

Southern Railways

Magazine

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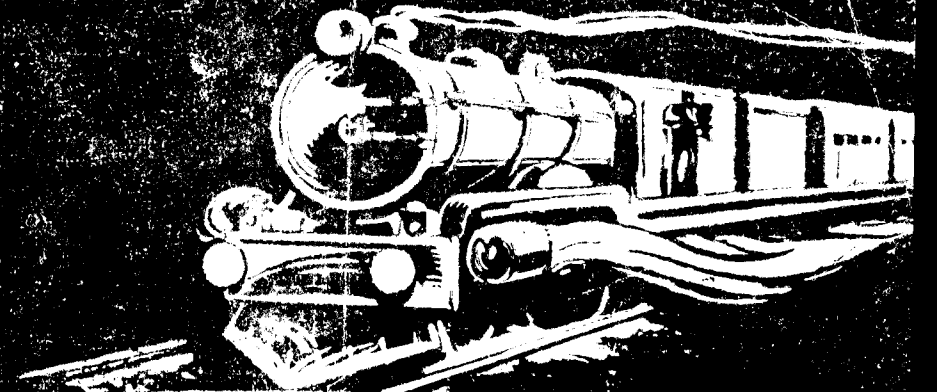
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SOUTHERN RAILWAYS 747 MAGAZINE



VOL. I, NO. 2, AUGUST 19

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Southern Railways Magazine

VOL. I
NO. 2

AUGUST 1949



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MONTHLY

CLAIMS SETTLEMENT AND PREVENTION

MERCHANTS and traders all over the country must have read with considerable satisfaction and optimism the Railway Ministry's Communique published recently in the press, describing the vigorous action now being taken by Railways in the settlement of claims. The statistics quoted are indeed encouraging. The communique states that the total number of claims outstanding on all Railways over six months old have been reduced from 65461 on January 1st to 6253 on July 1st, i. e. a reduction of ninety per cent—a creditable achievement. In pursuing this claims settlement drive, the Railway Ministry has also specified to individual Railway Administrations target periods for the liquidation of claims—three months for small claims up to Rs. 200/-, and six months for all others. It is also reported that claims prevention is now receiving the energetic attention of all Railways.

Without going into a detailed analysis of the causes giving rise to claims; briefly, these may be attributed to insecure packing, illegible labelling and marking of consignments, misdespatches, delays in transit, and losses due to damage or pilferage. The first two causes are mainly the responsibility of the trading community, and the remainder more often than not due to inefficiency on the part of Railway Personnel. Pilferage, when not deliberately intentional, is often the result of insecure packing, when Railway Staff and others are tempted to indulge in petty thefts of some of the contents of consignments which may have burst open while in transit.

To reduce claims arising out of the first two causes, the Ministry of Railways, during the last few months, have been running a press publicity campaign known as "P L M" (Pack, Label, Mark), the objective being to obtain the co-operation of the trading community to do their part in offering consignments for rail transit securely packed and with clear and legible labels and markings. It is hoped that the expected response from the trading public is materialising. On the other hand, it is hoped that Railways are educating their staff by constant re-iteration of suitably designed 'Claims Prevention' slogans and posters to help eliminate those causes for which Railway Staff are usually responsible, i. e. rough handling, misdespatching, delays in transit, etc.

With this dual co-operative action, from the traders on one side and the Railways on the other, one source of public criticism and dissatisfaction, should be removed in the very near future.

NOTES AND COMMENTS

A New Vigorous Drive

STATISTICS now available reveal the extraordinary rapidity with which claims pending against Indian Railways were disposed of during the last six months. The Deputy Minister of State for Railways explained that on October 1, last year the total number of claims outstanding was 172,321 of which 68,445 were outstanding for over six months. A new and vigorous drive was launched from the beginning of this year to arrest this accumulation of claims and directives were issued to all railways that all small claims should be disposed of within three months, while a maximum of six months was allowed for bigger claims. Instructions were also issued that all claims which arose before January 1, of this year must be disposed of before June 30, this year. The result of these strict instructions has been extraordinary. The number of claims outstanding for over six months, which stood at 65,461 on January 1 this year came down by 90 per cent on July 1 to 6,523. Now that a substantial portion of arrears has been disposed of, the authorities are confident that in future claims would be dealt with expeditiously. The total number of claims outstanding on July 1, this year on all Railways including those outstanding for over six months was nearly 92,000. In this connexion a conference of the Chief Commercial Managers of all Railways was held to consider preventive measures by which the number of claims preferred against the Railways could be reduced. Railway Administrations throughout the country would be tightened up so as to reduce the loss of parcels and goods through pilferage, negligence and other causes.

The new drive seems to be a very right step in lessening the scathing criticisms levelled against the Railways at large only over this subject. All the more, pilferage and careless handling should be completely stopped while loading and unloading the goods. However, the new drive is definitely some sort of relief to the mercantile community, who are the major victims as a result of pilferage and damage in transit.

M.S. RLY. EMPLOYEES' DEMANDS

The Office-bearers of the Mysore State Railway Employees Association met the General Manager of the Mysore Railway at the latter's Office last month and discussed with him several subjects pertaining to the working of the Railway Department and represented to him the inconveniences they were experiencing in the working of the Department.

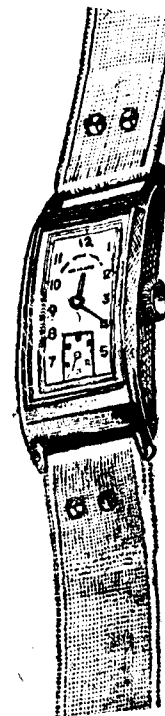
The General Manager assured them that he would consider their demands for house rent and city allowances sympathetically. With regard to the enhancement of the dearness allowance he was said to have pointed out that it was a general question on which he could say nothing off-hand. The General Manager informed them that in respect of uniform set of rules for the entire Railway Staff including those that were transferred from the M. & S. M. Railway in 1938, which was being pressed for their attention, he had already made a recommendation to the Government in that behalf. He was further said to have agreed to

recommend to the Government that in lieu of the fixed bata for certain categories of staff, a daily allowance of the days they were out of headquarters might be allowed. He said that a recommendation had been made to the Government to postpone the question of efficiency bar in view of the possible merger of the Mysore State Railway with the Indian Railways and to allow employees to earn their increments normally.

discontinued the issue of class II and III tickets for less than 50 miles over the Nizam's State Railway by the Grand Trunk Express with a view to minimise overcrowding. In this connexion, it may be pointed out that during the railway budget session of the Indian Parliament in February this year there had been heated discussions as to the late running of Grand Trunk Express. Now the discontinuance of the issue of Class II and III tickets for less than 50 miles can assure more comfort to the long distance travelling public.

It is understood that Nizam's State Railway Administration has

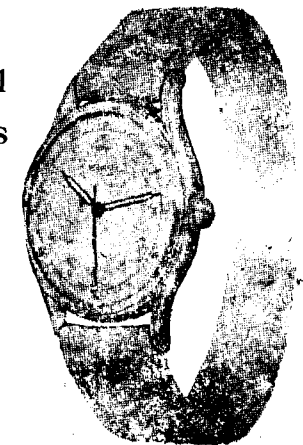
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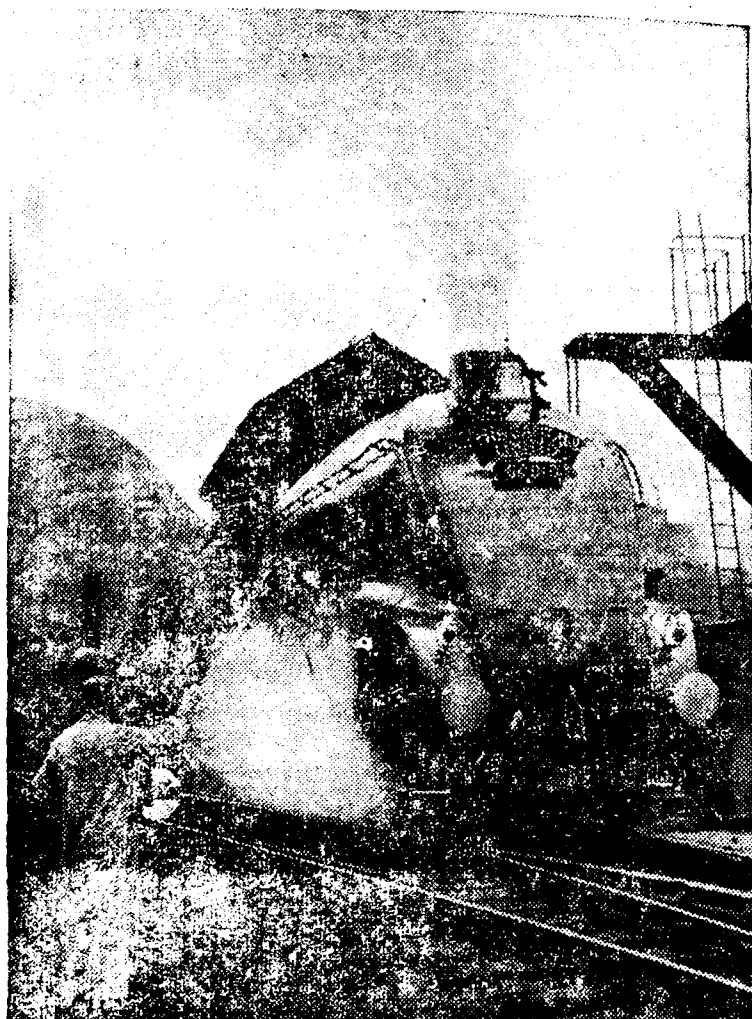


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FILM STAR NAMES NEW NON-STOP EXPRESS

Edinburgh-born film star, Miss Anne Crawford, recently named the new Edinburgh non-stop express "The Capitals Limited" at King's Cross Station, London. Amenities provided on the train include, special air-conditioned coaches, buffet lounge car, and ladies retiring room with attendants. Two sets of enginemen will work the train on its 393 miles non-stop journey, changing over *en route* through a specially constructed corridor tender. Workers at King's Cross station, London, wave goodbye as "The Capitals Limited" left the station on its inaugural run.

COVER PAGE

Our Hon'ble Dy. Minister of State, Transport and Railways

THE fifty-year old Santhanam Iyengar, the Dy. Minister of State, Transport and Railways hails from Mannargudi, Tanjore District. He was a lawyer to begin with. While he was a student in the Law College, Mahatma Gandhi came down to South India on a political mission. That was about the year 1919. As a part of the non-co-operation programme, Gandhiji asked the students of Madras to boycott schools and colleges. At that time three young men who responded lustily to Gandhiji's call were Messrs. Santhanam, S. Ramanathan and N. S. Varadachari. They formed themselves into a youth association in Madras to propagate the ideals of Mahatma. These three men were also active in the early non-co-operation days in India's southern capital. Sri. Santhanam continued to be a Congressman engaging himself in reading and writing in the later years. He always remained a very close associate of Sri. Chakravarthi Rajagopalachari, the present Governor-General.

Clad in white *Khadi dhoti* and donned Gandhi cap, Sri. Santhanam is a versatile scholar. But once he became an administrator, he has proved that he is equally versatile in his new sphere of activity. He was for long Joint Editor of the "*Hindusthan Times*"

in New Delhi. His book-reviews in that daily newspaper used to be rated as bearing fine critical judgment. Equally his column known as the "*Right Angle*" always gave food for thought to the reader. He had a peculiar knack of discussing current problems in his column and his original views on men and matters earned for him a sort of popularity which is all his own.

In politics, Sri. Santhanam has socialistic views. He is the author of an admirable book on Socialism published ten years ago. During the early part of the last decade, he was editor of the "*Indian Express*" in Madras and he held that position during the paper's early, uncertain and critical period of emergency. As a leader-writer he was sober and his criticisms were based on his rare balancing powers. Once Mr. Santhanam left the "*Indian Express*" editorial sanctum he became member of the Central Legislature in New Delhi elected by a Tanjore Constituency. There he made a name for himself as an able debator and a matter-of-fact legislator. His speeches in connexion with the Railway Budget in those days were so authoritative that to-day there is no reason whatsoever to doubt his capacity as Railway Minister under Sri. N. Gopalaswamy Ayyangar.

(N. P.)

THE CHITTARANJAN LOCOMOTIVE PROJECT

By Our Special Correspondent

This Rs. 14 Crore scheme constitutes a landmark in the industrial expansion of Independent India, and this is the first and the biggest locomotive project sponsored by the State. The first completely Indian-built locomotive is expected to come out of the assembly lines by the end of 1951. In the following paragraphs the writer presents a comprehensive picture of this scheme at a glance.—(Editor)

LOCATION

Twenty miles to the northwest of Asansol, in beautiful undulating country situated on the borders of Bengal and Bihar, a gigantic project is getting under way which will bring to fruition the dream cherished by many Indians for long. Chittaranjan, the new name for Mihijam is on the East Indian Railway between Asansol by rail and 20 miles by road and is in the Burdwan district of West Bengal. It is ideally situated, adjoining as it does the labour surplus districts of Santal Parganas and Manbhum in Bihar and in close proximity to the coal-belt and the steel producing centres. It is a stretch of undulating broken country spotted by small hillocks here and there. The ridges and valleys afford a picturesque area for being developed into sites for the factory and the township. About six miles away is the proposed Maithon dam across the Barakar river from where electricity and unlimited water supply could be obtained, when the reservoir is built. The locomotive workshop site is only 10 miles away from the coal-belt and is also near to steel producing centres, Asansol and Tatanagar. The site chosen thus satisfies almost all the conditions required for the location of the factory. In this connexion, it may be pointed out that sometime back the aborigines of these areas viz. Santhalis protested vehemently against the Government choosing the proposed site. At last with the aid of Military and Police force these agitations were suppressed in no time. Photographs published in this issue

about the recent visit of our Hon'ble Sri. K. Santhanam to the proposed project site, reveals the simplicity of our Railway Minister in visiting the huts of Santhalis and holding discussions with them.

OUTPUT

The Chittaranjan workshops are designed to build about 120 steam locomotives and 50 spare boilers per year working single shift and, together with the Tata's Locomotive Factory, are expected to make India self-sufficient in regard to locomotives. About 1,200 machines will be used for manufacturing and assembling spare parts and locomotives, for, this work involves a variety of operations embracing various trades, such as pattern making, foundry work, forging and smithy materials, welding, machining of parts to high precision, boiler-making, plate work, copper and tinsmith work, fitting work calling for great skill and accuracy, tool making, etc.



Sri. Santhanam and the General Manager Sri. P. C. Mitharjee engaged in discussion.



Main structure of the Loco-shop



Hon'ble Minister scrutinizing the lay-out of the project. Here is seen Sri. A. N. Roy, Public Relations Officer, Calcutta Railways on the left side of the Minister.



Hon'ble Minister Sri. K. Santhanam is having a bird's eye view of the lay-out of the project from the Mihijam hill.

CONSTRUCTION PROGRAMME

The total estimate cost of the scheme is a little over Rs. 14 crores, divided broadly as Rs. 8.5 crores for workshops and ancillaries and Rs. 5.5 crores for staff colony and welfare works. Out of the former, Rs. 3.6 crores are for machinery, Rs. 1 crore for electrical arrangements, Rs. 2 crores for workshop buildings and Rs. 1 crore representing the share of construction expenses including construction plant, and the balance is for sidings, roads, share of cost of water supply, etc. The workshops involve a heavy construction programme including about 14,000 tons of steel fabrication. The project is expected to employ about 10,000 workers on a single shift work.

