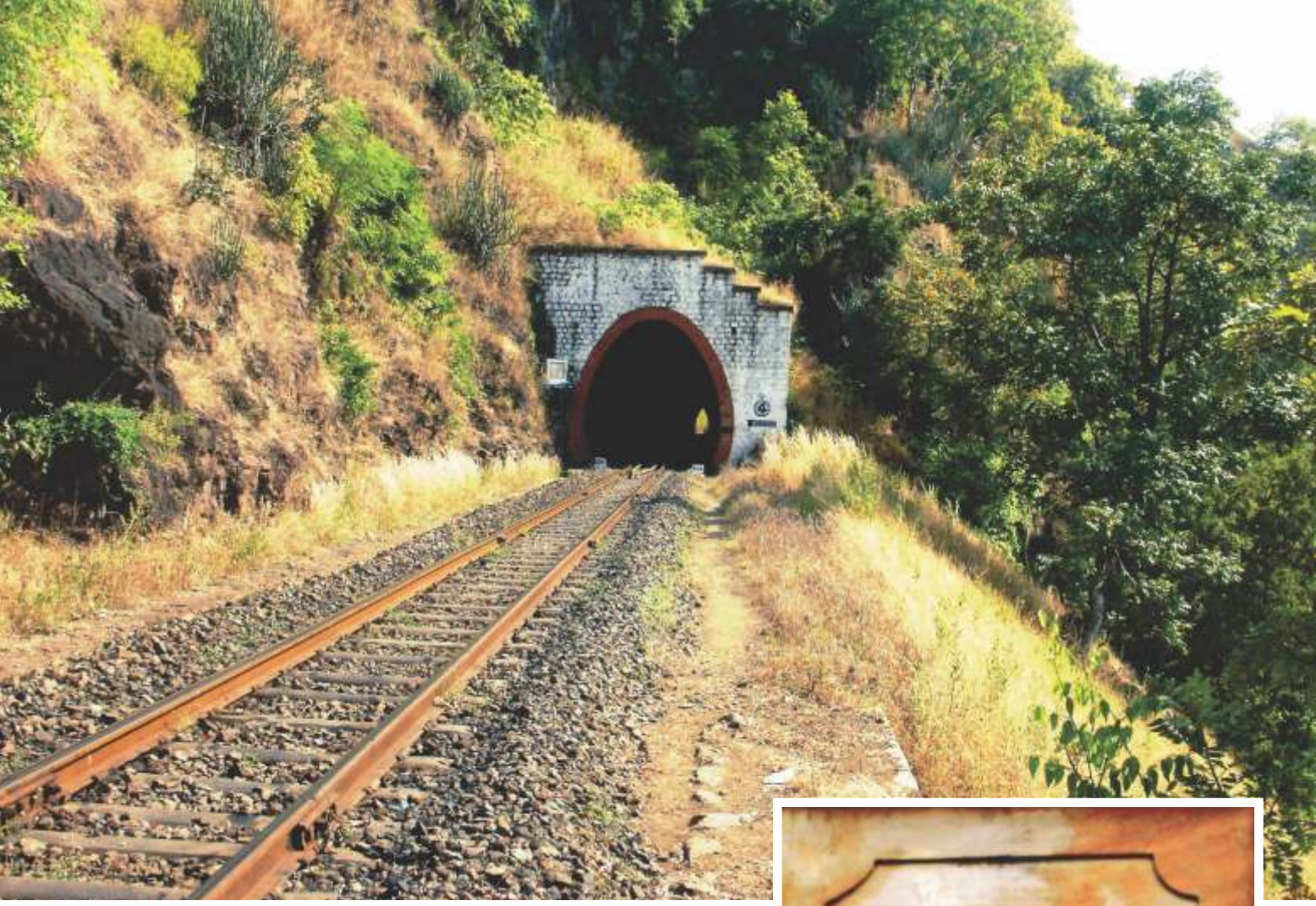
Photo Captions

Page 31	*The enthusiastic participants before Tunnel No. 1*
Page 32 (Left)	*On the spot rendering in water colours of the Patalpani falls by Sudakshina Kundu Mookerjee*
Page 32 (Right)	*A trickle of water on the Patalpani cataract*
Page 33	*Train No. 52693 crossing the Advance Starter of Patalpani station*
Pages 34 & 35	*Ravine Viaduct No. 2. Note the old masonry piers on the right*
Pages 36 & 37	*The Choral River viewed from Ravine Viaduct No. 2*
Page 38 (Top)	*Track maintenance*
Page 38 (Bottom)	*Inspecting the inside of a tunnel*
Page 39 (Top)	*Ravine Viaduct No. 1*
Page 39 (Bottom)	*Train No. 52964 leaving Tunnel No. 3*
Page 40 (Top)	*Approaching Tunnel No. 4*
Page 40 (Inset)	*Plate giving details of Tunnel No. 4*
Page 40 (Bottom)	*Well-maintained track*
Page 41 (Top)	*Under Choral Bridge No. 1*
Page 41 (inset)	*Marking on girders of Choral Bridge No. 1*
Page 41 (Bottom)	*Facing points of Kalakund station with mechanical interlocking*
Page 42 (Top left)	*Neale's Ball token instrument still in use*
Page 42 & 43	*A ballast rake pulls into Kalakund*
Page 42 (Bottom)	*Kalakund station*
Page 43 (Top right upper)	*With only 3 trains operating each day, business for the vendors at Kalakund station is on the wane*
Page 43 (Top right lower)	*Raised lever frame on Kalakund station's single platform*
Page 43 (Bottom)	*Loco No. 6735 YDM4 being attached to Train No. 52976 as banker*
Back cover	*Train No. 52976 arriving at Mhow station on the 28th sans banker detached at Patalpani*




RAVINE VIADUCT
№ 1
3×30.5M
654

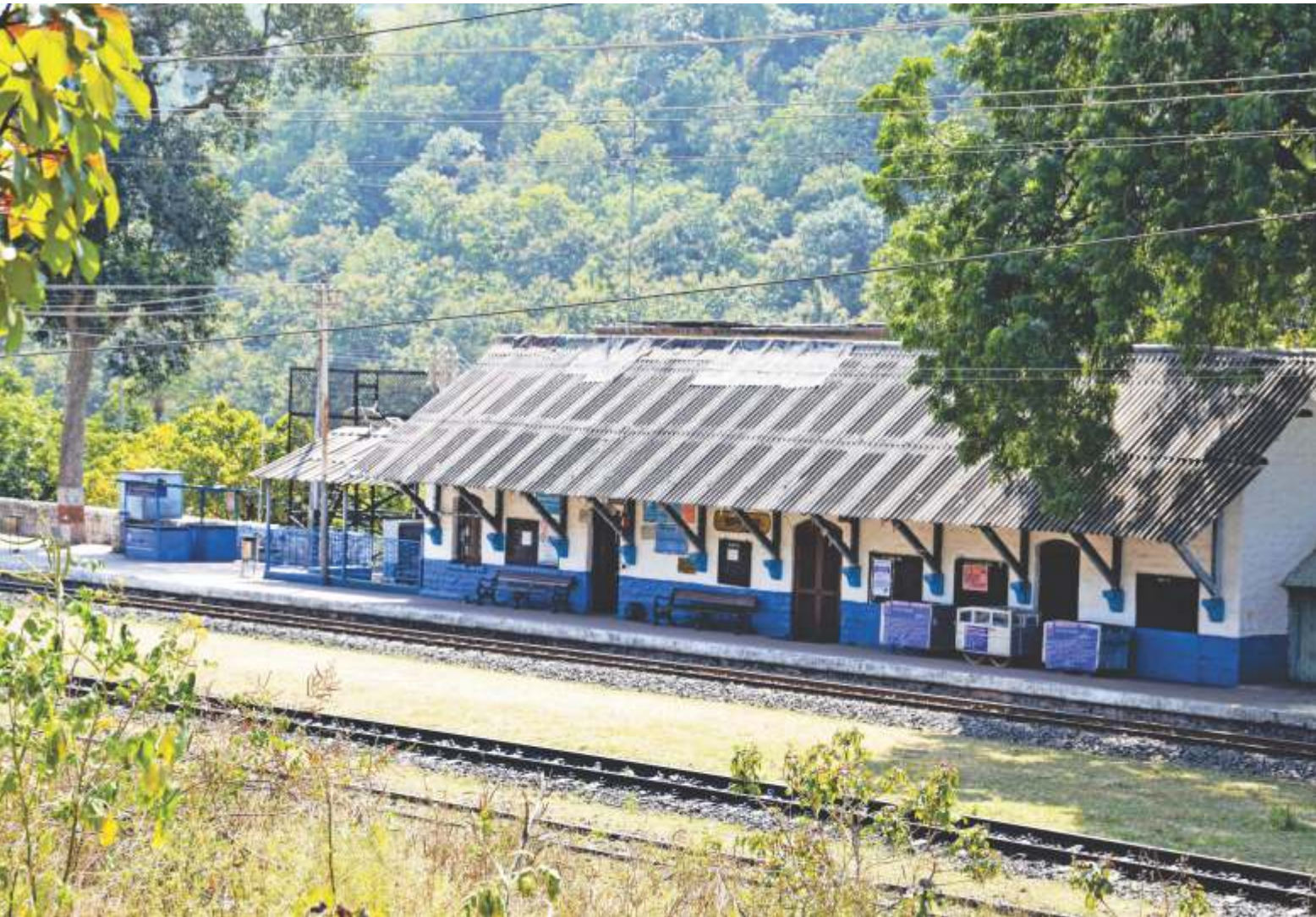





टनल क्रमांक -4
निर्माण का वर्ष - 1874-78
कि.मी. 524/05 से 524/08 के मध्य
लंबाई - 632 फीट (192.63 मीटर)