A modern township with the necessary ancillary services has been planned to accommodate 6,000 families to start with. Provision has been made for future expansion if the need arises. The various colonies of the township have been laid out on the "neighbourhood unit" basis, each being self-contained to a great extent provided as it will be with shops, schools, dispensaries, playgrounds and social amenity centres. All the houses in the township will have electricity, a continuous supply of filtered water and water-borne sewage. An up-to-date and well-equipped hospital to serve the needs of the township is also being built.

The ancillary services consist mainly of electric power, water and sewage and health service. It is proposed to establish at present an independent thermal station consisting of three 600 k.w. Diesel Oil-engine-driven Alternator sets and ultimately power will be purchased from the Damodar Valley Corporation. There will be in all eight sub-stations inside the workshops for supplying electric power to the various motors

and other electricity consuming devices.

To begin with, the workshops will produce parts of standard locomotives. The first locomotive is expected to be turned out of the shops complete by the end of 1951.



Sri. Santhanam listening to grievances of the villagers, who are mostly aboriginals.

THE PROJECT AT GLANCE

- Total cost estimated over Rs. 14 crores.
- The project will employ 10,000 workers.
- Staff quarters 6,000
- Construction of the project will involve:
 - 17,000 tons of Steelwork.
 - 25 Crores of bricks.
 - 30,000 tons of cement.
 - 50 lakhs c.ft. of sand.
 - 50 lakhs c.ft. of stone ballast and chips.
 - 1 lakh c.ft. of woodwork.
 - 20,000 gallons of paint.
- Total Transport involved for bringing materials 70,000 wagons travelling 1 crore wagon miles.
- Water and Sewage pipes 100 miles long each.
- Roads 60 miles long.
- Production Capacity 120 locomotives and 50 boilers per year.
- Building of each locomotive will involve 1 lakh (KW Hrs.) Electric Unit.
- The first locomotive to be turned out of the shops complete by the end of 1951.
- The first General Manager of this project: Mr. P.C. Mukherjee.



A side view of General Manager's Office at Mihijam



The Minister inspecting the huts erected for displaced persons.



Santalis—the original inhabitants of the area, who protest for the site chosen by the government.

(Photos supplied by: Public Relations Officer, Calcutta, Railways).

PRESENTING MR. RAILWAYMAN

"The Guard"

By A. H. Pearson

THINK of a Railwayman in a white or dark blue uniform, a red or green flag in one hand, and a whistle in the other, and you have a popular, but very brief description, of the Guard, who always travels in the rear brake van of a train. As a passenger sitting somewhere in the train, you may be under the vague impression that all the Guard is required to do is to blow his whistle, wave his green flag, and your train is on its way. Your vague impression is right, the blowing of a whistle and the waving of a flag or hand-signal lamp, is part of his duties, but only a very infinitesimal part. It would now be worth your trouble to take a peep behind the scenes, and see how much more that Guard travelling in the rear of your train has to do in the course of his day-to-day job.

Like the locomotive driver, the Guard is on the job at all hours of the day and night, in fair weather or foul, in summer or winter, and his office is that small lobby of a compartment in the rear brake van of a train.

As everybody knows who has ever travelled by rail, there are two kinds of trains—the passenger train and the goods train. So, first we take a glimpse at the passenger train guard's duties.

After he gets the call book telling him which train he has to work, and before he leaves his house for the station, he will check his equipment—uniform clean and neat, whistle, red and green flags, box of detonators, rule book, memo book, and most important of all his hand-signal lamp with the oil reservoir filled and red and green sides intact and working smoothly.

At the station he goes straight to the office of the Assistant Station Master. Here he signs the

appearance book, then moves on to the guard's notice board to quickly scan circulars, special instructions, etc. Perhaps he will have a few minutes conversation with the A. S. M. or the general assistant, who may pass on to him valuable information about his train.

The train he has to work now rolls into the station. The Guard is on the platform almost at the exact spot at which the brake van will stand. He will now start the process of taking over charge of the train from the incoming Guard. This means checking the contents of both the front and rear brake-vans, counting the number of packages in each, comparing way bills with entries in the guidance, and noting any discrepancies, if any. Insured package must receive special check and attention, as there may be valuable consignments of gold, silver or jewelry locked away in the small strong room provided in the van.

When making and taking over is completed, along with the check and loading of consignments that may have offered at that station, the luggage compartment doors are then securely locked. All this must be done rapidly and within the scheduled halt of the train which may be anything from 10 to 20 minutes. There is still some time to spare, and if it is at an engine changing station, the guard will walk up to the engine, compare watches with the driver, and take over from him the train journal and fuel form, and give him the load of the train as entered in the train constitution report. The Guard then returns towards the brake van, waiting for permission to start from the Assistant Station Master. He gets this, then gives the driver the starting signal, and the train is off. As soon as the brake van has cleared the Station

Platform, he will exchange an 'all-right' signal with his driver.

At all stopping stations on his section, the Guard is met by the Parcel Clerk or Assistant Station Master on duty, who makes over all packages, with way bills booked from that station. The Guard will also supervise the unloading of all packages booked to that station.

While on the move, the Guard has to enter up his train papers, noting except times of arrival and departure at each station, causes of detentions to the train, if any, and any untoward incident that may occur, while he is working the train.

The Driver riding in front on his engine rarely has contact with the travelling public, but not so the Guard. He has considerable dealings with the public, which often provides spice to his daily routine. There is hardly a trip made that does not provide him with memories of what passengers have asked him, or expected of him. If the train is running late, he is expected to know the reason why, and also forecast probably, whether the train is likely to reach a traveller's destination on time or not. Quite often he is required to quote arrival and departure times of not merely his train, and on his own railway, but information of trains, timings, etc. of railways hundreds of miles away. Passengers will also appeal to him about the bad quality of foodstuffs supplied by station vendors, their inefficient service, or high charges, and he is expected to settle the matter on the spot to the entire satisfaction of the passenger. One could write reams on what the travelling public expect the Guard to know or do.

The alarm chain is a constant source of irritation to a Guard. Rarely is the alarm chain pulled for legitimate use; mostly it is pulled for frivolous or absurd reasons. When the pulling of an

alarm chain brings a train to a stand, the Guard must immediately try and find the culprit and ascertain the cause. Most of the instances of alarm chain pulling always remain unsolved mysteries, as the Guard rarely gets the co-operation of other passengers in a compartment when trying to find the culprit. The Guard cannot waste time in any detective methods to trace the alarm-chain puller, as every minute wasted, adds up to his train detentions, which he has to explain satisfactorily. So, when the public are 'up against' him his first thought is to get his train started again.

The Guard in the brake-van of a passenger train, because of his contact with the unpredictable rail traveller, has a job more lively than his counterpart working goods trains. Apart from himself, and the engine crew in front, everything between is a long line of wagons loaded with inanimate freight, or empty. When the goods train Guard takes over his train, he checks every wagon with the trains clerk and the watchman, if it is hauling a load of sealed wagons, ensuring that all seals are intact, and giving signature in the watchman's seal book. He will also examine all couplings and get the train examiner's O.K. that his train is in a 'fit-to-run' condition. On reaching destination, he will again make over his train to the trains clerk and watchman, with all seals intact, as perhaps somewhere on a night journey, when his train has been spending an hour or so in a passing loop, a marauding gang may have quietly opened up a few wagons and decamped with the valuable merchandise.

After each trip comes the journey's end, with the Guard going again to the Assistant Station Master's Office, to put his name on the roster, and then home, or to the rest room, for a well-earned repose.

HYDERABAD—CITY OF ART AND CULTURE

In the following paragraphs we publish a comprehensive picture of Hyderabad City for its historical importance. Volumes can be written about its art and culture that flourished in ancient times but owing to shortage of space we just present the city at a glance. We sincerely thank the Director of Publicity, Government of Hyderabad for sending us the photographs and necessary details.
(Editor)

THE City of Hyderabad picturesquely situated on the banks of the river Musi is the fourth city in the Indian Union. It is essential to recall here that the Hyderabad State is now under the administration of Military Governor following the police actions which began in last September. Hyderabad has maintained essentially its oriental character notwithstanding the modern improvements in the matter of well-designed public buildings, dustless roads, gardens, parks and public housing. The City and its suburbs are served by more than sixty miles of Cement and Asphalt roads of which the Cement roads alone have a length of 54 miles—the longest in any city in India. The city is served by a filtered water supply on the most modern principles and is also provided with an adequate drainage system.

Schemes for the improvement of the city are administered principally by the City Improvement Board. This department which was started in 1912 has devoted its labour to beautifying the City, clearing the slum area, providing a well-designed system of public housing and centres of recreation.

The City of Hyderabad including Secunderabad is served by three principal Railway Stations two on the Broad Gauge and one on the Metre Gauge which form the principal outlets towards Northern, Western, and Southern India. It is from these stations that raw materials and finished products are imported into and exported from Hyderabad.



High Court



Osmania General Hospital



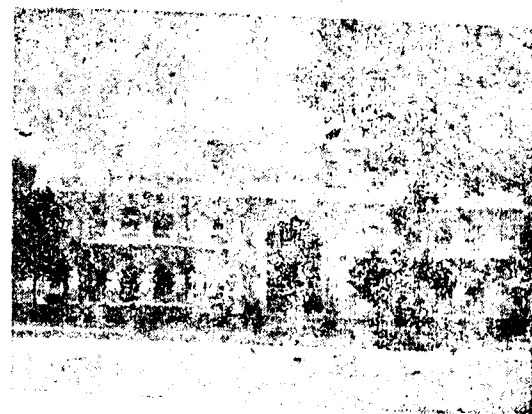
Asaf Ali State Library

Hyderabad boasts of several monuments of Qutab Shahi and Asaf Jahi periods. The Mecca Masjid is one of the biggest mosques of the world, with a very high vaulted roof. The central edifice of the city, the famous Charminar was originally built for a College. It is an imposing structure with extremely good proportions. The Darushshifa, or the residential hospital, constructed about 100 years back is still in good condition of preservation. The old bridge which formerly connected the city with Golconda Fort is an ideal specimen of Muslim Engineering. The Qutab Shahi road from the old bridge to the Golconda Fort is flanked with old buildings: some of them deserve special mention. The Mosque of Mian Mishk has got an old Turkish Bath attached to it, which is well-preserved and is still in working order. The Toli Masjid is a very good example of Qutab Shahi ornamentation and decoration. The famous Fort of Golconda is about six miles from Hyderabad City. It is one of the biggest Forts of the world and is of great importance, not only for its expanse with a perimeter of seven miles but also for its military architecture. The Royal Tombs at Golconda have got their own individuality and style of their architecture. Their exterior was originally covered with tiles. In its pristine days Golconda was world's biggest market for diamonds.

During the Asaf Jahi period the Nau Mahal and the Moti Mahal have been constructed at Golconda and during the reign of the present Sovereign several important buildings have been added to the City, among which the High Court, the Osmania Library and the



Arts College



Museum

Osmania University deserve special mention. These buildings for their architecture and the beauty of the style rank among some of the best buildings of the world.

PLACES OF INTEREST IN MYSORE STATE

SRAVANABELAGOLA (1)

Under the above caption we would be publishing series of articles on places of interest in Mysore State duly illustrated. We are thankful to the Publicity Officer, Mysore Government for his so kind co-operation in extending to us necessary photographs and other particulars. (Editor).

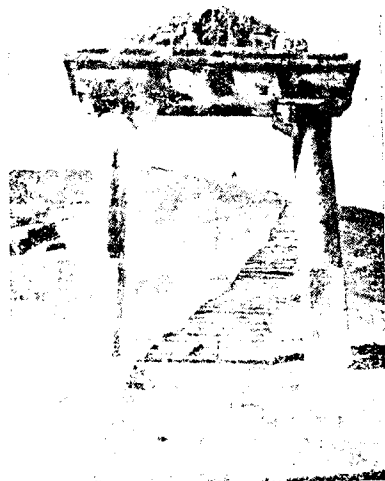
SRAVANABELAGOLA, the seat of the Jain community, lies picturesquely between two rocky hills, one larger than the other. In the whole beautiful state of Mysore it would be hard to find a spot where the historic and the picturesque elements clasp hands so firmly as here. On the larger of the two rocky hills Doddabetta or Vindhyagiri, 3,250 feet above sea level is the famous statue of Gomatesvara. The smaller hill, Chandragiri, has on it many Jain *bastis* or temples famous for their historical and architectural interest. The colossal sky-clad image of Gomatesvara, which is the chief



View of the Vindhyagiri Hill at Sravanabelagola

thing of interest at this place, is 57 feet high and is surrounded by numerous sacred Jain buildings. It is larger than any known statue of Rameses in Egypt. This prodigious piece of work is carved out of the fine grained light grey granite. Facing the North, the image is visible for many miles. It symbolises the complete spiritual abstraction of a Yati absorbed and motionless during his long period of penance and looks as if it came just now from the chisel of the

artist though the statue was erected by Chamundaraya probably in 983 A.D., the sculptor being one Aritto Nemi. In the face of the image the artist has shown his skill in drawing from the blank rock the full contemplative expression touched with a faint smile with which Gomata gazes out on the struggling world. Owing to the great height of the image and the want of any sufficiently elevated place from which a picture of it can be taken, most of the representations fail to give a good idea of the features of the face which is the most perfect part artistically and the most interesting. The hair is curled in short spiral ringlets all over the head while the ears are long and huge. The figure is treated conventionally, the shoulders being very broad, the arms hanging straight down the sides with the thumb turned outwards. The waist of the image is small. There is no support above the thighs. Up to that point it is represented as surrounded by ant-hills from which emerge serpents and a climbing plant twines itself round both the legs and arms of Gomata. Terminating at the upper part of the arm is a cluster of flowers. The pedestal is designed to present an open lotus and upon this the artist has worked out a scale to measure the height of the image. At intervals of several years the famous ceremony of *Mastak abhisheka* or head-anointing takes place involving considerable expenditure. The last one took place in 1925. This ceremony is attended by not only Jains from all over India but also by people of other sects. The word *Maha-mastak abhisheka* means the great



A Gateway on Vindhyagiri

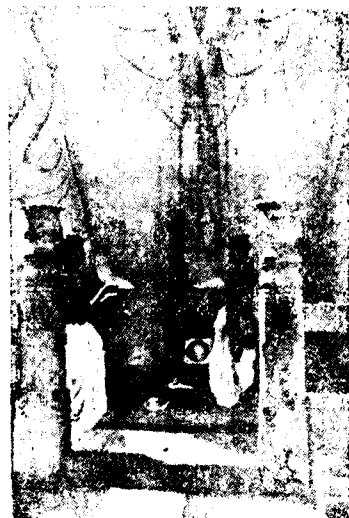
head-anointing ceremony. This anointing and bathing of Gomatesvara is performed usually at intervals of 12 years and more. The earliest mention of this ceremony so far known is in an inscription of 1398 which states that Panditarya had it performed seven times. More recent instances are those in 1825 performed by King Krishnaraja Wodeyar III, and in 1871, 1887, 1909 and 1925.



Statue of Gomatesvara. It is 57 feet high and was set up nearly 1000 years ago. It is bigger than any known statue of Ramases in Egypt.

The ceremony usually falls in the months of Magha, or Palghuna according to the Hindu Calendar. The ceremonies and festivities connected with it occupy nearly 15 days. For the *Mastakabhisheka* of 1940 the ceremonies commence on the 12th of February and continue up to and inclusive of the 27th February, the principal day of the abhisheka being the 26th.