KALAKUND


KALAKUND
सतर्कता आदेश
गोरख को
गाड़ी जारही है




कालाकुंड
KALAKUND


डा.अम्बेडकर नगर
6735
वाई डी एम4
KALAKUND

THE FIRST INDEPENDENCE DAY 15TH AUGUST 1947

There were several noteworthy features connected with the celebrations arranged by the Bengal Nagpur Railway (BNR) in connection with the inauguration of the new Indian Dominion at Garden Reach on the morning of 15th August 1947. The number of persons present on that memorable occasion was in the region of 1,650. The Committee responsible for making these arrangements was presided over by an Indian officer in the person of our Commercial Traffic Manager, Mr. S. N. Gupta. The Flag Hoisting and Salutation Ceremony was performed by a Senior European Officer, Mr. T. H. Morris, OBE, MC, General Manager of the Railway. Moreover, a total of 850 children, including the children of staff posted at Headquarters, were entertained as part of the Celebration Programme. Perhaps the most outstanding feature of all was the opportunity given to Mr. N. Sircar, General Secretary, B.N.R. Employees' Union to address this large gathering. It is understood that this was a happy thought on the part of Mr. S. N. Gupta in his capacity as Chairman of the Committee responsible for organising the celebrations.

The celebrations opened with the singing of *Bande Matram* after the assembly present there had been seated in the large pandal specially erected for the purpose. A notable opening speech was then rendered in Hindi by Mr. Sircar of the Staff Union, which is in part as follows in English:

'It is proud privilege of mine to have an opportunity to speak to you first on this solemn occasion of the celebration of the inauguration of Indian Dominion today, the 15th August 1947. The celebration is to be made by unfurling the National Flag and the dignity of the Ceremony is enhanced as the head of the administration is going to do it. ... '

Mr. S. N. Gupta, Commercial Traffic Manager, in his capacity as Chairman of the Celebrations Committee then addressed the gathering. '...At last, Ladies and Gentlemen, I have much pleasure in now requesting Mr. Morris, our General Manager, to unfurl our National Flag.'

The next item on the programme was the Flag Hoisting and Salutation Ceremony. It was a very happy thought on some body's part that this pleasant task should have been entrusted to the Head of the Bengal Nagpur Railway Administration.

Before performing the Flag Hoisting Ceremony, Mr. T. H. Morris, OBE, MC, General Manager, delivered the following address:

'This moment, at which I am about to have the honour and privilege of hoisting the tricolour Flag of India is a proud and happy one for us all. Myself, an Englishman and not a son of India, I am more happy to tell you my friends and colleagues present here on this memorable occasion, that my countrymen and I will honour this Flag in the same way as we do our own, the Union Jack.

'A man should cherish and uphold the honour of the country in which he lives and works, even though that country may not be his own. Now standing before the Flag, let us one and all resolve that we shall work in a spirit of close cooperation for the benefit of the nation that is born today forgetting all that is past and forgetting any bitterness that ever existed.

'Let us make our Railways and, in particular, the Bengal Nagpur Railway, a proud possession of a great nation that is now on a victorious march. Let a new spirit of doing and discipline now prevail upon us and make India great and glorious.

'Let us salute in all reverence and respect this Flag of a brave and resolute nation, NEW INDIA.

'LONG LIVE INDIA -- JAI HIND!'

While Mr. Morris was engaged in hoisting the new nation's Flag, which he subsequently saluted, the assembly present remained standing. This impressive ceremony was brought to a close by the distribution of bags of sweets and miniature National Flags to a total of no less than 850 children. Thus concluded a most impressive function, which will long be remembered by all who were privileged to take part in it.

From the archives of B M S Bhist, who had extracted the article from the Bengal Nagpur Railway magazine

In Search of Steam

Tale of Two Arctic Black Beauties

Sanjoy Mookerjee

For those of us who live in tropical countries the Land of the Midnight Sun beyond the Arctic Circle has always been intriguing and surreal. It is difficult for us to imagine a situation where you can see the sun even at 9 p.m. leave alone midnight. Therefore, when I had the occasion to visit North of the Arctic Circle in Finland and Norway recently, where the sun never sets during the summer months, I made sure I did not miss the opportunity. All the same, for a rail enthusiast, I suppose no holiday can be complete without a peek into the railway relics of the region visited. So, I was very excited when I discovered a steam locomotive of 1949 vintage right on the Arctic Circle at the station yard of Rovaniemi in Finland. After witnessing the astounding phenomenon of the Midnight Sun, I was again awestruck, when I found another, 135 year old engine in pristine condition, preserved on the platform of the Arctic port city of Narvik, Norway, at a latitude of 68.44° North!

Here are some details of the two black beauties.

The first, located at Rovaniemi Railway Station, Finland

- Loco No. 1147, built by Danish manufacturer, ASFRICHS in Aarhaus (Denmark) and assembled at Hyvinkaa (Finland), in 1949
- It is a Finnish VR Class Tk3 steam locomotive, with manufacturer's No. 393. It was nicknamed Pikku Jumbo (Little Jumbo)
- It runs on 5 feet (Russian) gauge. Even today, the 5 feet gauge exists in Finland

Builder's Plate on loco No. 1147

The English cylinders

Loco No. 1147

- Wheel arrangement of the locomotive is 2-8-0
- It is 16 metres long and weighs 51.8 tonnes
- It has two cylinders, manufactured by Westinghouse in England, in 1937
- The loco used coal and birchwood as fuel
- Reportedly, this engine was used for freight and slow passenger operations, including marshalling till the 1970s

At Narvik port

Locomotive No. 5 – BIFROST

The second, located at Arvik Railway Station, Norway

- Steam locomotive No. 5, named BIFROST, built in 1882 at Nydqvist and Holm in Trollhatten, Sweden, one of the seven such locos produced
- The name is derived from the Norse (Norwegian) mythological name of the Rainbow Bridge between MIDGARD, i.e. the World, and ASGARD, the realm of the Gods
- Wheel arrangement is 4-4-0, with 4 leading wheels and 4 powered coupled driving wheels
- It runs on standard European Gauge of 4 feet 8½ inches
- It is 7.2 metres in length and weighs 21 tonnes
- This engine was first used at Skane in South Sweden, before its transfer to Narvik in 1900 as the first steam loco of this region
- It was initially used for construction of the iron ore mines at Kiruna, across the border in Sweden
- Between 1903 and 1942, BIFROST was used as a shunting engine at Narvik Port for loading the iron ore from Kiruna on ships for export

Photos: Courtesy the author

In a "Vistadome" Coach

Harshad Joshi

The Integral Coach Factory of the Indian Railways, located at Chennai, is the second oldest manufacturing plant that was set up for the railways in independent India. Inaugurated for the start of production of passenger coaches in 1955, the only older plant was the Chittaranjan Locomotive Works that had been inaugurated five years earlier. The latter initially built steam locomotives but is today turning out electric locomotives only. For some years in the middle, it also built diesel-hydraulic locos.

58501 Kirandul Passenger at Araku Station - The last coach is the "Vistadome"

The Integral Coach Factory has come a long way since then and is today manufacturing a bewildering variety of coaches and Electrical Multiple Units (EMUs). One of its latest innovations is a "Vistadome" coach. As the name suggests, this is a coach with wide windows and a transparent glass roof, so that the surrounding vistas can be admired.

The first such coach built was introduced on the East Coast Railway zone of the Indian Railways in April this year. It was planned to run this coach attached to Train No. 58501, Visakhapatnam-Kirandul Passenger, for boosting tourism in the Araku Valley. This was certainly a good choice as the route from Visakhapatnam (popularly referred to as Vizag) to Araku is picturesque and scenic and the Vistadome will definitely enhance the view that the passengers could savour. The only catch is that this section is primarily designed for freight trains and there is only this one passenger train to which the coach can be attached.

Thus, after having planned a trip for Vizag with a few friends, needless to say, we booked for a ride in the Vistadome coach on the 6th of September earlier this year.