The Main details of the *Mastakabhisheka* are as follows:— A scaffolding is erected round the image. The priests stand on the scaffolding above the image and first pour on the image pots of ghee, milk and honey, etc., to the chanting of sacred texts. After this preliminary bath, the *Mahabhisheka* takes place. At this time 1008 *purna kumbhas* or pots of sacred water are poured on the image. In the final anointing, are used water, cocoanuts, plantains, ghee, jaggery, gold and silver flowers mixed with nine varieties of gems etc. The ceremony is a very expensive one, the estimated cost being above Rs. 30,000. This impressive and rare ceremony is considered to be very important and sacred by all the Jains.



Worship at the Colossal feet of Gomatesvara.

On both sides of the image of Gomata are two *chamara* bearers about six feet high, beautifully carved and richly ornamented. The *mantapa* or pillared hall in front is decorated with nine well-carved ceilings. Eight of them have figures of the *ashtadikpalakas* in the centre surrounded by other figures, while the central one has in the middle a fine figure of Indra holding a *kalasa* or water vessel for anointing Gomata. The ceilings are artistically carved and considering the material used, the work redounds to the credit of the sculptors.

The famous Jain *Matha* at the place, which is the residence of the Jain *Guru* is also a very fine structure. The pillars of the porch are elegantly carved and the walls of the *Matha* are decorated with paintings illustrating mostly scenes from the lives of some Jain Teachers and Jain Kings.

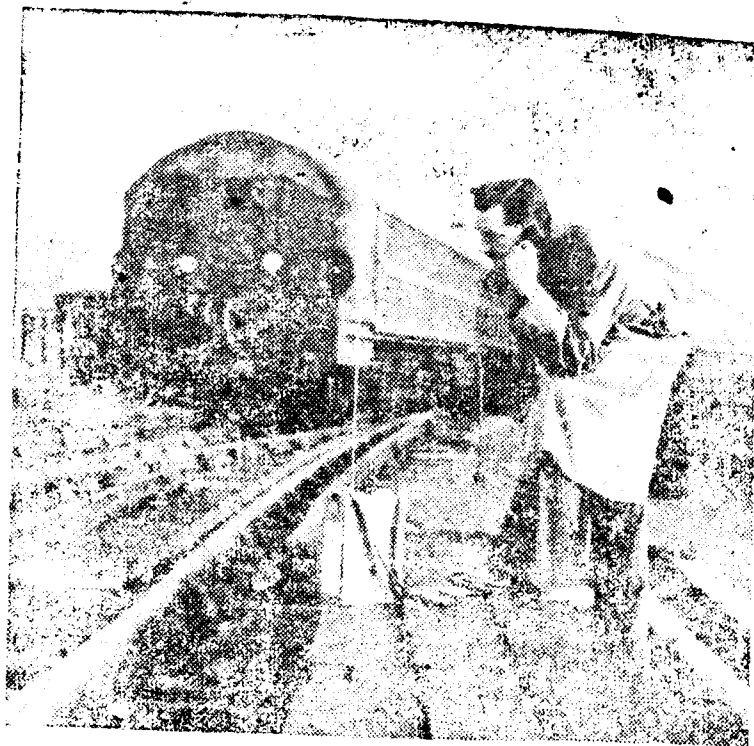
Sravanabelagola has other interesting claims besides its famous monolithic colossus and Jain *bastis*. It was here that in the III century B.C. Chandragupta Maurya, the first of the Mauryan Emperors of India, settled for the rest of his life after he took a vow

of absolute renunciation leaving all his might, majesty, power and dominion behind him to lead the severe life of an ascetic in a cave nearby.

Every inch of this place is paved with history and romance and the Government of Mysore are taking all possible precautions to preserve and protect the colossal monolithic image of Gomatesvara which is the chief thing of interest in this place. The stations serving Sravanabelagola are Hassan, Arsikere and French Rocks. Sravanabelagola is 32 miles by road from Hassan, 42 miles from Arsikere and 48 miles from French Rocks Railway Stations. Pilgrims from the North may detrain at Arsikere or Hassan and those from South at French Rocks. Buses run daily between Saravabelagola and the stations mentioned above. During the Mahamastakabhisheka a large number of additional buses will be licenced to run. There will thus be sufficient and adequate facilities for pilgrims to reach Sravanabelagola. Special trains will be run during the period for the convenience of passengers whenever traffic requires it.

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RADIO ON THE TUBE

V. H. F. (Very High Frequency) radio is extensively used by London Transport Executive Engineers during their work in bringing new signalling installations into service on the Railways and for reporting back to H. Q. during breakdowns. This radio communication is used between the signalling cabin and the points or signals for checking their correct operation. Previously the reports were made *via* the nearest telephone which caused considerable delay. It is proving highly valuable in cases of breakdowns, for the high intensity of the London Transport Services demands the minimum of time for repairs and the radio on the spot reports progress or calls for reinforcements, equipment, etc. A portable radio set used for reporting to a similar set in the Signal Cabin, on the operation of points.

SHORT STORY

Eternal Hope and Eternal Frustration

By N. Vyas

(Part II Continued from the Previous Issue)

FOUR months since then rolled on peacefully with Govind's love for Kamala growing in strength day by day. There was complete reciprocity on either side and at this stage our story commences. The lovers' first clandestine meeting in Govind's lodging was productive of a result whether good or bad and nature left a seal on Kamala, who was fast becoming a potential mother. By this time the University Examinations were over and Kamala was now in a fix. She dare not face her angry parents. She was growing anxious day by day about her future. Was Govind's love towards her, pure? Will he marry her or desert like the usually irresponsible youths of the metropolis? In case he were to refuse to agree for their marriage, what did fate hold in store for her? Could she expect her father's pardon and shelter at home or will he get terribly wild of her actions and behaviour? These were the questions that agitated her mind. The mental strain was exceeding day by day beyond the endurance limits. One day she opened her heart to Govind. Govind's sincerity was beyond question. He assured that he will marry her soon at any cost even in the face of formidable opposition and even at the risk of being disinherited by his father. But Govind and Kamala knew fully well that Govind's father would never consent to his son's marriage with Kamala. How could he? Govind was a high caste Hindu-Brahmin and Kamala an Harijan girl.

Hinduism never permits inter-caste marriage.

The results of the degree examinations were announced. Luckily Govind came out of the examinations with distinction. Kamala's success in her B. Sc. degree examination also fortuitously synchronised. The next day after the announcement of the results, Govind was busy, making preparations for his voyage. The appointed day for the sailing of the steamer came. Govind and Kamala got aboard and sailed away to Shanghai. He set up practice in Shanghai and within a few days after his arrival he betrothed Kamala before the Registrar.

Six years rolled in oblivion. Govind was a full-blown Surgeon in Shanghai with roaring practice which fetched him a few thousands every month. Kamala was now the proud mother of lovely Leela. One afternoon Govind returned home unusually early from the hospital. He showed Kamala the letter he had received from his father that day. The letter was symbolic of the feelings of a pent-up father longing for his only son's return impatiently every day and breathed endless filial love in every syllable. He had promised Govind pardon and accorded consent to his marriage with Kamala. The letter was so worded that it moved Kamala to tears. They decided to leave for India for some rest in their happy home. All arrangements for the voyage were

made. Just a day before the date of their departure to India, Shanghai was rocked to the foundation. The marauding Japanese showed their ugly teeth and laid eggs on Shanghai. It was a terrible bombing. Death and destruction resulted in unprecedented scale. Man makes proposals but God disposes

them in His own way, rather strangely. Govind's voyage was put off eternally. For, there lay three mangled corpses unhonoured and unsung in the famous Surgeon's Bungalow in Shanghai. A soul-stricken father was left longing for his son's return with eternal hopes and eternal frustrations.

(Concluded)

(N. B. The characters in this story are all imaginary and no reflection is intended upon any living person or persons).

(Author) N. Vyas
Calcutta.

Estd.



1944.

தினம் தினம் அபரிமிதமான அபிவிருத்தி
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மணர் பொருந்தியது
குணத்தில் பெருமையானது

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A SPECIAL VALVE RECTIFIER FOR TRAIN LIGHTING

THE earlier systems for train lighting, equipped with D.C. generators for battery charging, have been suffering from certain defects. The Norwegian State Railways have therefore decided to accept a different system consisting of a valve rectifier which, mounted in each carriage,

is intended for battery charging and fed from the trolley wire.

The Swedish Philips Co. Ltd. has designed and manufactured a special type of rectifier for this purpose according to the following specification.

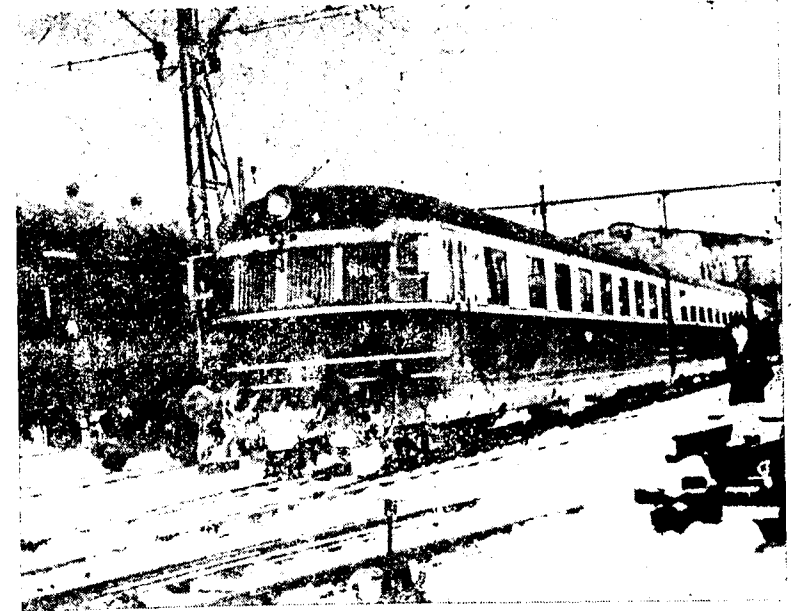


Fig. 1. One of the Norwegian Electric Express Trains which is equipped with Philips rectifiers for train lighting.

REQUIREMENTS

The "floating" storage battery to be charged consists of 16 cells with a capacity of 200 ampere hours.

The battery voltage is to be kept constant at 34.5 volts within limits of ± 0.3 volts, even if the battery load varies between zero and 25 amperes. This value must be maintained with varying supply

voltage and frequency and it must be possible to charge the battery at an increased rate up to 40 volts.

The equipment is fed from the trolley wire via the train heating transformer at a nominal voltage varying between 800 and 1000 volts with extreme limits of 750 and 1200 volts. The supply current is single phase and has a frequency of $16 \frac{2}{3}$ c/s. The fre-

quency may vary one or two cycles per second and it is not permitted

to switch over to adapt the system to differing supply voltages.

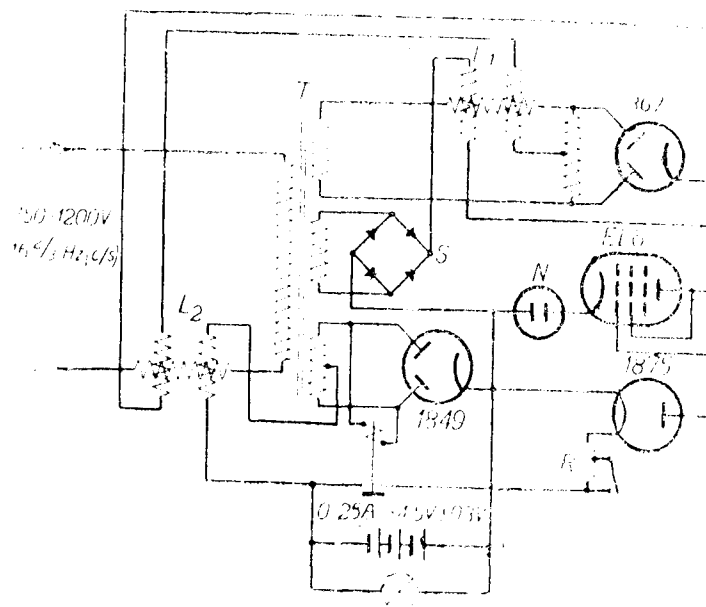


Fig. 2. Circuit diagram of the voltage-controlled rectifier for charging the floating storage battery.

CIRCUIT DESIGN

The equipment uses the Philips valve 1849 as the main rectifying element. Two pre-saturated reactors (transductors) connected in cascade are used for the automatic control. The smaller one of them is pre-saturated by an amplifying valve Philips EL 6 (a pentode used as a triode by interconnecting the screen grid and the anode), which in its turn is controlled by a Philips diode 1875 equipped with a tungsten filament.

The filament current for this diode is supplied from the storage battery. An increase of the battery voltage produces an increase of the filament current and consequently an increase of the diode anode current and of the grid voltage of the EL 6. This results into a reduction of the anode current of the latter valve and of the pre-saturating current flowing through the smaller reactor L1.

The secondary current of the reactor L1 decreases and so does the pre-saturating current of the larger reactor L2 which flows through and auxiliary rectifying valve Philips 367. This larger reactor adjusts the charging current.

The charging current thus decreases with increasing battery voltage and a state of equilibrium is obtained for the battery voltage. The value of the stabilised voltage can be changed by selecting another resistance value in series with the filament of the diode. In this way it is possible to charge the battery to 40 volts if desired.

The skeleton circuit diagram is shown in Fig. 2. A relay is included in order to interrupt automatically the filament current of the diode when the railway carriage is placed on a shunting-yard and the supply to the heating transformer is cut out. In this

case the filament-current drain on the storage battery will cause the latter discharge. In the control unit there is also a small selenium rectifier in order to provide for the anode supply of valves EL 6 and 1875. There is also a small neon lamp which maintains the cathode potential of valve EL 6 at a suitable value. Fig. 3 shows the

load characteristics of the rectifier for the nominal supply voltages 800 and 1000 volts, from which results that no switch-over devices are required. Curve A gives the characteristic for slow charging and curve B for quick charging. Rapid charging to 40 volts is obtained by shortening a part of resistor R (see the circuit diagram)

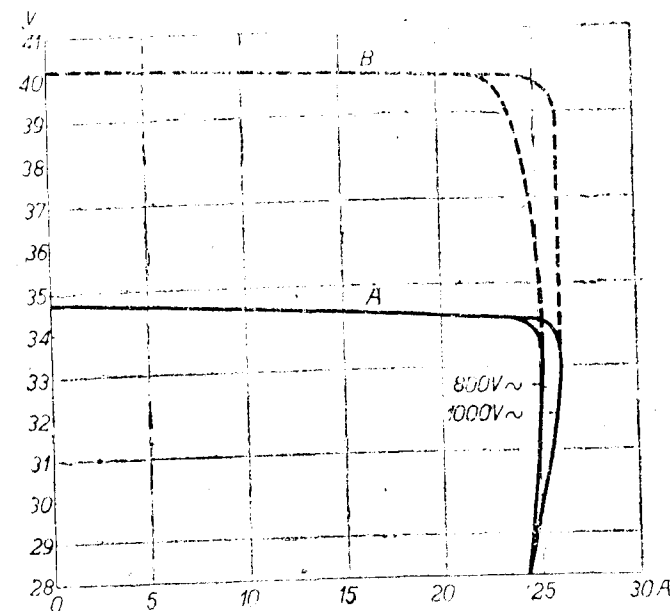


Fig. 3. Load characteristics of the voltage-controlled rectifier. Curve A obtains for slow charging and curve B for quick charging of the floating battery.