We had no problem booking our seats in spite of a stiff ₹ 665 that we had to shell out for each ticket in the Vistadome. For this 3 hour 55 minute trip over 131 kms. this was indeed a high price. What we learnt new was that you had to select "EC" as the class to book these seats.

The journey began at 7:05 a.m. sharp, the scheduled departure of this train. As we crossed station Marripalem Halt to further join the Kottavalasa Line, the onboard pantry guy started to take orders for breakfast. Note that the fare doesn't include the same and we have to purchase from him. We had a couple of plates of delicious *idlis* and great coffee during the journey.

View of the Ghats onboard Vistadome

The Kottavalasa-Araku-Koraput section is mainly a freight dominated one. We crossed multiple freights throughout the journey which were looped for our train to pass through. Occupancy of the coach was great as initially when we booked there were only 2 seats remaining and we were the last to book those. On the actual day of journey though, some five of them were empty, which I believe might be last moment cancellations. The actual climb of the ghats begins after Boddavara station where one is treated with beautiful views of the Eastern Ghats.

Most of the coach got empty at Borra Guhalu station which is the rail head for the tourist attraction – Borra Caves. We reached Araku with a marginal delay of approximately 15 to 20 minutes. We were told that we could consider ourselves lucky as this train is often delayed and reaches Araku more late than this.

Interior View of Vistadome Coach

The Vistadome coach is detached here and taken to a siding with the help of a spare locomotive available. It stays there all day and is attached to the same Passenger train in the evening towards Vizag. The seats are rotated such that they face the direction of their return journey.

The Vistadome coach has wide windows which help us to get a good view of the surroundings. An observation area at the end helps to get a view of passing scenery from the rear of the train.

However, we would like to make a few observations. For instance, the transparent glasses on the roof aren't of much of use since they are narrow due to the air-conditioning duct of the coach. They need to be widened by possibly shifting the arrangement of the ducts towards the corners as in aircrafts, so that the entire transparent glass above can offer an amazing view of the blue skies too.

With wider windows comes the disadvantage of direct exposure to the sun's rays; they can be quite hot in this part of the world. There are window shades to prevent the same but this is counter-productive as putting down the window shades will take away the amazing view offered by the wide windows. Some other means such as those used by sunglass manufacturers may have to be found to cut out the glare and the heat.

We did not return by the train and found that neither did the bulk of the passengers of the outward journey. The reasons for this were not far to seek. Firstly, since the direction of the coach is not turned for the return journey, the rear observation area loses its importance as the glass gets blocked by the last coach of the train. One solution that may be thought of here is to increase the length of the coach so as to accommodate an observation area at the other end too. So, no matter what the direction of the journey, purpose of observation area remains intact. Alternatively, the railways can make arrangements for turning the coach by either having a turntable or else having a triangle at the station to do so.

Second, the passenger which starts from Kirandul/ Jagdalpur seldom makes it on time to Araku. The delayed run doesn't really offer a great view as it becomes dark outside. Adding to this, passenger trains are not given priority on this route, so that the return journey becomes very boring and uninteresting as the train gets held up at multiple locations due to multiple evening departures from

View from the Observation Area

Vizag. The onboard staff endorsed the fact that more often than not, the train ends up reaching late at Vizag.

The solution to this is to prioritize this train both ways such that it maintains its schedule. A marginal delay of 15-30 minutes may be acceptable but not more.

Another solution could be to operate the coach one way with the passenger train, and for the return journey, as a single coach train at its scheduled time of 16:10 from Araku, if the passenger train is badly delayed. The railways will need to ensure the availability of a spare locomotive and crew around the time of departure towards Vizag for the same. It may only halt at Araku and Borra Caves station to pick up tourists and head back non-stop to Vizag.

Overall though, this is the first and most awesome initiative taken by the railways to boost tourism through the rail mode. Of course, if patronage of this coach is to be maintained both ways, then punctuality of the train in both directions needs to be ensured or some other solution needs to be given a serious thought and be implemented.

Recently, the Mumbai Division of Central Railway has also got one such coach and it is planned to be attached to Dadar-Madgaon Janshatabdi Express as per various news reports.

Editor: The last item is correct: the coach on the Central Railway is being attached to the Dadar-Madgaon train to give tourists a great view of the Western Ghats.

Photos: Courtesy the author

Vistadome coach detached at Arakustn from 58501 Passenger

The Imperial Pooja Special

Most of us do not realize that till the advent of modern expressways and broad 8-lane highways, road transportation was slow, cumbersome and uncomfortable. Similarly, air transportation was too expensive till the recent phenomenon of low-cost airlines in the late 1990s. Then, the only viable means of travel was the railway. The latter did not miss its social obligations in spite of being a monopoly, as will be seen from the write-up on this page. This is a translation of the original article in Bengali written by Samir Goswami for the Bengali daily *Bartaman* and it appeared in print on 18th September 2016.

The festival of Durga Puja is not just a religious one. It is, in fact, more cultural where people meet friends and families, leave old things behind and embrace the new. People buy new household items, new clothes and several other things. Of course, the festival has Bengal as its main centre and Kolkata its pivotal place. Nowadays, due to the ease of transport by both rail and road, people from the suburbs of Kolkata can easily come to the metropolis for their Puja shopping.

However, during the days of the Raj there was no such connectivity and people in the villages had no access to the market in Kolkata, which was called Calcutta in English during those times. In order to generate publicity about the railways, the East Bengal Railway, which largely catered to Bengal, decided to run a Puja-Bazaar special which would tour its lines and take the commodities of the markets in Kolkata to the suburbs and villages. They formed a train in which each compartment was beautifully decorated and had several shops which stocked enough material specially dedicated for the Puja celebrations. The East Bengal Railway, or EBR for short, did not bother much about making a profit when they decided to run this special train in 1927. They charged a nominal cost from the traders who had put up the shops just to cover the cost of operations. With the sides of the coaches decorated with posters advertizing various products, the first Puja-Bazaar special left the celebrated Sealdah station on 31st August 1927. It first started to move along the route to North Bengal which was the route of the legendary Darjeeling Mail. It roamed the rails till 1st October 1927 visiting small towns and villages and covering a whopping distance of 1125 miles or 1800 kms. and stopped at a total of 20 stations. At each station on average 500 people were present to see the train and also buy from it. One was not required to get inside the train to buy and could even buy through the windows. The railways screened some films at each station advertizing the products being sold on the train. The train boasted of an information bureau and also a pantry car which served food to the traders for a fee. This train, the EBR thought, would also publicize the railway's effort for the public and more people would then use the EBR to free them from their local boundaries, which would naturally get translated to a good income for the railway. The EBR had spent to the tune of a lakh of rupees (hundred thousand) on publicity for the train which was given to a private advertizing agency. This was not an ordinary sum of money during those days. This agency hired people who went around villages advertizing the train. There was a sore point too which the people did not like. The railways used loudspeakers to broadcast the entertainment programmes from Bombay (now Mumbai) and Calcutta (now Kolkata) and people felt that it was too much of a disturbance while shopping in the train. There is no evidence whether this special ran again though it seems that in 1929 a Puja Bazaar special ran out of Sealdah visiting only 9 stations from 27th August to 4th September. This 1929 special was also well patronized.

Disclaimer: This translation was carried out by Joydeep Dutta and the translator would like to note that this is not a literal or word by word translation but one which provides the main essence of the original article. Any misrepresentation or mistakes are the responsibility of the translator. The original article is on the opposite page.

রেলের পথ • পথের রেল

সমীর গোস্বামী

ষোল

পুজো প্রায় এসে গেল। আর পুজো মানেই কেনাকাটা। কথাই আছে পুজোর-বাজার। পুরোদমে এখন চলছে পুজোর কেনাকাটা। আগেকার দিনের তুলনায় যানবাহনের সুবিধা হওয়ায় এখন প্রায় সকলেই চান শহরে গিয়ে পুজো-বাজার করতে। শহরতলির লোকেরা তো চলেই আসেন কলকাতায়।

কিন্তু আগেকার দিনে তো আর যানবাহনের এত সুবিধা ছিল না! কলকাতায় এসে পুজো-বাজার করার কথা ভাবাই যেত না।

কিন্তু তাই বলে কি কলকাতার জিনিস কেনাই যাবে না? তা কখনও হয়? রেল কর্তৃপক্ষ এক অভিনব ব্যবস্থা করলেন। ১৯২৭ সালে চালু করলেন পুজো-বাজার স্পেশাল। সেবারও পুজো ছিল অক্টোবর মাসে। পুজোর বেশ কিছুদিন আগে থেকে গোটা একটা ট্রেনকে বাজারের মতো সাজানো হত। অর্থাৎ ট্রেনের এক-একটা কামরা এক-একটা দোকান।

পুজো-বাজার স্পেশাল ট্রেনকে কয়েকটা ভাগে ভাগ করা হত। যেমন, পোশাক, প্রসাধন সামগ্রী যেমন স্নো, পাউডার, সুগন্ধি ইত্যাদি। অলংকার এমনকী কাচের বা ধাতুর বাসন-কোসনও থাকত। পুজোর সময়েই তো যা কিছু কেনাকাটা হত।