CONSTRUCTION

For practical reasons the equipment has been divided in three units, the transformer unit, the rectifying unit and the control unit. The transformer unit incorporates the main reactor and the main transformer with their terminals. This unit has been built into a strong steel case mounted under the carriage as results from Fig. 4. There was no space for these heavy and large parts inside the carriage. The transformers and reactors are of course unusually heavy, because they are designed for the low mains frequency of 16 2/3 c/s. Because the Norwegian trains are subject to considerable temperature variations many venti-

lation problems had to be solved. The rectifying and control units are mounted in a small case in the carriage as can be seen in Fig. 5.

The rectifying unit incorporates the two rectifying valves, the smaller reactor and the relay, whilst the control unit incorporates the three small valves, the selenium rectifier, the filament series resistor with switch and the necessary terminals. The control unit is small and interchangeable, and in this way it is possible to put a new control unit in service in a few minutes, thus avoiding interruptions in case of failure.

These rectifiers are in the first place installed in the Norwegian express trains. They are to a

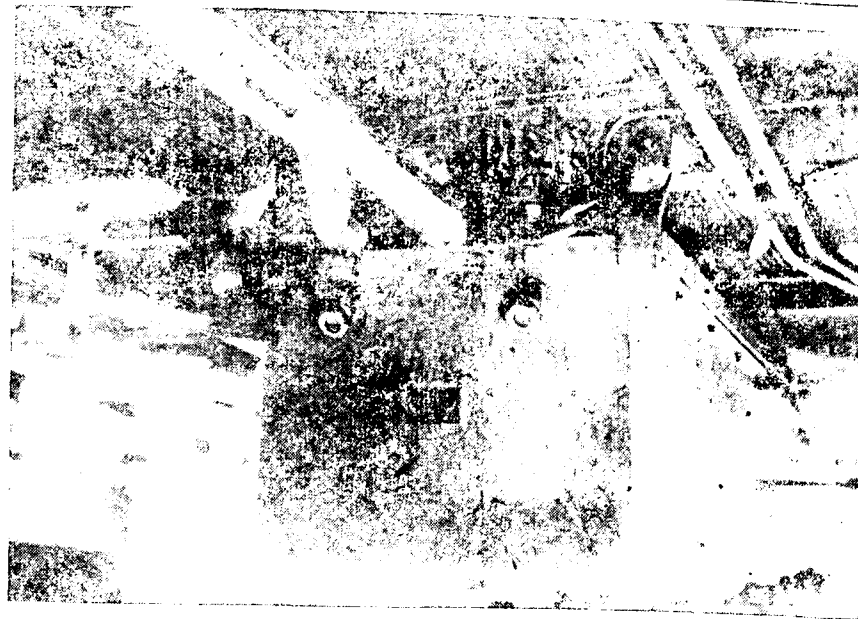


Fig. 4. Transformer unit including the main reactor which is mounted in the carriage.

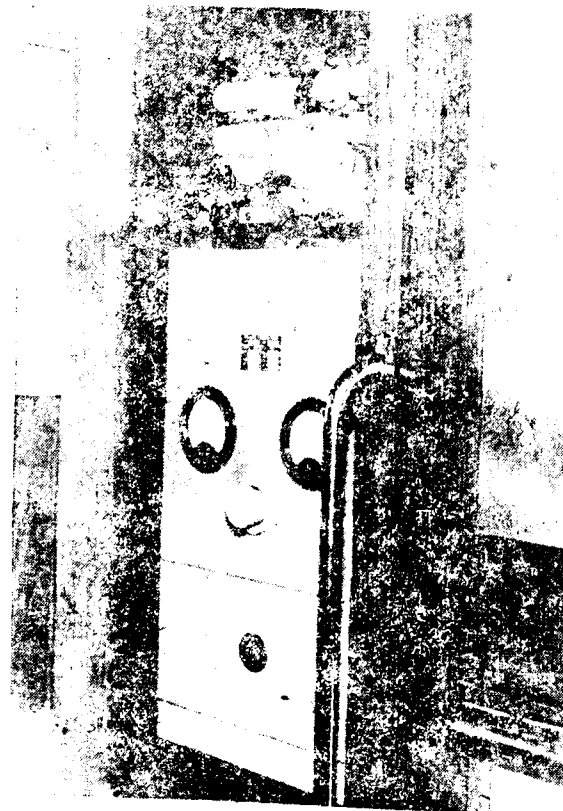


Fig. 5. The rectifier and control units mounted in a small closet in the carriage.

great extent made of aluminium alloys to reduce the weight. For this reason it has also been necessary to consider the weight of the different elements of the rectifier equipment.

A Norwegian express train can be seen in Fig. 1. These trains are daily passing through the Norwegian Alp regions. Even though the temperature at the starting point, which is the capital Oslo, amounts to +30° centigrade, the train is likely to meet on the same day with the cold and the snow storms of the high mountains.

HEALTH NOTES

Our Traditional Diets and Nutrition

By M. Shivaram, B.A., M.B.B.S.

In the following paragraphs the contributor, who is authority on the subject, discusses various aspects of Vitamins and Minerals and consequent effects on human system by their deficiencies. Due to shortage of space, we have split the article into two parts. (Ed.)

THE South Indian vegetarian diet is popularly believed to be a most ill-balanced and defective diet lacking in the essential body-building factors. But this diet is one that has evolved through two or three thousand years a period which was full of famines and floods, wars and pestilences. The people should have been put to a lot of difficulty in evolving a nutritious diet from amongst the available edible material, and should have evolved ways and means preserving foods without losing their nutritive value. Or is it possible that all their experience was a waste, and they bungled right through? An answer to this question is attempted in this article. It is a study of our traditional diets against a background of modern scientific nutritional knowledge.

All foods serve one or two purposes. (i) Either make up for the wear and tear of the body and build up the tissues, (ii) or serve the energy needs of the body. Thus, according to the functions they serve, Food is grossly divided into two groups: (i) Essential food factors and (ii) energy producing factors. The essential food factors are the proteins, the vitamins and mineral salts—a deficiency of any of which results in deficiency diseases like Scurvy or Beri Beri or Rickets. The energy producing factors are the carbohydrates, the fats and to a certain extent the proteins, deficiency of which results in starvation. Obviously, the more important of the two is the group of essential food factors. Let us

study what these factors are according to modern knowledge and see how far our traditional diets satisfy these needs or indeed if they satisfy the body needs at all.

(a) Vitamin "C" was the first vitamin to be discovered lack of which caused Scurvy, a disease characterised by bleeding gums. This disease could be cured by fresh lemon juice. Now the exact composition of Vitamin "C" is known and it has been synthesised in the Laboratory. It is destroyed by heat, by alkalis, and in the presence of metals. It preserves well in light acid medium and when salted. Investigation showed that lemon juice, orange juice, or tomato juice contain good amounts of Vitamin "C" and recently it has been found that the Indian gooseberry is the richest natural source. The amounts of Vitamin "C" in the various articles is tabulated below:—

Name	Amount of Vitamin "C" in mgms. per 100 gms.
	mgms.
Amaranth	173
Drumstick	220
Green Chillies	111
Guava Country	299
Lime Juice	63
Orange Juice	68
Tomato	32
Gooseberry	600

Our traditional method of preserving gooseberries was to collect it in the season when it could be had cheap, preserve it raw as pickles in stone jars, in a light

acid medium like tamarind juice after salting, and store it in a dark corner of the worship room. This was used throughout the year as a dietary supplement.

Powdered, dried gooseberry, preserved again with salt and chillies in the form of dry slabs, used throughout the year. "Vitamin B1" was the next Vitamin to be discovered, deficiency of which caused Beri Beri swelling of the feet and legs. The outer coat of rice, wheat, ragi etc. has an abundance of Vitamin "B1" as also the husks of pulses like Bengal gram, Black gram, Green gram, etc. Till the Rice Mill came to the market, and milled and highly polished rice came into vogue, there was nothing like Beri Beri in our country. Because diets based on hand pounded rice supply sufficient Vitamin "B1" for the body needs. And even if milled and polished rice is used, if in addition 3 ozs. of

pulses are taken sufficient Vitamin "B1" is supplied.

The other factors that go to make Vitamin "B" complex are quite a number. A few of them are discovered and a few more remain to be discovered. But if Vitamin "B1" is sufficient in a diet, it may be assumed that the other factors also are in sufficient supply.

VITAMIN B1 REQUIREMENT PER ADULT 300 I. U.

Food	Amount in I.U. per 100 gms.
Ragi	140
Rice	60-80
Whole-wheat	180
Bengal gram	100
Green gram	155
Pumpkin	200

Traditional diets based on home pounded rice need no reinforcement as regards the "B" group.

(To be Continued)

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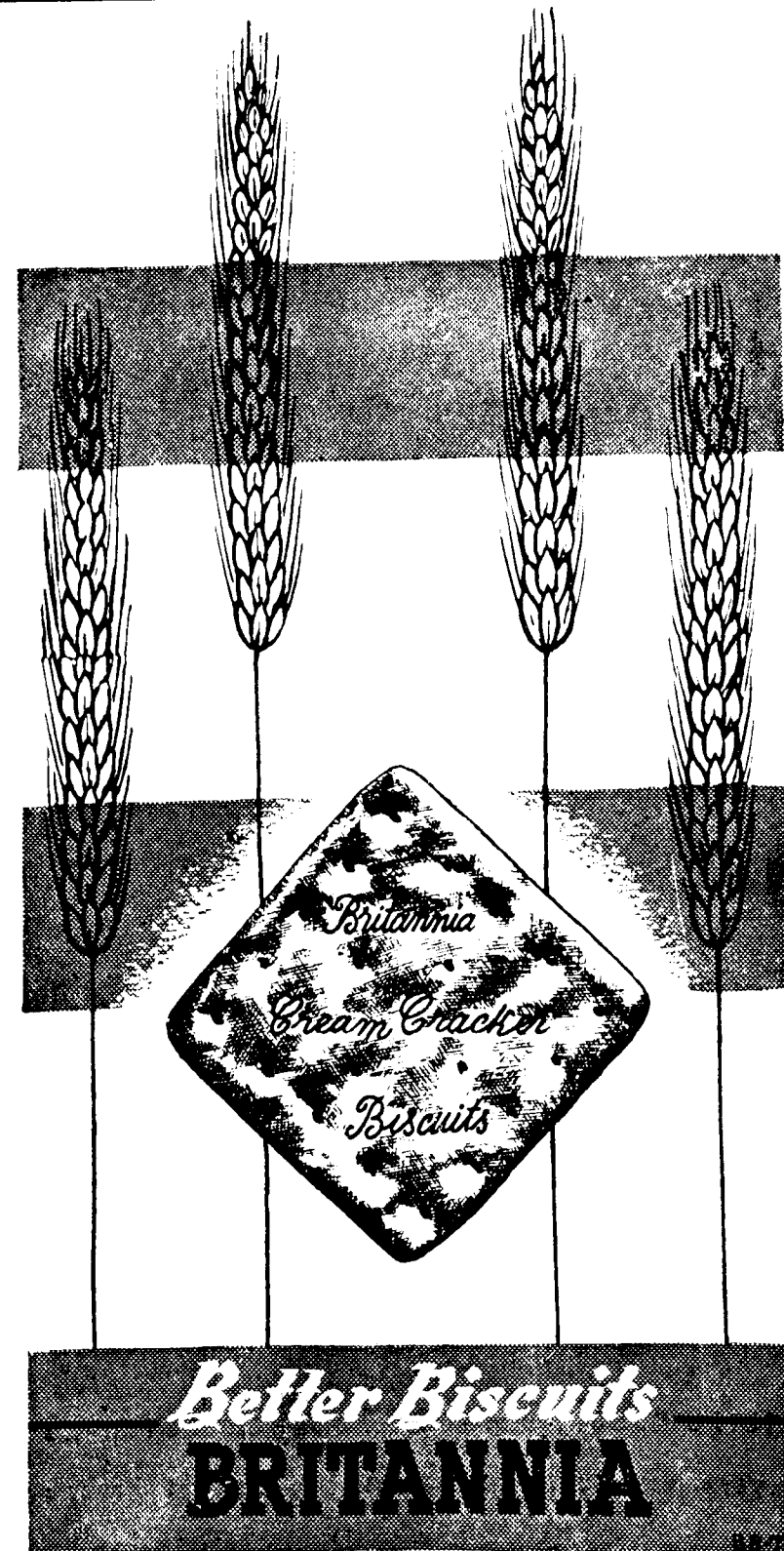
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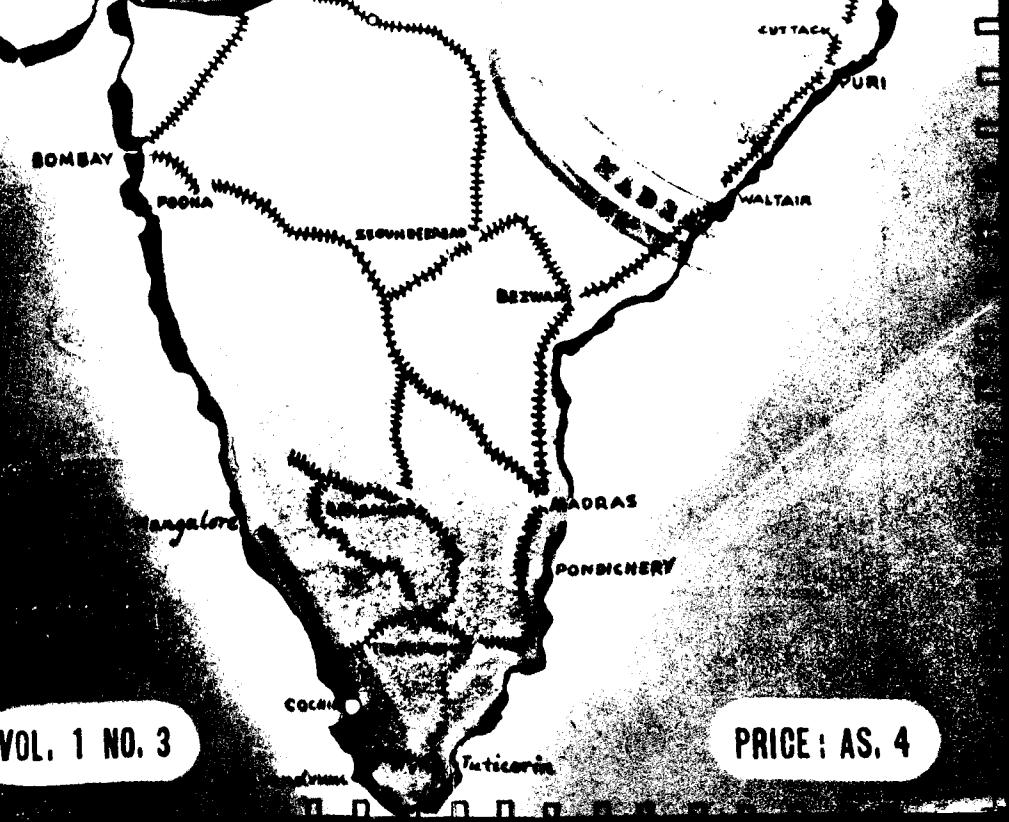
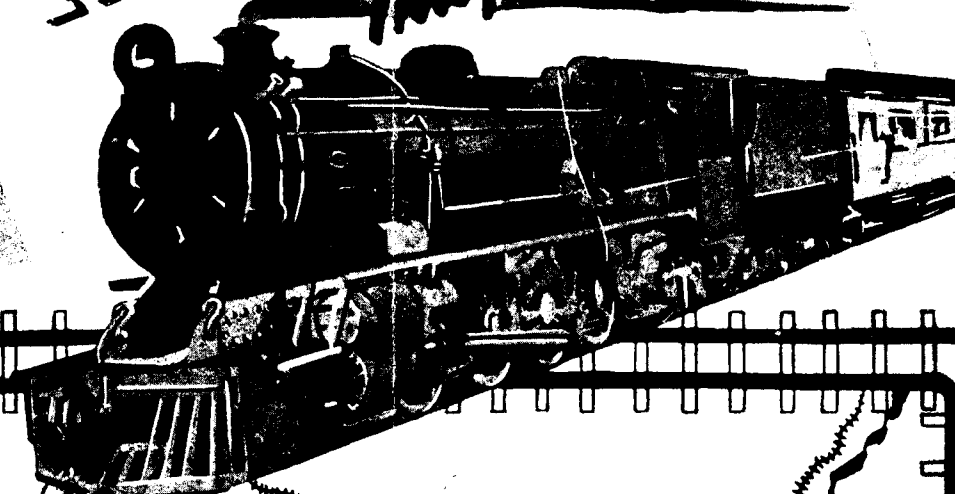
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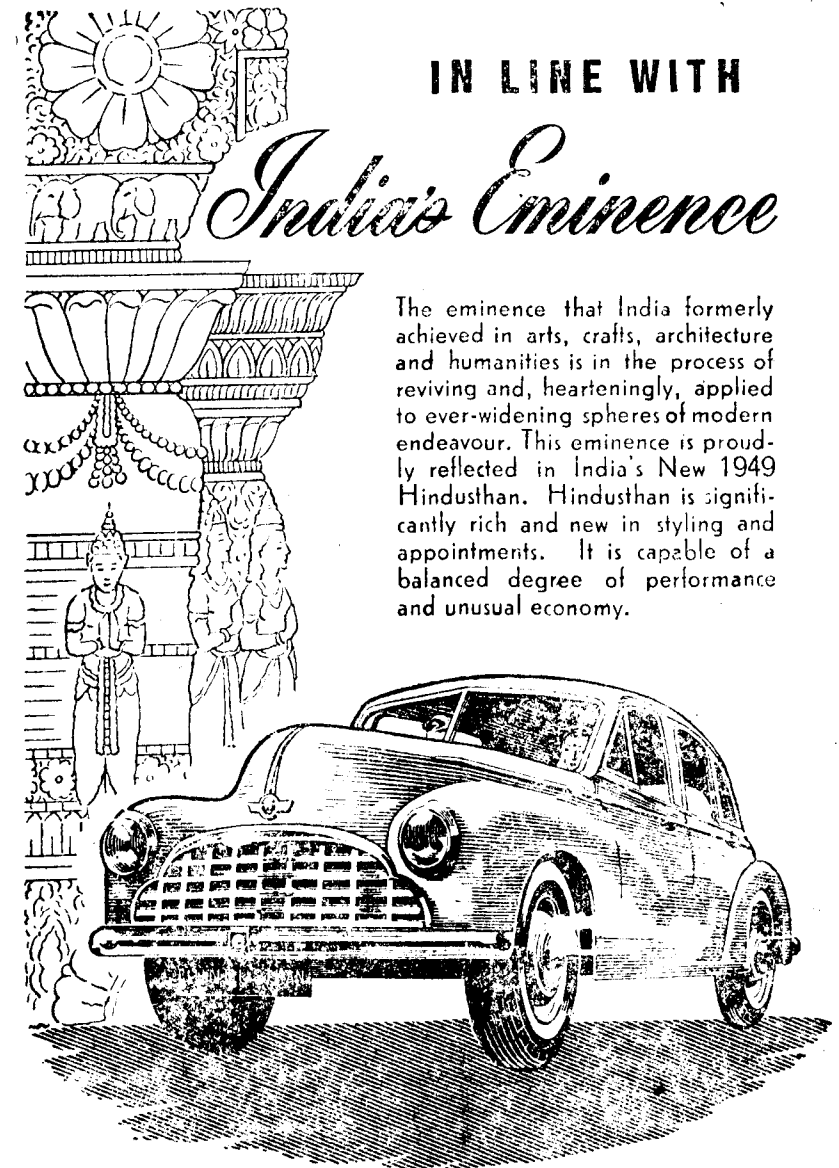
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Southern Railways Magazine

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NO. 3

SEPTEMBER 1949

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"RAILWAYMEN RESTLESS AGAIN?"

If the public utterances of high-ranking Railway Labour Leaders, published recently in the press, can be taken as a gauge, it would appear that Railwaymen are again becoming critical, restless and impatient of the slow progress of the machinery set up by the Railway Ministry to settle the outstanding points of dispute between the Government and the All-India Railwaymen's Federation.

Sri Jai Prakash Narain, the A. I. R. F. President, sounded a note of warning to the Railway Ministry with regard to the delays in tackling such issues as confirmation, implementation of new leave rules, up-grading of pay scales of ministerial staff, etc. A reference was also made to the reasons for calling off the threatened strike of 9th March last, and that the Federation may have to resort to the alternative of protest days, or even a token strike if necessary. However, at a later meeting of Railway workers held at Lillooah on the 19th August, Sri Jai Prakash Narain wisely advised the workers to refrain from any hasty action that may play into the hands of disruptive elements who were waiting for such opportunities. Sri Guruswami, General Secretary of the A. I. R. F. at Hyderabad on 13th August, also wisely advised moderation, and urged Railwaymen to increase their efficiency and the output on Railways.

The Railway Ministry in a press communique issued early in August refuted the allegations made by the President of the Federation, by stating that in spite of the issues raised by the Federation being of a complicated nature and requiring considerable investigation, the majority had been disposed of, and that only a few items involving major issues of policy were under active consideration.

It is encouraging to note for the benefit of the country as a whole, and for Railways in particular, that from the side of the Federation sound guidance is being offered to Railway workers to think seriously before adopting drastic tactics to obtain redress of their grievances, more especially when there are signs of fragmentation, rather than cohesion, of Railway Unions, each jockeying for exclusive leadership and larger followings; all of which is being shrewdly watched by those elements who are awaiting opportunities to step in and take a hand in causing conditions which would be disastrous to national well-being. The advice to step up efficiency and output on railways is also timely, especially when Railways are showing encouraging trends towards improved working.

It is also urged that the Railway Ministry on their part, speed up the machinery for handling and redressing outstanding issues, so that they cannot be accused of protracted negotiations and tardy action.

Joint action on the part of the Federation giving sound and constructive leadership to Railway workers, and on the part of the Railway Ministry expediting settlement of outstanding issues, must result in the nation's Railways going on from strength to strength and achieving a peak of efficiency that everyone will appreciate with pride.

NOTES AND COMMENTS

Improvement of Railways

A Press Note issued by the Ministry of Railways (Railway Board) says that the International Bank for Reconstruction and Development granted, on August 18, a loan of 34 million dollars to India for the reconstruction and development of the Railways owned and operated by the State. The proceeds of this loan will be used to finance a part of the purchase price of locomotives, boilers and spare parts. Approximately ten million dollars will be spent for orders already placed by India with U. S. suppliers and 17 million dollars for orders placed with Canadian suppliers. The balance of seven millions represents the amount reserved for additional orders for spare parts and for payments of rail and coastal freight and incidental cost.

The loan will help to rehabilitate and improve India's transport system. The motive power of the railways considerably deteriorated as a result of normal wear and tear, which could not be made good, and heavy use for military transport during the war. The total dollar cost of the railways' improvement programme involving the import of 653 locomotives with spare boilers, locomotive spare parts and 350 tank wagons amounts to approximately 84 million dollars of which about 50 million dollars have already been spent by India, and 34 million dollars are being financed out of the proceeds of the Bank's loan.

The loan is for a term of 15 years and carries an interest rate of three per cent, plus commission at the rate of one per cent which is in accordance with the Bank's articles of agreement. Amortization payments, calculated to retire the loan by maturity, will start on August 15, 1950.

With the import of more locomotives, boilers and spare parts we believe that the Ministry of Railways can afford to introduce more number of trains and better amenities for the third class passengers consistent with the Government's all-out efforts for improvement of Railways. This news would be received with great enthusiasm by travelling public as well as commercial community.

Third-class Express Trains

For the convenience of third-class passengers, the South Indian Railway have decided to run to and fro third class Express trains between Madras and Tiruchi and Madras Central Station and Mangalore with effect from October 1. The third class Express between Madras and Tiruchi will run only in the day. These arrangements are being made to fall in line with other Railways in Northern India.

There is a proposal by the M. and S. M. Railway to run an additional Express train between Madras and Calcutta. The railway authorities, it is understood, are not in a position to give effect to this immediately for want of rolling stock.

The new introduction of third class Express Trains between Madras and Tiruchi and Madras Central Station and Mangalore is a long felt-want by the travelling public. Any passenger arriving from Northern India has to necessarily wait for a long time till late in the evening to catch south or south-west bound trains. Now this new introduction obviates all such difficulties as the trains are to run

only in the day. We are sure that this piece of news would be received by all the travelling public with great enthusiasm.

Secondly another proposal of the M. & S. M. Railway authorities to run an additional Express train between Madras and Calcutta is also a wise step which if given immediate effect to, will be acclaimed by the public especially mercantile community. The existing Calcutta Mail takes so much time owing to number of stops and invariably it runs late. If the railway authorities restrict number of stoppages and also at the same time pay more attention to the long-distance passengers by suspending issue of tickets over certain mileage, then the new proposal should prove successful. The sooner this is introduced it is better for all.

Reasons for delay in change of Station Names

It is officially stated that it is the intention of Railways to fall in line with the Provincial Governments when names of places which are also borne by the Railway Stations, are altered, such as Vijayawada for Bezawada, Tiruchirappalli for Trichinopoly, Mathurai for Madura, Vizagapatam for Vishakapattinam etc. It is, however, necessary to make simultaneous changes in the map of Indian Railways and the Alphabetical list of Indian Railway stations which guide station staff all over India, so that there may be no confusion and resultant miscarriage of consignments, etc. It is for this reason that some delay in the Railways falling in line with the Provincial Governments in regard to changes in names of places which are also Railway Stations is inevitable.

This new alterations in Railway Station Names have no special

significance at all except the sponsor of this new scheme has the satisfaction of having done something new in the discharge of his duties. Obviously the result is all round confusion and misdespatch of consignments. If the Railway authorities stop to think the logic in the new change-over, then possibly they would not go ahead with it.

Accidents on Indian Railways

According to the Annual Report of the Chief Government Inspector of Railways for the year ending March 31, 1949, 25 accidents which involved passenger trains were inquired into by Government Inspectors. Of these ten were due to collision and ten caused by derailments. There were four cases of fires in trains and one case of a train running into road traffic. The ten cases of collisions were reported to be the result of negligence on the part of the train crew or the station staff. Of the ten cases of derailment, six were due to failure of engine, rolling stock or permanent way and four were of a miscellaneous nature.

During this year, 62 miles of new lines on Nizam's State, Rajasthan and E. P. Railways and 44 miles of the restored Kanpur-Khairada section of G. I. P. Railway, were inspected by Government Inspectors before being opened for public traffic. In addition to this, 21 miles of doubling on the E. I. E. P., and G. I. P. Railways and one and a half miles of diversion on the Mysore State Railway were inspected before being opened for traffic. In all about, 21,775 route miles of railway (about 65 per cent of the total route mileage) were inspected. The report says that sanction was given to the running of Y. B. class locomotives on Bhavnagar State (now

Saurashtra) Railway, K. Class engines over Delhi-Rohtas Light Railway and W. P. Class locomotives over sections of E. I. and E. P. Railways. Similarly permission was granted for the running of certain classes of new goods and coaching vehicles and rail motor units over S. I., G. I. P., and E. P. Railways.

The report also gives suggestions for the prevention of similar accidents in future besides containing an account of the major railway accidents.

Easy position in G. I. P. Railway

According to the Regional Controller of Railway Priorities, Bombay the number of wagons loaded on the G. I. P. and B. B. C. I. Railways Broad Gauge systems in July 1949, registered an increase of 53 per cent over the loading in the corresponding month of the preceding year. On the B. B. and C. I. Railway Metro Gauge system, an increase of 44 per cent in the loading was recorded.

An important feature of the loadings in the month under review was a substantial allocation of wagons for loading of non-priority traffic under meeting the demands of traffic in priority Classes I, II and III. The extent of non-priority traffic thus cleared was 38 per cent of the total loading on the G. I. P. and B. B. and C. I. Railways Broad Gauge systems and 18 per cent on the B. B. and C. I. Railway Metro Gauge system.

The Railways have cleared a good bulk of the traffic in block specials and 260 such specials were run on the Railways in Bombay region during the month under review. The Government of India have guaranteed 100 per cent movement assistance for cement, iron and steel and textile industries and

this guarantee was fully implemented during the month. With the improvement in the over-all transport position on the G. I. P. and B. B. and C. I. Railways Broad Gauge systems it should be possible for the trade to obtain necessary rail movement in the normal manner by contacting the railway authorities direct. On the B. B. and C. I. Railway Metro Gauge system, loading of traffic is generally possible upto priority Class II but traffic in Class III and also non-priority traffic is occasionally cleared, depending on the operational position prevailing from time to time. Hence there has been marked improvement in the wagon-position on G. I. P. and B. B. and C. I. Railways.

Working of State Railways

Passenger operation on the Indian Government Railways during the month ending July 20, 1949, registered a marked improvement. The percentage of Mail and Express trains running to time was 91 on M. and S. M. Railway (Metro Gauge), 88 on Assam Railway, 85 on G. I. P. Railway, 80 on E. P. Railway, 79 on E. I. and O. T. Railways, 77 on B. B. and C. I. Railways and 75 on B.N. Railway. There was a slight deterioration on the S. I. Railway compared with the previous month mainly owing to operational factors such as engineering restrictions. It is noteworthy that the best results since the partition were recorded on three systems, viz., G. I. P., O. T. and B. N. and C. I. Railways.

Over-crowding in G. T.

With a view to reducing the over-crowding in the Grand Trunk Express, the Railway authorities have decided not to issue Class II and Class III tickets for distances less than 250 miles. The order came into force on August 20.

Formerly the restriction was only upto 100 miles and applied only to Class II. Now the mileage has been increased to 250 and the rule has been made applicable to Classes II and III. The experience of the last few weeks since the introduction of the new restriction on the issue of tickets show that there is considerable reduction of over-crowding in the Grand Trunk Express. In *toto* this is a wise step for restricting over-crowding in trains. If similar measures are adopted on important trains on other railways, there is no doubt that delays and late arrivals consequent to over-crowding can be checked up to a considerable extent.

Increment to Mysore Railwaymen

A Press Note issued states that on complaints that increments are not being granted to temporary employees in certain departments of the Mysore State Railway, the General Manager of the Railway, has circularised all the heads of departments and other officers who are competent to sanction increments, that with-holding of increments which are normally due, "is not only repugnant to accepted principles of service but also highly improper, giving causes as it does, to legitimate grievances and avoidable complaints."

The Press Note further said that all increments due to the Staff including to those who are temporary, who have earned the increment after completing the period of qualifying service under the Rules of the Mysore Service Regulations and other Rules which may be in force from time to time, shall be sanctioned by the authority competent to do so with the great promptitude. Temporary employees in graded scale are also eligible for increments under the Rules, and the officers have been asked to adhere to those Rules. These directions do not however,

it is stated, apply to cases of increments postponed as a mark of punishment under approval of the competent authority.