কলকাতার বিভিন্ন ব্যবসায়ীরা তাঁদের বাণিজ্য বৃদ্ধির স্বার্থে ট্রেনের কামরা ভাড়া নিতেন। উদ্দেশ্য ছিল, মানুষ কলকাতা আসতে না পারলে কী হবে? কলকাতার বাজার পৌঁছে যাবে সাধারণ মানুষের কাছে।

ব্যবসায়ীরা খুব সুন্দর করে, তাঁদের ভাড়া নেওয়া অংশটুকু সাজিয়ে নিতেন। যাতে আকর্ষণীয় করে তোলা যায়। মানে ঠিক যেমন করে বা যে কায়দায় দোকান সাজানো হয়। উদ্যোগটা প্রথম নিয়েছিলেন, তৎকালীন ই-বি রেলওয়ে। যার পুরো নামটা ছিল ইস্টার্ন বেঙ্গল রেলওয়ে।

প্রথমবার ১৯২৭ সালে ৩১ আগস্ট শিয়ালদা থেকে এই পুজো-বাজার স্পেশাল রওনা দিয়েছিল উত্তরবঙ্গের দিকে। ১ অক্টোবর পর্যন্ত এই স্পেশাল ট্রেনটি পাড়ি দিয়েছিল প্রায় ১১২৫ মাইল। থেমেছিল মোট ২০টি স্টেশনে।

তবে যেহেতু এটা ছিল রেলের প্রথম প্রয়াস, রেল মুনাফা অর্জনের দিকে ততটা মন দেয়নি। শুধু ট্রেন পরিচালনের খরচা তোলার জন্য ব্যবসায়ীদের সস্তায় কামরার ভাড়া দিয়েছিল।

মানুষকে তথ্য প্রদানের উদ্দেশ্যে একটি কামরাকে 'ইনফরমেশন ব্যুরো' বা 'তথ্য সরবরাহ কেন্দ্র' হিসাবে খুব সুন্দর করে সাজানো হয়েছিল।

ই-বি রেলওয়ের তরফ থেকে সিনেমা দেখানোর জন্য একটি বিভাগ ছিল। যার মূল উদ্দেশ্য ছিল ভিড় জমানো এবং অংশগ্রহণকারী বিভিন্ন প্রতিষ্ঠানের দ্রব্যাদির গুণাগুণ প্রচার করা।

ট্রেনটিতে এছাড়া ছিল একটি 'প্যান্ট্রি কার'। রেলের কর্মচারী ও ব্যবসায়ীদের খাবার এখান থেকে মূল্যের বিনিময় সরবরাহ করা হত। তবে এখান থেকে শুধু ভারতীয় রান্নাই পাওয়া যেত।

'পুজো-বাজার স্পেশাল' লাগানো হত অসংখ্য পোস্টার। কামরার ভিতরে ঢুকে যেমন জিনিসপত্র দেখা যেত, কামরার জানলা দিয়েও তেমনই কেনাকাটা করা যেত।

প্রশ্ন উঠতে পারে, রেল কেন এই ব্যবস্থা প্রবর্তন করেছিল? আসলে রেলের তখন একটা সুদূরপ্রসারী লক্ষ্য ছিল। প্রথমত, ভারতীয় রেলের তখন বলা যায় প্রাক যৌবনাবস্থা। সেইজন্য

রেলকে মানুষের মধ্যে জনপ্রিয় করার জন্য বেশ কিছু ব্যবস্থা নিতে হত। সেই উদ্দেশ্যে এটিও ছিল একটি পদক্ষেপ। এছাড়া রেল হিসেব কষেছিল যে ভবিষ্যতে এর দ্বারা তারা আর্থিকভাবেও লাভবান হতে পারবে। কারণ স্থানীয় বাজারে পাওয়া যায় না, এরকম জিনিস ট্রেন থেকে কিনতে পেলে, বিভিন্ন পণ্য ভালোই বিক্রি হবে। বিক্রেতারাও সেই চাহিদা পূরণ করার জন্য আগের তুলনায় আরও বেশি বেশি জিনিস নিয়ে যাবে। ফলে ভাড়া বাবদ রেলের ভবিষ্যতে চাহিদা বাড়ার জন্য আয় বাড়ানো সম্ভব হবে। বলা বাহুল্য, ১৯২৭ সালেই ব্যবসায়ীরা নতুন বাজার পেয়ে বেশ উৎসাহী হয়েছিলেন।

ক্রেতারাও তাঁদের স্টেশনে কলকাতার বাজার উঠে আসায় খুবই উৎসাহী হয়েছিলেন। গড়ে প্রতি স্টেশনে প্রায় ৫০০০ করে লোক 'পুজো-বাজার স্পেশাল' থেকে জিনিস কিনতে আসতেন। এমনকী অনেকে স্টেশন থেকে বেশ দূরের গ্রাম থেকেও আসতেন। ফলে ভালোই বেচাকেনা হয়েছিল।

'পুজো-বাজার স্পেশালে'র পাবলিসিটির জন্যও ই বি রেলওয়ে খুবই গুরুত্ব দিয়েছিলেন। সেকালে প্রচারের জন্য এক লাখ টাকার ওপর খরচা হয়েছিল। তখনকার দিনে এক লাখ টাকা বড় কম কথা নয়! প্রচারের ভার দেওয়া হয়েছিল তৎকালীন এক অ্যাডভার্টাইজিং এজেন্সির উপর।

প্রচারের কায়দাটাও ছিল বেশ অভিনব। যে স্টেশনে 'পুজো-বাজার স্পেশাল' যাবে, তা স্থানে নির্দিষ্ট পৌঁছবার আগে, বেশ কয়েকজন মানুষ সামনে পিছনে স্যান্ডোর বোর্ড লাগিয়ে, তার উপর 'পুজো-বাজার স্পেশালে'র আগমনের বিস্তারিত তথ্য ছাপানো পোস্টার সেঁটে সারা গ্রাম ক্রমাগত প্রদক্ষিণ করত। বিজ্ঞাপনের তৎকালীন পরিভাষায় তাদের বলা হত 'স্যান্ডউইচড্ ম্যান।'

ভিড়ের পরিমাণ হিসাব করে প্রতি স্টেশনে ট্রেনটি দু' থেকে চারদিন পর্যন্ত থাকত।

সাফল্য অর্জনের পরে ট্রেনটি আবার ১ অক্টোবর কলকাতায় ফিরে এসেছিল। পুজোর পরে সে বছরেই শীতকালে আবার একইরকম একটি স্পেশাল ট্রেন চালানো হয়েছিল। নাম দেওয়া হয়েছিল 'উইন্টার বাজার বা শীতকালীন বাজার স্পেশাল'। পুজো-বাজার স্পেশালে যে সকল ব্যবসায়ী জায়গা নিয়েছিলেন, শীতকালীন বাজার স্পেশালেও তাদেরই জায়গা দেওয়া হয়েছিল।

প্রায় মাসখানেক ঘোরার পরে স্পেশাল ট্রেনটি ১ জানুয়ারি সন্ধ্যায় কলকাতায় ফিরে আসে। ট্রেনটির বিশেষত্ব ছিল বেতার যন্ত্রের সাহায্যে, তৎকালীন বোম্বে (এখন মুম্বই) ও কলকাতা কেন্দ্রের রেডিও অনুষ্ঠান বাজিয়ে শোনানো হত। লাউড স্পিকারে উচ্চ স্বরে ক্রমাগত অনুষ্ঠান বেজে চলার ফলে স্থানীয় মানুষেরা তেমন ভালোভাবে নিতে পারেননি। তাঁদের মত ছিল। এই কলের গানের চেয়ে, জমিদারদের বাড়ির 'গ্রামাফোন' কলের গান অনেক ভালো। অনেক শ্রুতি সুখকর।

পুজো-বাজার স্পেশাল আর চলেছিল কি না সে তথ্য এখন আর সহজলভ্য নয়। তবে ১৯২৯ সালের ২৭ আগস্ট থেকে ৪ সেপ্টেম্বর পর্যন্ত একটি বাজার স্পেশাল ট্রেন মোট ৯টি স্টেশন বেরিয়েছিল। প্রতি স্টেশনে ভিড় জমাত গড়ে প্রায় সাড়ে চার হাজার মানুষ।

পুজো-বাজার স্পেশাল থেকে একটা প্রশ্ন' নেলে সেকালেও দুর্গাপুজোয় ধর্মীয় ব্যাপার ছাড়াও সামাজিক ও অর্থনৈতিক বিষয় কম গুরুত্বপূর্ণ ছিল না।

অলংকরণ: সোমনাথ পাল

Bartaman, 18.09.16

Regional Rail Museum Howrah

Panoramic view of the Rail Museum Complex.