We heartily congratulate the General Manager of the Mysore State Railway for his very prompt orders directing his heads of departments not to with-hold increments due to temporary employees. This is a clear-cut indication of the General Manager's sympathetic understanding railwaymen's difficulties and susceptibility for peaceful solution of difficult problems.

N. S. Rly. Employees' Convention

The third Quarterly convention of the Nizam's State Railway Employees' Union which concluded its session on August 11, under the presidentship of Mr. V. B. Raja, passed a resolution requesting the Administration to associate the representatives of the Employees' Union with the organisation set up to implement the Rajadhyaksha Award. The Convention passed forty resolutions on various issues affecting the workers. It supported the demand of the All-India Railwaymen's Federation to the Railway Board for the classification of running sheds within the meaning of the Factories Act. The convention urged that the recommendations of the Central Pay and Service Commission should be implemented with regard to the salaries of the Railway Schools Staffs from January 1, 1947 and that substitute labour should be given the privileges of rest, leave and passes, rightly due to them as temporary employees. The convention felt that direct recruitment to posts in the Railway should not be made, when experienced staff with good records of service deserved promotion.

Railway Units

The Indian Government Railways are raising Operating workshop and Construction Companies as part of the Government's plans for the formation of a territorial army, says a Press Note issued by the Ministry of Railways last month.

About 75 per cent of the total railway force is expected to be raised within the next few weeks. Close liaison is being maintained between the Railway Board and the Territorial Army Directorate of Army Headquarters. Regular or whole-time territorial officers and military instructors will be provided by the Territorial Army Directorate to aid the Railway Territorial Officers in the Training and administration of the railway units.

The names of officers and other ranks who volunteer to join these units are being registered on each railway. Military training will start immediately after the units are raised. These units will be officered by railway officers assisted by regular or whole-time territorial officers. Other ranks will, however, be drawn exclusively from the Railway Staff.

Construction of Railway Coaches

The Hindustan Aircraft Factory has recently expanded the facilities for construction of railway coaches. Additional work-space has been provided for this growing section and latest installations include a woodshop, arrangements for resistance welding. The factory has upto now delivered to the railway 29 ten-foot all-metal rail coaches. The present capacity of the factory is eight coaches a month and by the end of this year this will increase to twelve. Initial planning has also commenced for further development of this important sphere as a result of which the

factory will extend output to about 350 complete railway coaches of varying classes per annum. This stage of semi-mass production is not, however expected to be reached for another two or three years to come.

BNR's New F.A. & C.A.O.

We heartily welcome Mr. C. T. Venugopal, Director, Finance (Budget), Indian Railway Board on his appointment as Financial Adviser and Chief Accounts Officer, Bengal Nagpur Railway. We extend our sincere wishes to the outgoing Mr. N. N. Mazumdar who has assumed charge as Financial Adviser and Chief Accounts Officer, Locomotive Manufacturing Workshops, Chittaranjan.

Presidential Address of Sri Guruswamy at the Third Annual Conference of the S. I. Rly. Workers' Union

Mr. Guruswamy, General Secretary of the All-India Railwaymen's Federation, called upon railwaymen to be conscious of their responsibilities in an independent India and to increase the efficiency of the Indian Railways. He was presiding over the Third Annual Conference of the South Indian Railway Workers' Union, a representative organisation, which claims to have a membership of 12,000 out of 50,000 men in the entire S. I. R. system.

Mr. Guruswamy said that both the Anomalies Committee and the Joint Advisory Committee were going through some of their grievances. The Ministry of Railways Government of India, had submitted a formula to the Joint Advisory Committee regarding weightage to be given to senior men in service and had fixed a ceiling of Rs 60 lakhs per annum for this purpose.

The recommendations of the Ministry of Railways would involve a large number of railwaymen in the S. I. R., he hoped. But in the meantime, he said there were "rumours" in Delhi that, as part of an economy drive, there was to be a 20% cut in the expenditure of every Ministry. If this reported economic drive was true, he said, then their future was "somewhat dark." He therefore advised railwaymen not to be too optimistic about the future.

He defended the decision of the All-India Railwaymen's Federation not to go on strike but to get railwaymen's grievances redressed by negotiation. He recounted the various concessions now given by the Ministry of Railways with regard to leave and other matters as a result of negotiations by the Federation and said that they should not always lay emphasis on their rights alone, but should also be conscious of their added responsibilities in an independent India.

Mr. K. R. Ramanujam, General Manager, S. I. R., assured railwaymen that the Ministry of Railways would do its utmost to redress their legitimate grievances and asked them not to be impatient. He appealed to them to dissociate themselves from anti-social elements and do their utmost to increase the efficiency of the railways.

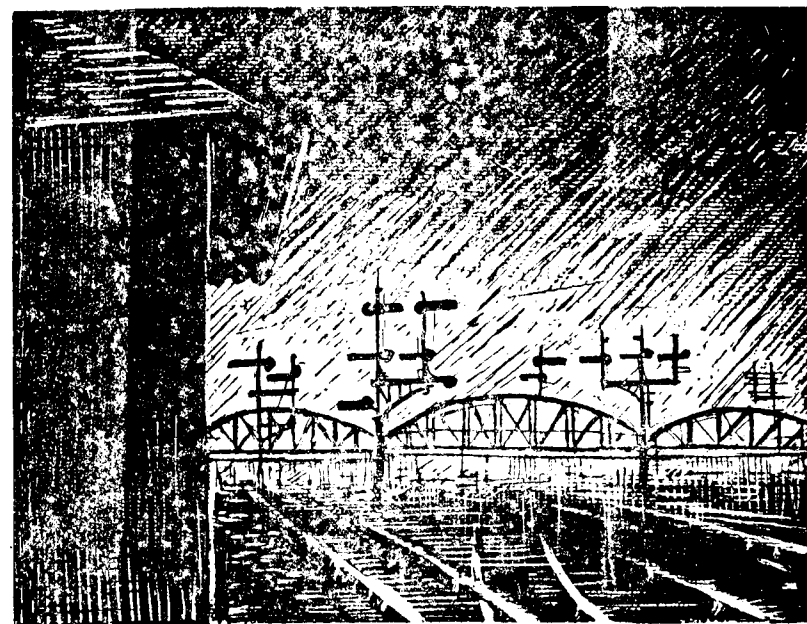
It is learnt that the Central Advisory Council for Railways, at its meeting yesterday decided to go back to the four-class system in Indian Railways. The new classes will be: First Class, Second Class (Special), Second Class (ordinary), and Third Class. The Second Class (Special) will offer sleeping berths and reservation facilities. It is further learnt that this decision will be given effect to as early as possible.

The new classification must necessarily lessen the spate of

comments and criticisms both in the press and the platform levelled against the existing classes consequent to the abolition of Inter Classes. It is hoped that the decision of the Central Advisory Council for Railways should bring in hope and optimism to the travelling public in pursuit of Railway Ministry's efforts to accord more facilities and better facilities for the rail-travellers.

We extend our good wishes to forty-two year old Sri A. N. Roy, Public Relations Officer, Calcutta Railways on his appointment as the Dy. Transportation Manager, Bengal Nagpur Railway after the expiry of his two months' leave period. Mr. Roy avails leave for two months from September. In this connexion, it may be recalled that Sri Roy entered railway service in his twenty-third year and rose to the cadre of District Transportation Officer by dint of hard and sincere services to the railway. As a Public Relations Officer, he maintained very good relations both with the press and the public. Noteworthy feature in Sri Roy is his susceptibility for compromise and quicker solution of complicated problems with tact and skill. Hence Sri Roy's going back to his parent railway is decidedly a loss to the Public Relations Organisation, at large.

We heartily welcome thirty-year old Sri P. Guha Thakurta on his promotion as the Public Relations Officer in place of Sri A. N. Roy. Though Mr. Guha Thakurta entered railway service as late as 1945 competing the Federal Public Service Commission Examination successfully, his vast knowledge on Publicity affairs and proneness for pleasing every member of the Press are unparalleled. We wish all success in his new office and sincerely believe that he will upkeep the prestige and traditions of the post.



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more business, more
profits—provided you
release the wagons in those
sidings—the wagons that
are needed to move India's

goods. We ask for your
co-operation—unload your
wagon immediately
on arrival—help us to
give you better, speedier
service.

HELP THE RAILWAYS TO HELP YOU

KEEP WAGONS MOVING

B. B. & C. I. and G. I. P. Railways

PLACES OF INTEREST IN MYSORE

GLIMPSES OF BANGALORE AND SUBURBS (2)

BANGALORE is the principal city of the Mysore State and the Headquarters of the Government of Mysore. Founded in the 17th century by the Yelahanka Chief, Kempe Gowda, the area round about the fort was

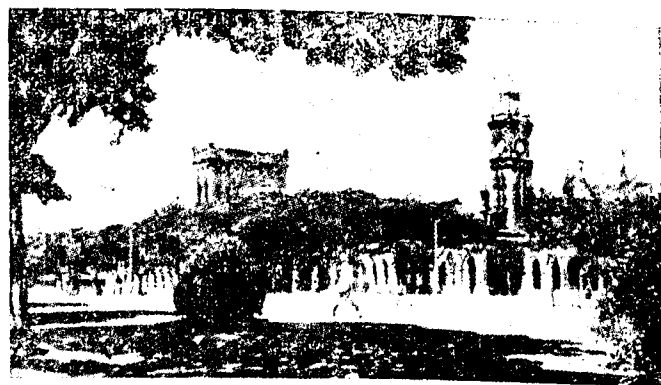
the possession of which was fiercely coveted by the powers in South India in the 17th century, has grown almost beyond recognition during the past fifty years or so; a special feature of the city is its extensions, running from Yesvant-



1. The Palace

the base of the present city of Bangalore. Owing to its very favourable position, its equable climate (mean temperature 76.2 degrees) and its height above sea level (3,000 ft.), Bangalore has

pur and Malleswaram in the north, adjoining the Indian Institute of Science and the Filter Beds, to Chamaraipet, Shankarpur, Visveswarapur, Gavipur and Basavangudi in the South.



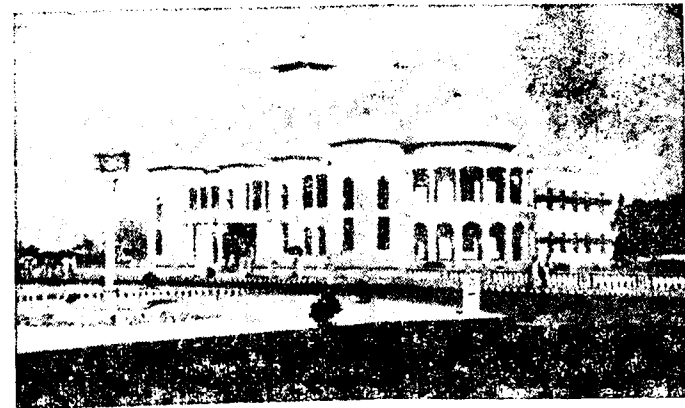
2. The Central College

developed into a very important commercial centre. The city covers an area of about 25 sq. miles and consists of two parts, the City proper and the Civil area, with a total population of about 600,000. The old town of Bangalore,

The Old City:— The original Hindu Fort said to have been erected in 1537 by Kempe Gowda was built of mud. It was rebuilt in stone in 1761, the year that saw the beginning of Hyder Ali's regime. It formed the scene of the capti-

vity of David Baird in 1780 and was taken by Lord Cornwallis in 1791. A mile or so south-west of the Fort is the famous cave temple of

necessary to the tourist. Among the residential hotels of decent type a few are mentioned below for the travellers' guidance. The

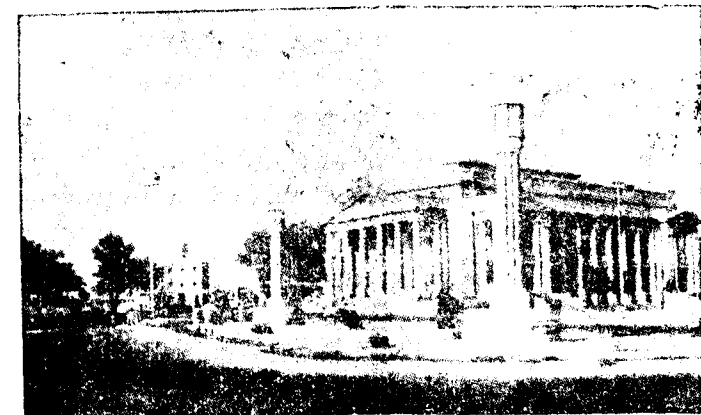


3. The Municipal Offices

Gangadhareswara. The present new city of Bangalore is a city of parks and public gardens of large public offices, colleges and hospitals and other institutions, illustrations of which are published in the following pages.

Any intending visitor to Bangalore need not at all appre-

principal hotels are the West End Hotel, the Central Hotel, the Cubbon Hotel and Lavender's Hotel, all in European style, and the Modern Hindu Hotel, the Modern Lodge, the Bombay Ananda Bhavan and Hotel Brindavan, all in Indian style. There are also a number of good clubs and boarding houses.



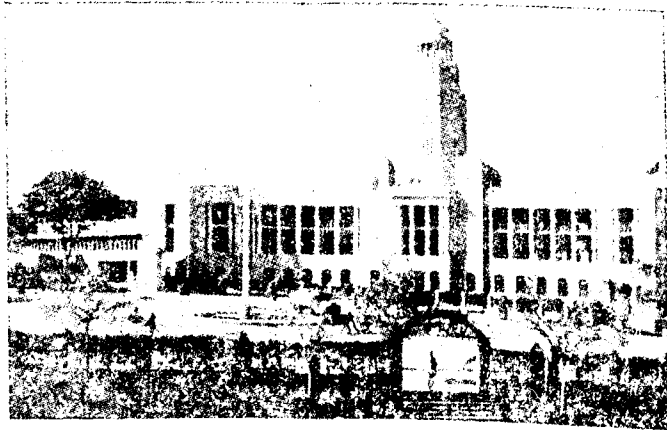
4. The Town Hall

hend of being misguided. For this purpose the Government of Mysore have appointed the Publicity Officer who can always be approached or addressed for any information or advice that may be

Now coming to the banking facilities Bangalore abounds in this. Similarly the principal Cinemas are the Plaza, the Rox, the New Globe, the Opera and B. R. V. Talkies in the Civil area, the

States, the Prabhat, the Sagar, the Super, the Movieland, the Sharada, the Swastik, the Vijaya, the Kempegowda Talkies and the

Bangalore has made rapid strides in Industrial and commercial spheres. Principal factories and workshops are: The Soap Factory,

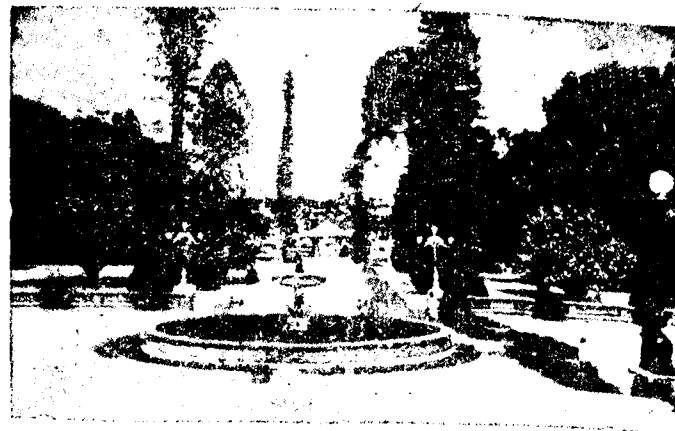


5. Technological Institute—Bangalore

Minerva in the City area. Among the theatres are the Cubbi and the Shree Theatre are prominent ones. As regards shopping areas the Mahatma Gandhi Road and the Commercial Street, the Chickpet and the Dodpet, Narasimharaja Road are the important places.