The Regional Rail Museum at Howrah was set up on the banks of the river Hooghly on 7th April, 2006. The museum highlights the long and vibrant history along with the rich heritage of the railways in the eastern part of the country, particularly of the Eastern Railway zone (erstwhile East Indian Railway), as well as the iconic Howrah Railway Station. On display are pictorial histories of the East Indian Railway and current zonal railways as well as historical workshops like Chittaranjan Locomotive Works, Jamalpur Workshop, Kanchrapara Workshop and Metro Railway, Kolkata.

"Hall of Heritage": Inside view

"Hall of Heritage" – A replica of Howrah station

Century-old drawings, forms, documents and philately collections, 150-year old steam locomotives, carriages, saloon cars, coaches, etc. are major crowd pullers. With a toy train chugging around the extensive verdant grounds of the museum, children with their parents can enjoy a memorable ride. For gastronomic journeys down memory lane, old coaches have been converted into restaurants and dining cars. The four and a half acres of the Rail Museum complex have been aesthetically landscaped with flowers, hedges and well decorated fountains. The museum aims to live up to its motto: Learn while you have fun.

The objectives of the museum include:

The Toy Train : A magnet for children

Kirti Stambh" with the iconic Howrah Bridge in the background

"Hall of Fame": Inside view

HPS 32 (Pakistan Railway Steam Loco)

- Promoting awareness of India's bountiful, though oft-neglected, and diverse rail heritage
- Preservation of important artifacts and objects including century-old locomotives, coaches, saloons, documents, drawings, photographs, equipment, etc.
- Display of the preserved artifacts in an aesthetic manner
- Arranging the displays to form a historical narrative showcased in an attractive format to enable dissemination of knowledge and awareness
- Preservation of important records and documentation and facilitating further research on rail heritage by enthusiasts, students, scholars and historians
- Providing an open and attractive cultural space in an urban setting for engagement and utilisation by the common public

The museum comprises of indoor and covered areas as well as outdoor exhibits. The former include a "Hall of Fame" and a "Hall of Heritage" that house a number of locomotives – steam, diesel and electric, coaches, photographs, models, signaling equipment, even old monogrammed ceramic pottery of the East Indian Railway. There is a large outdoor display of heritage locomotives, coaches, wagons and items like a steam roller. Among these, pride of place must go to the first BG electric locomotive, WCM5 class, named Lokmanya. This was the first electric locomotive manufactured by Chittaranjan Locomotive Works. A 1500 V DC locomotive bearing the number 20103, it was dedicated to the nation on 14th October 1961. Another interesting exhibit is a steam locomotive that had been captured during the war in 1971 that created the nation of Bangladesh.

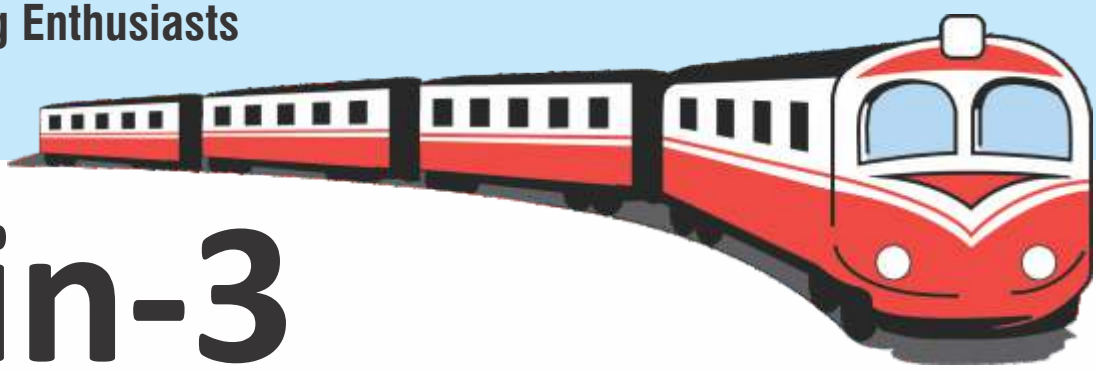
A special feature of the museum is a number of "Heritage kiosks". These are small structures displaying various aspects of the Indian Railways. For instance, the "Vidyut" kiosk displays the heritage of Electrical Engineering on the Indian Railways. Similarly, the "Door Sanchar" showcases the Signaling and Telecommunications, the "Virasat" has uniformed mannequins with various railway staff and workers, while the "Smritiyan" has an impressive collection of philatelic items.

Last but not the least, an imposing column, named the "Kirti Stambh", has been set atop a high landscaped mound. The column displays, in brief, the history of the various zonal railways of the Eastern part of the country as well as the Chittaranjan Locomotive Works.

Located near Howrah station, the museum is a "must see" for any person who has even a passing interest in rail history and heritage.

Photos: Courtesy Regional Rail Museum, Howrah

A vintage steam-powered rail-mounted crane



The Train-3

Locomotives

In the last issue, I wrote about bridges and viaducts and promised to tell you about tunnels. Unfortunately, my editor tells me that he intends bringing out a special issue on tunnels shortly and he has asked me to cover tunnels then. As a result, in this issue, I intend talking about myself, i.e. I will be telling you about the train.

A normal train comprises of vehicles that move on the track. Collectively, all these vehicles are referred to as "rolling stock". Rolling stock has two primary components – a powered vehicle that pulls (or pushes) the train, and other vehicles that have no power of their own but are normally pulled (or sometimes pushed) by the powered vehicle. This powered vehicle is called a locomotive, or a loco, in short. Many non-railway persons refer to the locomotive as the "engine" but the correct nomenclature is "locomotive".

The earliest locos were powered by steam, later followed by electricity and finally by diesel fuel. One perception I would like to clear is that electric locos came into existence before the diesel engine was even invented. Diesel engines were used on locos only in the 20th century, while those drawing electricity from overhead wires or third rails were already in use in the previous century.

It is worth noting that well before powered locomotives became standard for all railways, rail transportation already

A WP class steam locomotive. This loco, No.7161, named Akbar, is now based at Rewari

WT 594, a 0-6-4 NG loco imported from W.G. Bagnall in 1926

It is not my intention to give you a detailed history of steam locomotives. Suffice to say that for more than half the period that the railways have been in operation, the locos used were only steam. In our country, barring some electrification around Bombay (now Mumbai) and a short stretch from Madras (now Chennai), all trains were steam loco hauled. Diesel and electric locos made inroads in the latter half of the 1950s and it was only in 1995 that the last Broad Gauge steam locomotive was removed from service. Meter Gauge steam on the main lines disappeared in 1998. Today, there is no steam locomotive operating in the country except a few heritage runs and on two of the hill railways, Darjeeling Himalayan Railway (Narrow Gauge) and the Nilgiri Mountain Railway (Meter Gauge), where

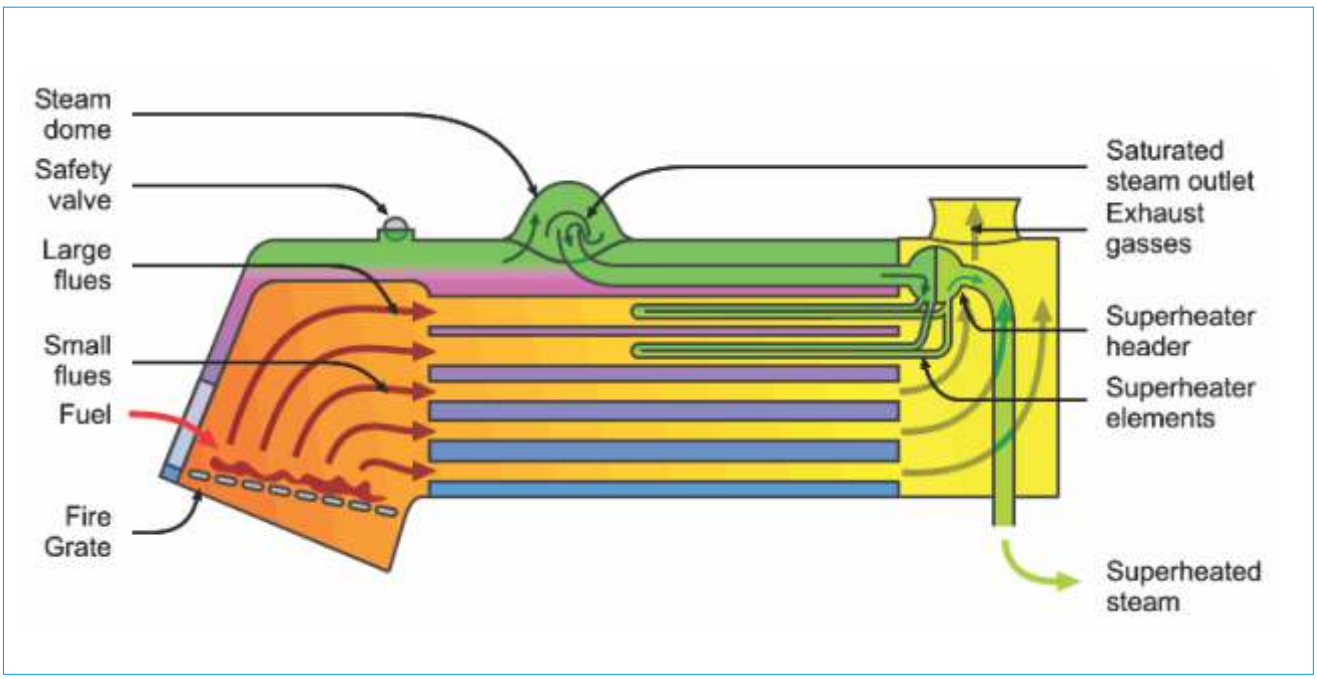


Diagram 1 - Sectional view of a boiler

existed using animal power for movement. Both, horses and cattle have been used. Most of these early railways were in mines or from the mine to the nearest road or waterway. The Gaekwad State Railway around what is now Vadodara used oxen on the mainline in the 1860s before steam locomotives were introduced.

Locomotives started very modestly. One of the earliest models erected was by Britain's Richard Trevithick, a Cornishman. This little engine weighed about 5 tons compared to later behemoths that weighed well over 100 tons. The most well-known of the early locomotives was the Rocket. This is the locomotive that won the famous Rainhill Trials and powered the Manchester-Liverpool Railway that started operations in 1929.

some of the services are still on steam. The latter runs are retained as heritage and tourist attractions.

Thus, of the 164 years since the railways have been in existence in our country, they chugged along with steam power for about 75% of the time. Therefore, let us have a look at the steam locomotive.

To produce steam, you have a boiler (see diagram 1). The boiler requires a fuel that will burn and heat the water to convert it to steam. While there have been wood-fired and oil-fired locomotives around the world, in India, we have used coal almost exclusively. We do have some oil-fired locomotives working on the Nilgiri Railway now, but on the mainlines, we used only coal. The coal was shovelled by a

Stamp of WP loco

Stamp of F-1 loco: The first locomotive built in India in 1895

fireman into the firebox where it burnt and produced hot gases that went through the flue tubes and out as exhaust from the smoke box through the chimney. The firebox and the tubes were surrounded by water which got heated and finally converted to steam. This steam was sent through superheater tubes placed inside the flue tubes to get superheated. The latter was then piped to the steam dome from where it went to the cylinders that caused a piston to move to and fro due to the steam pressure. The reciprocating motion of the piston was converted to rotary movement of the wheels that caused the loco to move forward.

Apart from the boiler, the steam loco had a tender at its rear. The tender was the place where you stored the water and the coal that the loco needed. Between the tender and the boiler you had the area where the driver and the fireman did their work. This area is normally referred to as the footplate (see diagram 2).

The reciprocating movement of the piston was transferred to the wheels through a connecting rod. The connecting rod, fixed to an eccentric pin on the wheel, then turned the wheel. Other wheels were coupled to this driving wheel through coupling rods so that you could have four to five sets of wheels coupled thus. There were other wheels on

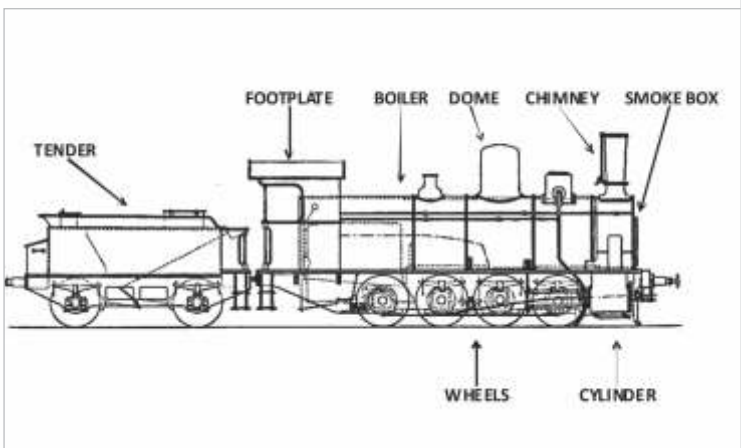


Diagram 2 - A steam loco

Loco No. 24467 HPS-2 a 4-4-0 loco imported by the East Indian Railway in 1950 from Vulcan Foundry Limited

the loco in front and behind these driving wheels. I will tell you about the arrangement of wheels and the nomenclature this lead to in the next issue. If the next issue is focusing on tunnels, I will give the latter priority.

The steam loco driver or loco pilot had to be tough and skilled. The footplate was open to the elements and gave little protection from the hot winds in summer and the correspondingly cold blasts in winter. The latter was worse as while you got frozen on one side by the external air, the heat of the firebox scorched you on the other side. At the same time, the pilot had to ensure adequate steam pressure, sufficient water level in the boiler and a host of other things. The fireman's job was physically exhausting as he normally mechanically shovelled coal into the firebox. Some of the Western countries used mechanical stokers but we did not do so in India.

One interesting feature was that in the steam loco days, one loco pilot or driver, as he was called then, was assigned to one locomotive on a more or less permanent basis. Owing to this, there was a strong bond between the loco and its permanent pilot, so much so that the latter lavished a lot of love and care on the former. In many cases, the pilot took leave when his loco was sent to the workshop for heavy repairs. If you visit any railway colony, you will hear tales of the drivers of yore, who, it is claimed, loved their locos more than their wives.

All said and done, I was sad when I found only electric and diesel locos hauling me. With fire in its belly and visible moving parts, the steam loco was like a living being and had a romance of its own that the new locos just cannot match. Of course, ultimately the needs of the day made the steam loco obsolete so that barring a few that are still breathing fire and smoke, you now see them only on pedestals in museums or in front of railway stations and other rail establishments.

Photos: Archives of the Rail Enthusiasts' Society

Locomotive Performance on G.I.P.R. in 1907!

from the archives of BMS Bisht

Mr. F.M.G. Burton of Agra mentions from his diary about the run of the Up Weekly Express on the Great Indian Peninsula (GIP) Railway to meet the outgoing P&O Mail boat to Europe. This run was made in 1907. Mr Burton describes this journey as follows:

"The North Western Railway's Punjab Mail from Peshawar arrived very late and hence we had a late start of about six or seven hours. At exactly 16.55 we left Delhi. We had four bogies. There were in all 31 passengers (only first class passengers and their servants are allowed in this train). All of these were bound for England, including myself. The weather seemed favourable. Drivers in each section tried their best to make up time and had put in such an excellent record, that within these last eight years I have travelled no less than two dozen times every year, with the fastest scheduled trains in this country, but have failed to witness a run better than this, and not even a run of this type. From Delhi to Etarsi we had a single line for a distance of 493 miles so we had to slow down at each and every run through station to pick up line clear tickets. On this section the running was very creditable occupying about 11½ hours. After leaving Etarsi we had double line right through to the Victoria Terminus, Bombay, a distance of 464 miles, which was covered in just a little above 9 hours. At times we were running at 55 miles an hour for 15 or 20 miles, at others, on steep declines, at 70 or 80 miles per hour for 8 or 10 miles, without lowering speed. At a place near Chandui station between Khandwa and Bhusaval we covered 5 miles in 3 minutes and 28 seconds. 86 miles an hour!

" Exceptional Work by an Indian Driver.

"After coming into Bhusaval, we attached a big 4-6-0 locomotive No. 234, driver Eduljee Manekjee (an old Parsee). From Etarsi to Bhusaval, we had No. 155 (4-4-0) driver Eduljee Cawasjee (also an old Parsee). The latter made some remarkable running but it was No 234 that most exceptional work was done. Considering the gradients involved even with a light load, driver Eduljee Manekjee did remarkably well to achieve a non-stop run from Bhusaval to Manmad, 114 miles, in 121 minutes. After leaving Manmad and passing the summit bank, our driver put on full steam down the bank reaching a speed of no less than 90 miles an hour! We passed Niphad station at an excessive speed. I do not hesitate to say that this was the most excellent performance ever done on Indian soil. I do not know of any better run than this one. I am inclined to compare the Indian run with our British performances and then even I say that we English have done no better runs than what this Parsee driver did.