There are facilities for trunk telephone calls to all the principal

Electric Factory, Porecelain Factory, the Industrial and Testing Laboratory, the Arts and Crafts Institutes, the Hindustan Aircraft, the Indian Telephone Industries, the Radio and Electricals Manufacturing Co. The Bangalore Woollen, Cotton and Silk Mills and the Maharaja Mills are two of the more important Textile Mills in Bangalore.



6. The Lal-Bagh

Indian cities as well as to Europe, America and the Far East. In Bangalore itself there is an excellent automatic telephone system.

Transport facilities are more than any other city in India. Regular bus services besides taxis and other means of transport, are

available. Among Hospitals most well equipped on modern lines are Victoria Hospital, Minto Ophthalmic Hospital, Vani Vilas Maternity

College, the Sir Puttanna Chetty Town Hall, the Silver Jubilee Technological Institute, the City Market, the Public Library, the



7. The Victoria Hospital

Hospital, Epidemic Diseases Hospital, Leper Asylum, the Mental Hospital, the Bowring Hospital, the Hajeer Ismail Sait Goshia Hospital, the Military Hospital, besides a number of dispensaries and nursing homes.

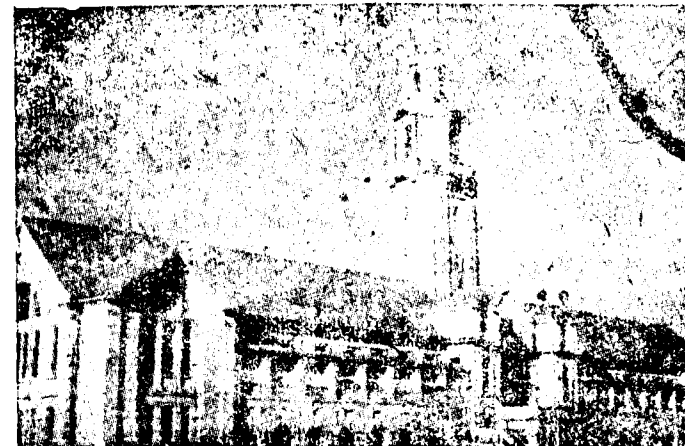
Points of Interest

The old Fort and Tippu Sultan's Palace, the Government Botanical Gardens known as "Lal-

Indian Institute of Science, the Residency, Richmond Park and the Mayo Hall. A drive round the parks and fountains of Bangalore and the Residential Quarters will always be a source of unending pleasure.

Now let us see the places of interest around Bangalore.

Nandi Hill: 4,850 feet above sea-level, has fine furnished bunga-



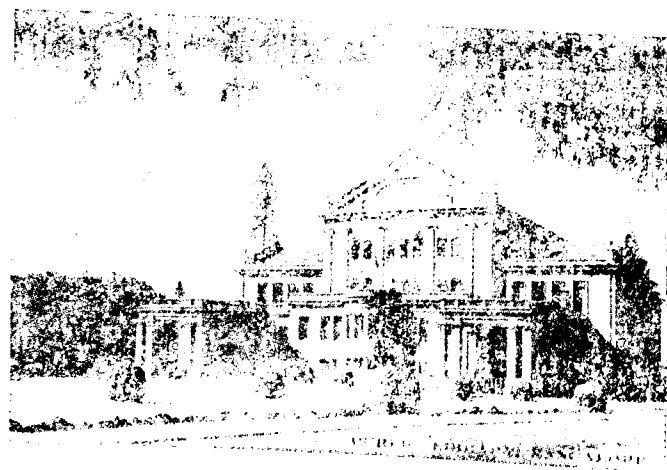
8. Indian Institute of Science, Bangalore

Bagh" the Cubbon Park, the Maharaja's Palace (Bangalore's Windsor Castle), the Public Offices (new and old) the Central

lows with excellent catering arrangements. Thirty-eight miles from Bangalore either by road or rail, the hill itself is coming to be

known as a nice, quiet, health-resort and its easy reach from Bangalore is making it very popular in recent times. The fortress on the hill is of interest to the students of history and the well-furnished bungalows on top afford a heaven of peace and solitude to the weary

Chamrajsagar : Twenty-two miles from Bangalore by car or bus, is a reservoir built across the river Arkavati to store water for the supply of drinking water to Bangalore. It is an ideal resort for picnics and has a nice rest house.



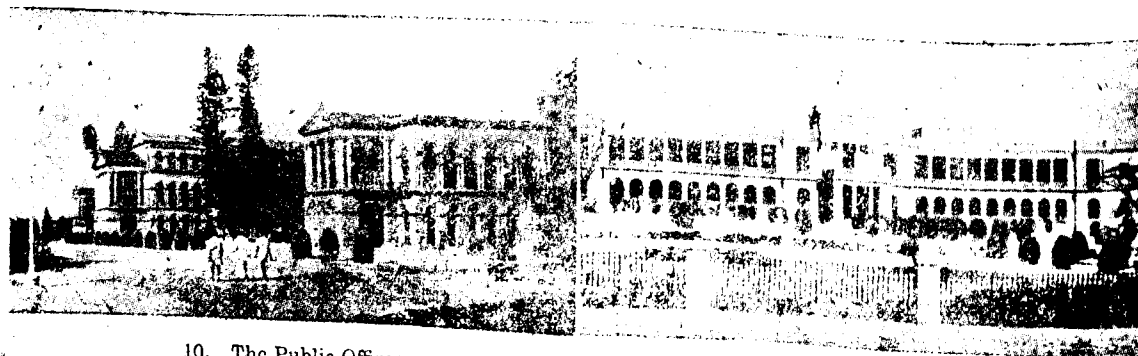
9. Public Library, Bangalore

townsman. The water in the lake upon the hill is said to possess the qualities of "Amrita," the health-giving nectar. Nandi is also the spot hallowed by the stay for his rest and cure of that great apostle of truth and non-violence, Mahatma Gandhi.

Kolar Gold Fields : About 60 miles from Bangalore, road or rail, contains some of the deepest gold mines in the world. For permission to see the mines, application should be made to the Chief Inspector of Mines, Oorgaum, K. G. F.

White Field : About 10 miles from Bangalore City by road or rail, lies an Anglo-Indian settlement and is a film-producing and tobacco-growing centre.

Sivaganga : Thirty-eight miles from Bangalore by road it is a place of historic interest. The scenery round about the hill (4,000 feet) is pleasing. Big game shooting by previous permission and arrangement can be had in the region. After seeing these places in and around Bangalore, you feel like settling in Bangalore itself permanently.



10. The Public Offices

11. The Vani Vilas Hospital

ELECTRIFICATION

OF BOMBAY-POONA & IGATPURI MAIN LINES AND BOMBAY SUBURBAN LINES OF THE G. I. P. RAILWAY

BY

P. L. VERMA, B. SC., A.M.I.E.E. (LONDON)

Traction Superintendent, G. I. P. Railway.

THE inland traffic between the great port of Bombay and North-East, East and Southern India is carried by the G.I.P. Railway. At Kalyan Junction which is about 33 miles from Victoria Terminus the main lines bifurcate into North-East and South-East directions. The Railway tracks from Victoria Terminus to Igatpuri on the North-East section, a distance of about 85 miles, and to Poona on the South-East section, a distance of about 120 miles, are equipped for electric traction and all passenger and goods traffic is electrically hauled.

2. In addition to the Main Line Services, the G.I.P. Railway also caters for heavy suburban traffic between Victoria Terminus and Kalyan, Victoria Terminus and Kurla via Harbour Branch and to Bandra (B.B. & C.I. Rly.) via Raoli Junction and Mahim Chord.

3. The system of electrification adopted is 1500 volts direct current supplied through overhead contact wire to the trains from various sub-stations. The return circuit is through the track rails, and in order to obtain electrical

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BHADRAVATI-MYSORE STATE RAILWAY

continuity the rail joints of the electrified tracks are bounded by means of concealed copper bounds. There are in all 16 converting sub-stations for converting A.C. to D.C., 5 on the Bombay-Kalyan section, 5 on the Kalyan-Igatpuri section and 6 on the Kalyan-Poona section.

4. On the Bombay-Kalyan section including the Harbour Branch power for electric traction is received from Messrs. Tata Hydro-Electric Agencies' Receiving Stations at Dharavi and Kalyan at 22,000 volts, 3 phase 50 cycles and delivered by means of overhead transmission lines and underground cables at the Railway's converting sub-stations at Wadi Bunder, Dadar, Kurla, Thana and Kalyan.

5. Power for use on the main lines i. e. Kalyan-Poona section on the South-East and Kalyan-Igatpuri section on the North-East, is generated at the Railway's own Power House at Thakurli near Kalyan. This is a steam generating station and equipped with four Turbo alternator sets of 10,000 kw. each and 6 coal-cum-oil fired boilers of 60,000 lbs./hr steaming capacity each. The power is generated at 6,600 volts, 3 phase 50 cycles and stepped up by means of transformers to 95,000 volts and distributed by means of duplicate transmission lines to eleven converting substations on the North-East and South-East lines beyond Kalyan. These extra high tension transmission lines run on either side of the electrified tracks, except for a small portion between Karjat and Lonavla on the South-East where the transmission lines follow an independent alignment due to the section being in the Bhore Ghat where it was not found possible to run them near the track. The conductor used is steel-cored aluminium consisting of 7.062 of galvanised steel and 6.186 of all aluminium

having a nominal cross sectional area of 0.1 sq. in. copper equivalent.

6. The Sub-stations on the South-East are situated at Vangani, Karjat, Thakurwadi, Lonavla, Kamshet, Dehu Road and Kirkee and on the North-East at Vasind, Thansit, Kasara and Igatpuri. These sub-stations are normally connected alternately to their respective transmission lines, so that in case one of these 95 kw. transmission lines trips on fault, the 1500 volts D.C. supply will be maintained by alternate sub-stations left connected to the other healthy line. Thakurwadi sub-station which is situated on the Bhore Ghat is an exception and is supplied at 22,000/ volts from Karjat substation.

7. At all the sub-stations except Dadar sub-station the high tension A.C. voltage is stepped down by means of transformers, and alternating current is converted to direct current by means of rotary convertors and fed to the overhead equipment of the tracks at 1500 volts for working the trains. At Dadar sub-station steel tank mercury and rectifiers have been used for converting A.C. to D.C. Dadar sub-station is the most modern station in the electrified system and was brought into service in 1946.

8. Mid-way between the sub-stations are placed the track sectioning cabins which are fitted with 1500 volts D.C. circuit breakers by means of which the overhead conductors may be sectionalised. When all the circuit breakers are closed, the overhead lines of the tracks concerned, besides being made through also get paralleled on to a common bus-bar so as to reduce the overall electrical resistance of the conductors and thus reduce the voltage drop.

9. On Bombay-Kalyan section the sub-stations are manned

throughout day and night, but on the Kalyan-Poona and Kalyan-Igatpuri sections all the sub-stations and track sectioning cabins are remote controlled from a Central Supervisory Control Room at Kalyan.

10. The supervisory system is split up into 5 systems; systems 1 and 2 are for South-East Section and 3 and 4 for the North-East Section, the 5th being for Kalyan sub-station only. In the case of South-East and North-East, each system of respective pairs namely 1 and 2 or 3 and 4 is connected to alternate sub-stations and half a track cabin of the section concerned. High Speed Circuit Breakers of the track sectioning cabins on the main line are fitted with an automatic reclosing feature which means that as soon as the corresponding feeder breaker is closed in the adjacent sub-station, it causes the corresponding track sectioning feeder breaker to close automatically. The supervisory control is connected in such a way that the supervisory control system which controls the feeder breakers of the sub-station is connected to control the track cabin circuit breakers fed from the next sub-station. Such system of connections combined with the automatic reclosing feature of High Speed Circuit Breakers ensures continuity of supply on the 1500 volts side in case one supervisory system fails, because the feeder breakers, at alternate sub-stations could be controlled by the other healthy system, and these would cause the corresponding two breakers in track sectioning cabins to close automatically. The remaining two breakers are connected to the system which is remaining healthy. Therefore if one supervisory system fails, the continuity of supply on 1500 volts could still be maintained throughout the section. If both the systems fail, then the only alternative left is to man the sub-stations and take them on local

control. When the sub-stations are on remote control and any of the remote controlled devices operate automatically due to a fault or any other reason, the attention of the operator in the supervisory control room is drawn both by an audible as well as a visual signal, and the light in the control key indicating the position of that particular device starts flickering.

11. The control wires for supervisory control are of cadmium copper conductors having a diameter of 0.1 inch and are carried on brackets fixed to the track structures in the open section and when negotiating tunnels or taken through a cable which is suspended on hangers fixed on the walls of the tunnels.

12. **Rolling Stock:** The suburban service is handled by electric Multiple Unit Stock. The standard minimum unit consists of 4 coaches, one of which is a motor coach which carries 4 traction motors of 275 H.P. each, two on each bogie. The traction motors are nose-suspended and are geared to the road wheels. The other electrical equipment is carried in a locked compartment in the motor coach itself. On the roof of each motor coach there are two 'Pantographs' for collection of current from the overhead lines and only one of these 'Pantographs' is used at a time. The four traction motors are grouped in pairs so that in case of a failure of one of the traction motors, the pair belonging to the defective motor may be cut out, enabling the train to be run on the other healthy pair of traction motors at a reduced speed. The remaining three coaches are called trailers, two out of which are provided with driving cabs and are called driving trailers. The standard composition of a 4-coach unit rake on this Railway consists of a driving trailer, a trailer, a motor coach and a driving trailer. There are three driving positions (cabs) in each 4-car unit

rake, one at each end of the train and one in the motor coach. As there is a driving position at each end of the train there is no need to turn the train round at a terminal station, the driver merely changes his position of driving. Two or more of these 4-car units can be coupled together and worked in Multiple Unit by one driver if the traffic conditions warrant it. This building up of trains to suit traffic conditions is one of the advantages of electrification.

13. The main line passenger trains are hauled by 'Passenger' electric locomotives. There are 25 such locomotives, 23 made by Metropolitan Vickers, one made by Brown Boveri and one made by General Electric Company. The Met. Vic. Locomotives are of 2AAA1 type whereas the Brown Boveri and G.E.C. locomotives are of 2AAA2 type.

14. The Met. Vic. locos are fitted with six traction motors of 360 H. P. each, arranged in pairs and each pair is coupled to the driving axle through centrally located flexible train of tripple gears. These locos are designed to haul a trailing load of about 450 tons at 65 miles per hour on tangent level track. The goods trains are hauled by electric engines of the C-C designation. There are 41 such locomotives supplied by Met. Vic. There are six axles per engine, all of which are driving axles mounted in two bogies, three driving axles in each bogie. The axles of a bogie set are connected with side rods. Each engine is equipped with four 650 H. P. motors, 2 per bogie. The power from each pair of motors is transmitted to the driving wheels of that bogie by a jack shaft mounted in and across the bogie frame. Pinions on the end of each motor mesh with a gear wheel on the jack shaft which in turn is connected by a connecting rod to the side rods of the bogie.