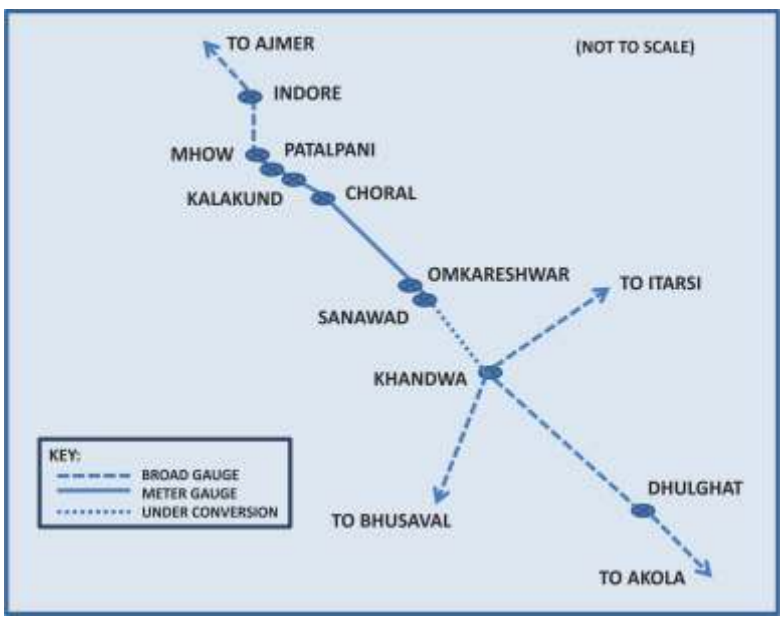
"At Kasara, we had an Atlantic engine attached to our train. Though driver Diar put in a good performance, he could not reach the high standard of Eduljee Manekjee. Eventually, we reached Victoria Terminus, Bombay, Platform No 8, at exactly 13.48, just in time to catch the P&O boat which sailed at 15.05, 26 minutes late from Bombay."

Source: " The Railway Magazine", January, 1916, England

Patalpani Re-visited

The Photo-feature in this magazine covers the trip-cum-hike organised by the Rail Enthusiasts' Society on the Mhow-Patalpani-Kalakund section on the 28th of October 2017. The outing was inspired by an excursion made in 2015 by Vikas Chander and his two rail-fan friends.

Eight die-hard rail enthusiasts assembled at Indore on the 27th of October earlier this year. Coming from Bhopal, Delhi NCR, Kolkata and Indore intself, the group included two ladies as well. On the 28th, while the city of Indore slept, the eight got into two Innovas and sped through the deserted streets of the city, directly towards the Patalpani waterfalls that are a short distance from the station towards Kalakund. The idea was to start early at the falls itself so that they could photograph Train No. 52963 as it chugged out of Patalpani station. This section was Meter Gauge (MG) all the way from Ajmer to Khandwa in the not too distant past and provided the crucial link between the MG networks of Northern and Southern India. As a result of the uni-gauge programme of the Indian Railways, Ajmer-Mhow is already Broad Gauge (BG) and the section between Khandwa and Sanawad is now closed for conversion to BG (see sketch below). This leaves the short 64-kms MG section from Mhow to Sanawad totally isolated and surrounded by an ocean of BG. Even at the time of Vikas Chander's visit, the section had six trains operating; it is now only three, with 52963 being the first of the day.



There was a nip in the air when the group arrived at Patalpani. This was no deterrent and members made their way to the rail track to seek vantage points from where photographs could be taken. One disappointment was that with the monsoons over some time back, the Patalpani waterfalls were virtually dry and only a few trickles of water were any indication that the falls must have been a deluge a month or so back.

The average gradient on the section is 1 in 40. Although a fairly stiff grade for a train, it is quite gradual for the hiker and trekking down is virtually like walking on flat ground. In any case, being on a downgrade for the entire route, it was a pleasant walk all the way. It was possible to walk on a narrow path on the side of the track most of the time, but at many points this path disappeared and you had to walk directly on the track. For any other person undertaking a similar hike, it is recommended that you wear hard-soled shoes so that the ballast does not trouble you.

Highlights of the hike were Ravine Viaducts Nos. 1 and 2. Of these, Viaduct No. 2 has been rebuilt in 1974 on a new alignment with 50 meter high steel trestles. The original old masonry piers can still be seen. Viaduct No. 1 is on its old masonry piers. Fixed ladders on each of the 4 trestles of Viaduct No. 2 go all the way to the viaduct floor. This affords detailed and easy inspection of the structures.

The line goes along the Choral river, crossing it at two points. There are thus two bridges over the river. Like the viaducts, one is on steel trestles while the other is on masonry piers. The section also has 4 tunnels of which tunnel No. 2, at 111.2 meters, is the longest. All the tunnels have a stone at the entrance that gives details of the tunnel, such as tunnel number, date of construction, location kilometerage and length. Along with the construction of the line, the tunnels were built between 1874 and 1878 as were the viaducts and bridges.

The line is well-maintained with a good ballast cushion, neat and clean, and well-spaced sleepers. Most the sleepers were steal-trough and it was noted that one of them had “1957 H W ENDEL” embossed on it. At some places, concrete as well as wooden sleepers were seen. These were mostly on culverts and at points and

crossings. Good to note that in spite of the imminent closure of the line for BG conversion, the staff is continuing to do a good job of maintenance and upkeep.

Unfortunately, since the Vikas Chander trip, the line from Akola to Khandwa has been converted to BG, so that the "Char-ka-Ankda" near Dhulghat has been relegated to history. The section from Khandwa to Sanawad is now being converted. Since the Ajmer-Mhow (now Ambedkar Nagar) section is already BG, this leaves only the Mhow-Sanawad isolated section with MG. The current three trains on the section are hauled by 8 YDM4 diesel locomotives based at Mhow. According to the staff of the section, the new BG alignment is likely to be different from the current MG one. In that case, it would be an excellent course to retain this line as MG and not dismantle it even after the BG line is in use. This could then be a heritage rail line which can be exploited by combining the interests of the rail enthusiast with those of the mundane tourist whose interests are the Patalpani waterfalls and the towns of Mhow, a military city, and nearby Indore, the seat of the Holkars of yore.

Since the next train from Kalakund, No. 52976, for the return journey to Mhow was leaving only at 15.22 hrs. the trek was leisurely and gave ample opportunities for photography and relaxation. One good opportunity was Train No. 52964 which was shot coming out of tunnel No. 3. The group reached Kalakund only after midday.

Kalakund is a sleepy little station in the middle of nowhere, but it has a station building and railway staff quarters. It is important as all trains going up the incline to Patalpani have to pick up their banker from here. But with the decrease in traffic, the vendors are facing difficulties as their clientele is reducing. Two items that are the staple at the station are custard apples and *kalakand*, an Indian sweet made primarily of milk and sugar. The latter is perhaps a common item among the vendors owing to its resemblance to the station's name and the locals taking advantage of that. The station staff members were very hospitable and treated the group to ample quantities of both, custard apples and *kalakand*.

Train No. 52976 arrived a few minutes late and left at 15.30, about 8 minutes late. The train was hauled by Loco No. 6726 and had Loco No. 6735 as its banker. Both were YDM4 diesels. Before Project Uni-gauge of the Indian Railways lead to the slow but sure demise of the MG, the YDM4 was the mainstay of all train operations, both passenger and freight, on MG. At its peak, there were about 550 of these locomotives in service.

The train itself had only 2nd class general coaches and all six

Condemned YDM4 locomotives in Mhow yard

of these coaches were full; it was difficult to find sitting place. All the same, the return was uneventful and the train reached Mhow only 13 minutes late at 16.43 hrs.

Three members of the group made a beeline for the diesel shed to look for the 3 derelict steam locos that Vikas Chander had found on his visit. To their horror, they could not find them and feared that they had been cut up and sold as scrap. It was, therefore, very satisfying to learn that one loco each had been sent to Dahod, Ratlam and Varanasi for display outside the stations of these cities. While there is nothing like a locomotive in steam, preserving it on a plinth is a better option than disposal as scrap.

This shed now has 8 working YDM4 locomotives. There were 7 other condemned YDM4s in the yard. The Rail Enthusiasts' Society has made a plea to the Ministry of Railways that in the next 5-10 years, not only these YDM4s, but all ALCO diesel locomotives will go the way of steam. We should not make the same mistake as we did with steam and preserve at least 2-4 locos of each type that ran on the railway. The YDM4 being the most numerous on MG needs special attention.

Another interesting heritage item at Mhow is an old Meter Gauge turntable. Cowan-Sheldon built and installed in 1950, age is not what makes this turntable unique – its special feature was that it was vacuum operated. Using the ejector of the loco itself, its turning action was vacuum actuated. The Rail Enthusiasts' Society has brought this also to the notice of the Ministry of Railways and it is hoped that the turntable is preserved at some place like Rewari.

It was a happy bunch that made its way back to Indore late in the evening. It was certainly a day well spent.

Quiz

For the first time in Kolkata area, the Eastern Railway zone of the Indian Railways, assisted by the Rail Enthusiasts' Society, organised an Inter-School Quiz Contest on the Indian Railways at the Regional Rail Museum at Howrah on 15th November, 2017. In spite of inclement weather, 15 renowned schools with 30 teams from Kolkata and Howrah participated in the competition. Shri H. Rao, General Manager, Eastern Railway, was the Chief Guest. The event was also attended by Rail Enthusiasts, Shri Manu Goel, Divisional Railway Manager/Howrah Division, and other rail officials.

The quiz was conducted in two rounds. Out of 30 teams that participated in the qualifying round, 8 teams moved up to the finals. St. Augustine's Day School bagged the First Prize, Akshar School came Second and DPS/Ruby Park came third in a thrilling encounter.

The Quizmaster was Shri M. A. Siddiqui, a Rail Enthusiast himself and a veteran Quiz conductor. He is also an Inspector in Eastern Railway. In addition to the Quiz, Rail Enthusiasts' Society organised a small cultural programme by the visually challenged children from VOICE OF WORLD, a philanthropic organisation committed to the welfare of the differently-abled. Their performance was greatly appreciated.

A Railway Book exhibition was organised by Rail Enthusiasts' Society at the venue. This attracted immense interest from the participants and other school children.

The program was a grand success and evoked tremendous enthusiasm amongst the school students. Officers and staff of Howrah Division led by Shri Anoop Gautam, Sr. Divisional Finance Manager and Heritage Officer, put in immense efforts to organise this programme. It has been well reported in the media as well.

The participants

The Quiz in progress

The Quizmaster

Limca Book of Records 2017

One of the records in the 2017 edition of the "Limca Book of Records" is for "Most pictures of railways and stations". The citation reads as follows:

Vimlesh Chandra of Bhavnagar, Gujarat, who is a mechanical engineer in the Western Railway in Vadodara, Gujarat, has been writing about the railways and collecting pictures of the railways and the stations. He has 64,000 pictures of railways and 7,137 of stations as of June 20, 2016.

Vimlesh Chandra is a member of the Rail Enthusiasts' Society.

HUMOUR ON RAILS

Wife: Dear, do you remember what sari I was wearing when you came to see me for the first time?

Hubby: No. I don't remember.

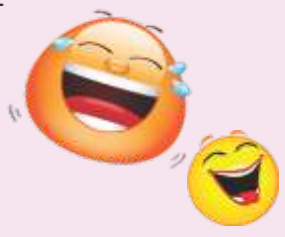
Wife: See, you don't love me at all!

Hubby: It's not like that, honey. A person giving up his life on the railway track will not be checking whether it is a Shatabdi or a Rajdhani.

The hills of South India are home to a number of large mammals, among them the Sambhar, largest of the Indian deer. One unfortunate deer was strolling along the Meter Gauge track somewhere among these hills in the days of steam locomotives. A light steam locomotive came hurtling on the hapless animal and before it could run off was hit and killed on the spot. Since the locomotive did not have any train behind it, the driver (now called loco pilot) and the fireman thought it was a good opportunity to pick up the deer carcass and apart from enjoying a surfeit of venison, the deer's antlered head could adorn a wall in the driver's house.

The Sambhar is a large animal: try as hard as they could, they were unable to lift its dead weight on to the locomotive. Suddenly, a thought flashed through their minds. Why not place the deer's body on the track and run the locomotive over it to cut it in two. Since the locomotive has a cow catcher in the front, they would need to back it onto the deer, and this is what they attempted.

Oops! As the loco backed onto the deer, one of its wheels derailed. The locomotive crew had no option but to report to the Control Room that their loco hit a Sambhar and derailed. Of course, they had a tough time explaining how the deer was not caught by the cow catcher and after dodging all the wheels of the locomotive, managed to hit the rearmost wheel of the tender. The case was squashed after the antlered head of the Sambhar was presented to the Divisional Safety Officer and the venison shared among all staff (those not vegetarian) of the Control Room. We are not sure what happened to the deerskin!



A locomotive clearly showing the cow catcher in the front. The locomotive in the picture is FM class 0-6-0 # 37302 of the erstwhile Southern Mahratta Railway

RAIL ENTHUSIASTS' SOCIETY

(Registration No: S-E/792/Distt. South East/2015)

The Rail Enthusiasts' Society, incorporated on the 28th of December 2015, aims to provide a platform for rail enthusiasts to disseminate knowledge, air their views and exchange ideas regarding the railways in India or overseas. Its first activity was to publish a magazine whose 5th issue you have in your hands. Other than issue of the magazine, we have organised two enthusiast's Trips/Hikes, a visit to the Kolkata Metro construction tunnel site under the River Hoogly, a debate amongst school children on the need for preserving rail heritage and a Quiz on the Indian Railways

On the next page, you will find details of how you can become a member of the society. In case you are interested only in the magazine, the subscription rates are as follows:

Single copy	**₹ 150.00**
Annual subscription (4 copies)	**₹ 540.00**
5-year subscription (20 copies)	**₹ 2400.00**

Note:

1. The rate for the E-copy has not been worked out yet but would be less than that for the hard copy.
2. For overseas subscribers wanting a hard copy of the magazine, the rate charged will be as follows (to cover packaging and postage):

a. Single copy	**USD 9.00**
b. Annual subscription	**USD 32.00**
c. 5-year subscription	**USD 148.00**

3. For countries that do not deal in the US Dollar, please email a request to the Secretary of the society and we shall give you the rate in other currencies like the Euro or GBP.
4. The subscription rates for membership of the society for those residing in India include free delivery of the magazine as well. For members residing overseas, and wanting a hard copy, please email the Secretary and special rates will be fixed in each case to cover the cost of postage. Overseas members will get an e-copy free.
5. Libraries will be given an additional 5% discount over rates for subscription to the magazine.
6. Bonafide students' rates for membership, valid as long as they remain students, will be 50% of the normal rates. Such rates would not apply to Life membership.
7. For subscription to the magazine, please mail the completed form below to: The Editor, Rail Enthusiasts' Society, C-494, Defence Colony, New Delhi-110024 (India). A scanned copy can be sent by e-mail to **railenthusiast2015@gmail.com**

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RAIL ENTHUSIASTS' SOCIETY

(Registration No: S-E/792/Distt. South East/2015)

Membership of the Society

Membership of the society is open to individuals as well as Corporates. While individuals have the choice of three types of membership, for Corporates we have only membership for life.

Corporate Membership

This entails a one-time payment of ₹ 200,000/-. Membership gives the following to the Corporate:

- **Five copies of all magazines or supplements to the magazine that are published**
- **Concessional rates for any item such as artefacts, books or memorabilia on sale**
- **Invitation to 5 members of the organisation nominated by the corporation for any event or activity the society may organise**
- **Other benefits will be added in due course as and when more activities are added**

Rate for Corporate membership for foreign organisations will be US Dollars 4,000/-.

Individual Membership

For individuals, we have 3 types of membership. The member gets all copies of the magazine and its supplements, if any, as and when they are published. Concessions for other activities will be announced as and when the other activities are introduced.

- **Associate member : This gives you membership for one year. Subscription: ₹ 500/-**
- **Ordinary member : This gives you membership for five years. Subscription: ₹ 2000/-**
- **Life membership : This gives you membership for life with a one-time payment: ₹ 10,000/-**

For foreign nationals and overseas members, rates are as follows:

- **Associate member : Subscription: USD 10/-**
- **Ordinary member : Subscription: USD 40/-**
- **Life membership : One-time payment: USD 200/-**

Please see the note on the previous page for overseas members wanting hard copies of the magazine.

Mode of Payment

Payment is acceptable by cheque, demand draft or cash. You can also do a direct bank transfer. All cheques and demand drafts should be payable to "Rail Enthusiasts' Society". For direct transfer to our bank, details are as follows:

- **Name of bank : State Bank of India**
- **Branch : Personal Banking Branch, New Delhi**
- **Address of the bank : E-4, Defence Colony, New Delhi-110024 (India)**
- **Type of Account : Current**
- **Account Number : 65250409615**
- **IFS Code : SBIN0050634**
- **MICR Code : 110002751**
- **Swift Code : SBININBBFXD**

For enrolling as a corporate or individual member, all you need to do is send an email or a letter to the Secretary of the society. The address is: **C-494, Defence Colony, New Delhi-110024 (India)**, while the email id is **railenthusiast2015@gmail.com.**

Visit our website : **www.railenthusiastindia.org.in**

EIR 21 – The "Express"

Withdrawn from service in 1909, the Express stood on pedestals first in front of the Locomotive Workshop offices at Jamalpur and later outside Howrah station. After being abandoned for a century, the Perambur Loco Works of Southern Railway took the loco under its wing and after renovation and repairs, EIR 21 worked a train on 15th August 2010 from Chennai Central to Avadi as part of the Independence Day celebrations that year, a good 101 years since it had last worked. EIR 21 is now in good working order, having hauled a train on 10th September earlier this year from Egmore station to Kodambakkam on a heritage run. This was its sixth run since its resurrection seven years earlier.

Even if EIR 21 was commissioned a few minutes before the Fairy Queen (EIR 22) it becomes the world's oldest working locomotive. Its number would indicate that it is indeed the oldest! Both locos were commissioned in 1855 on the erstwhile East Indian Railway (EIR).

Perhaps it would be best for the Guinness Book to certify both locos as the "oldest" pair!

EIR 21 on a pedestal at the Jamalpur Locomotive Workshop in the early 1990s


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