Only freight locomotives are fitted with regenerative braking equipment.

15. On both passenger and freight electric engines the electrical equipment is divided up and is so arranged that a defective portion can be out out and the engine still retained in service. Both the passenger and freight locomotives have got driving positions at both ends with the result that at terminal stations it is not necessary to turn them round as is the case with the steam locos. All main line trains on their journey to Poona on the South-East and to Igatpuri on the North-East have to negotiate steep inclines of Bhore and Thull Ghats respectively. The ruling gradient on both these ghats is as steep as 1 in 37. Therefore all the passenger and goods trains while ascending up the ghats are banked in the rear by a freight locomotive. In the descending direction both the passenger and goods trains have an additional freight locomotive put in front of each train so as to bring the train down the ghats under regenerative braking. This feature of regenerative braking is peculiar to electric traction, and while regenerative equipment is not designed fully to become the train brake or to replace the vacuum brake, it results in economy in maintenance of brake gear as well as electric power and safe and easy control of train descending long gradients. Provision is made in the main line sub-stations for absorbing the energy regenerated by trains.

16. The travelling public between Bombay and Poona and Bombay and Igatpuri derives several advantages out of electrification. The travelling time from Bombay to Poona which amounted to nearly 6 hours in the steam days has now been cut down to only 3 hours by the fastest train called the "Deccan Queen." The other advantage of electrification

is the clean travel because of elimination of smoke, cinders and fumes. This advantage is specially of great value when passing through 26 tunnels on the Bhore Ghats and 10 tunnels on the Thull Ghats. There is no more that feeling of suffocation and unpleasantness that used to be caused by smoke, cinders and fumes of steam traction days.

17. On the Bombay suburban section there are 462 trains coming into and going out of V. T. every day giving 5 minute service at the rush hours in the morning and evening and fairly frequent service during the rest of the day. The number of passengers carried on suburban lines has increased considerably as compared to earlier

days. The number of passengers carried on suburban lines in 1925-26 prior to electrification were 28,252, 512 whereas in 1948-49 this figure has increased to 129,916, 368. This intensity of traffic Steam Traction could never have been able to provide. Thanks to the electrification of the Railways. Bombay City is one of the few big cities in India which can claim to be practically free from the nuisance of smoke. Whatever little smoke there is in Bombay, is due to either the chimneys of the Textile Mills or the main line trains of the B.B. & C.I. Railway which are still steam hauled; but the time is not far off when B.B. & C.I. will also switch on to total electrification and make Bombay the cleanest city in India.



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"The Ticket Collector"

By A. H. Pearson

AMONGST all railwaymen the Ticket Collector is probably the man who comes into most contact with the gigantic public travelling on railways, and the most familiar to this public. If, while at a railway station you want to find a Ticket Collector you only have to ask for him, and you will probably be directed to the nearest entrance or exit gate. And sure enough you will find him there.

Obviously, his main job is to collect tickets, and to see that every person who enters or leaves a station-platform is in possession of a ticket, or has some authority to be on the station on purposes of business, or perhaps to see off or meet someone. But is that all of his duties? By no means. So, let us take a closer look and ascertain what he has to do during his hours of duty.

As soon as he comes on duty, he reports to the Head Ticket Collector's Office, signs the duty roster, finds out what particular gate he must man — especially at a large junction or terminal station — rapidly scans the diary for any point which may require special attention, like reservations, or arrangements for accommodating parties who have reserved carriages by any particular train. Armed with this knowledge, off he goes to his gate, thereby relieving the previous man on duty.

A passenger train rumbles into the station. Hundreds, or even up to a thousand passengers, may surge up to his gate, and he starts the job of collecting every ticket proffered by the passengers who must pass through. Now his sliding gate cannot be kept wide open at this time, as otherwise, he will be swamped by the seething human mass, and collect only a few tickets.

So he keeps the gate open just enough to pass one person at a time, and patiently collects the tickets. In spite of this, the impatient crowd often tries to pass through with a rush, engineered perhaps by a few who are trying to get through without tickets.

Now, we must remember that collecting is not merely a matter of passing a ticket from one hand to another. The expert eye of the Ticket Collector must be able to discern in a split second whether the ticket offered is legitimate or not. The ticketless traveller of the more cunning sort, are up to all kinds of dodges to get through, but the man at the gate is usually always one jump ahead of him. Some of the wily methods used by these ticketless passengers, and fare-dodgers are worth a mention.

One of the most common excuses is that the passenger has bought a ticket for his journey at the starting station, but somewhere on the way, his purse, ticket, etc. have been robbed. He will even turn out his pockets to prove his statement. But this is an old gag and never accepted. Another is that he is one of a party which had already passed through the gate, and his ticket has been surrendered along with the rest. The platform ticket dodge is another one. This is done by one member of a party passing through the gate with a proper ticket, going to the platform ticket counter, buying one, and then back to the gate and passing it through to the other fellow when the ticket man is not looking. Then that fellow gives up his platform ticket and so passes through.

Still another dodge is the child's ticket. A simple, or more often, a cunning old rascal, will produce a child's ticket along with

his own. The Ticket Collector will ask "where the child?" The 'child' who suddenly pops up with a sheepish grin on his face is perhaps a tall youth sprouting a luxuriant moustache, and when questioned he will swear by all the gods he is under twelve. Then there is the little fellow, with a humped back, or a dwarf, who will proffer a child's ticket. This fellow thinks he can get away with a half fare as he reasons that he occupies the same space as a child in a compartment, so a child's fare is all that he should pay. But he doesn't get away with it.

All these artful dodgers have got to pay up the legitimate rail fares due, and if they decline, and get troublesome, well, it's off to the Railway Police with them.

You may have often wondered what happens to all those thousands of tickets collected by Ticket Collectors all over the line. Well, this is what happens. When the last passenger has passed over his ticket, and the train has departed, the Ticket Collector goes back to the office. Here the tickets are put through a cancellation nipper, sorts them out class by class, serially and station by station, and then enters them up in the Collected Ticket Register. At the end of each twenty-four hours, all collected tickets at a station are bundled together, class-wise, station-wise, etc. and despatched to the Traffic Accounts Office, for check and account.

By virtue of his duties, the Ticket Collector meets up with the best and worst of the thousands of passengers who pass through his gate. Because he is there to detect the man who may be trying to evade paying up for the cost of a journey, quite often, the Ticket man comes in for a good bit of malice and complaint. If he detects passenger trying to get

through without a ticket asks him to pay up, the passenger may deliberately start an argument merely to goad the unfortunate man at the gate. It is then that this type of passenger must be handled with extreme tact and courtesy, even though the Ticket Collector may be feeling pretty hot inside. If he loses self-control and retaliates with discourtesy or unbecoming behaviour, and a report is made against him, well; it will take a lot of explaining away. So, with the Ticket Collector under circumstances like this, it is almost a question of turning the other cheek.

Another important aspect of a Ticket Collector's duty is that he is expected to be a pretty efficient information bureau. Passengers knowing him so familiarly naturally gravitate to him for whatever information they may desire about train timings, fares, whether there will be room on a particular train, etc. The efficient Ticket man must know all the answers, or at least be able to direct the enquiring passenger to the Railway Staff who can give him the correct information.

We all know of the cripples, beggars, touts, vendors of sundry articles, who frequent railway station, mostly unauthorised. This is another part of the Ticket Collector's job—to see that these undesirables are kept off the platform—and it is quite a job too—as these are amongst the most cunning rascals one has to contend with.

This is a bird's eye view of the Ticket Collector on duty. We must never for a moment think that he is merely an automaton with a hand stuck out, and a mechanical jaw mouthing the words 'ticket please' but a railwayman who does an extremely important job to help keep his railway running smoothly.

THE GREAT NATIONAL FESTIVAL

By Sri A. Kumar

INDIAN towns and cities have a carnival atmosphere on the eve of the great national festival Dasserah or the Pujah, as the latter is called in Bengal. Shops are gay; thoroughfares are busy; the buying of gifts is almost a ritual; there is expectation in the air.

The idea of gifts is not that of individual presentation, but rather it is based upon the joint family system. The head of the house buys clothes and ornaments for the family members, so that they will appear before the goddess in a new attire. This is material interpretation of the allegory of discarding the ways of the past year, and the taking on of fresh incentives and resolutions. It is, as it were, the spring cleaning of the soul, when it is clothed anew in the emotion of ecstasy—therefore must its shell, the body, be also suitably attired.

Such implications and conjectures are, however, very much in the background; what is most apparent is an atmosphere of festivity, of anticipation and the choosing of appropriate gifts for young and old alike. Even the servants are not forgotten. Among the many innovations the idea of individual presents has crept in, of friend to friend, husband to wife, child to parent.

Jewels and Saris

Jewellers are busy fashioning delicate ornaments for the children of the rich. They work night and day to deliver their commissions at the appointed time, and gold is the most favoured and universal choice. The trend in style turns more and more to the ancient, and those who possess heirlooms are much sought after to provide patterns. Heavily chased gold bracelets are as popular as the round gold filigree ones set with gems.

But there are not many who can afford jewellers, and it is the Sari Shops that are the most crowded. Though Benares Saris of gold and silver are on show in the windows, and it is at this time of the year that really exquisite patterns are created, nevertheless these are not within the reach of the majority of the people. They are usually the prerogative of the wealthy while the more well-to-do middle class occasionally patronize the georgettes and chiffons, so enticingly displayed with their accompanying borders. But all and sundry are eager to buy the muslin saris, in particular the hand-woven ones. White ones with their wide contrasting borders are so attractive both in the quality of their texture as well as from the point of view of wear.

People will deny themselves throughout the year and save so as to be able to buy presents for their dear ones at this time of the year. The people of India, on an average are very poor but their hearts are rich, and it would be a sad day for any family if it could not make this presentation, however humble once in the year.

During these ten days, Devi or Durga is worshipped in Hindu homes. The form in which the Devi is worshipped appears in a magnificent warlike one having ten arms and riding astride a lion.

It is said that, when Devi descended to fight the Asuras (Titans) each of the gods equipped her with their own particular instruments of war, so as to facilitate her victory; therefore, in each of her hands she carries a different weapon.

Of the Hindu Trinity, her husband the great God Shiva, bestowed upon her his trident; Vishnu, the Preserver of the Universe, gave her his discus, which, thrown correctly, had the power of severing the neck from

the body; Brahma, the Creator, brought her a necklace of holy beads and the beggars's bowl, both of which would be of utmost significance in time of trouble.

Among the lesser deities—the elements of Wind and Water and Fire equipped her with a bow and arrow, the conch-shell and a spear, respectively. From Indra, the King of heavens, Durga obtained the use of the thunder-bolt and the bell belonging to Indra's elephant, Airabata. Out of the Caverns of Death, Yama brought for her use the mace, while Time gave her his scimitar and his shield. The divine architect, Viswakarma, presented her with his axe.

These gifts represented the co-operation of one and all mortal and immortal—in her great undertaking. Dasserah symbolizes Durga's victory over the Asuras. Shorn of allegory, the festival symbolizes the victory of right over might, the forces of onlightenment over darkness, virtue over vice or sin.

The Sister's Festival

The Dasserah or Pujah festivities culminate in an interesting social function called the "Sister's

Festival." It takes place on the second day of the first new moon after the Puja. It is a festival specially set aside for the celebration of sisterly love, being the one day in the year that sisters perform certain rites for the welfare of their brothers. A purely social affair is this: Every woman invites her brothers and cousins to take part in it. Presents of new cloths are given and attired in these, the recipients seat themselves on separate carpets, for the actual rites. The sister (or sisters) anoints each one's forehead with sandal paste, murmuring a set formula which, interpreted, means a short prayer for his longevity and prosperity. Her act is said to bar Yama, the God of Death, from taking his toll of this precious life.

During the performance of the ceremony, if the brother is younger, he places the dust off his sister's feet upon his head as a mark of respect and appreciation, but should he be the elder, this duty devolves upon the sister.

This festival, based upon family ties, serves to knit brothers and sisters closer together. On this day, memories of home-life and childhood together are predominant.

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SHORT STORY

"A Hand Said Stop"

By Alpha

A game of billiards was in progress in the Railway-men's Institute. Two men were playing, while half a dozen more were seated on the high benches round the table watching the game. Suddenly the quiet of the evening was shattered by the piercing wail of an accident siren. One of the players—who was the locomotive foreman—about to bring off a tricky shot, straightened up and cursed.

"Blast it! That darned buzzer would go when I'm knocking up a good break. Sounds like a main line accident too. Hope, it's not another train-wrecking job."

To his opponent he apologized: "Sorry, old chap. Got to get the accident relief train out quick."

Then, turning to the group on the benches, he said, "Here Foster, take over and see that he doesn't get ahead."

Mark Foster stepped down from the bench, took over the cue and continued the game.

The intrusion of the siren switched the talk from billiards to recent accidents.

A locomotive man remarked: "Hope no one's hurt. They picked up Tom Weldon in a nasty mess not three weeks back."

"Tough luck on him too," put in another of the men present. "And just promoted to the mails. He left a wife and two kids."

A third man added. "There's been too many of these wrecks lately. Peter Smith was pulled out alive, but minus a leg. Then there was that young second fireman Lachman with his skull cracked."

Foster's opponent, a middle-aged driver of long service said: "It's us loco chaps who always get the smack first, and we're lucky if we come out alive."

A railway guard added, "I don't envy you loco men. At least at the tail end of a train we do have a chance to jump."

Foster, who was also a driver, bent his large form over the table for another shot, but fumbled it badly. All this talk about accidents seemed to have unnerved him. Visions of Tom Weldon on that last fatal trip kept recurring and haunting him. The express train hurtling along at top speed on a dark night, then a sickening, violent lurch, a frantic scramble on the loco for the vacuum brake, the huge driving wheels biting into the ballast, and then the crash down the steep embankment. Weldon had come to his end. Every time Foster thought of this he would go cold. A shudder now passed over him, and his fingertips became numb with dread.

But Foster was no coward. He knew that all locomotive men faced the risk of a smash sometime in their service, but the crop of recent train disasters had spread a sneaking terror among the loco men. They laughed it off with a 'well, our number has got to be up some day,' but beneath the flippancy was the insidious venom of fear.

Foster had now lost all interest in the game. Usually a steady player, he found himself playing wild shots, so much so that the onlookers passed facetious remarks about it. He was saved the humiliation of defeat by someone hailing out, "call book for Foster."

Casually he tried to say, "Didn't expect the book yet. I'm due out on the express, but they're calling me for the mail. Grafton must have reported sick. Must be going mates."

Foster walked home fast and found his wife waiting for dinner for him.

At the dining table he said lightly, "Got to hurry, Marge, booked for the mail."

His wife noticed he was merely nibbling his food. He was a big man and always ate heartily.

"Anything wrong, Mark dear?" she enquired anxiously.

"No, dear. Only feeling a bit hipped I couldn't bring off my pot shots in the billiard room."

Margery Foster smiled. "Better luck next time, Mark. Perhaps you were tired." But she sensed that it was not the billiard play that had made him shy at his food. She had an inkling that the accident siren had upset him. Like most wives of locomotive men, she, too, had those awful twinges of dread and anxiety. Every trip, especially the night runs, like the one before him that night, threw up the grim thought, will he come back alive?

Sitting on the arm of his chair, she ruffled his crisp, dark hair and said, "A little more please, Mark dear, or you'll be regretting the dinner you left behind once you're on the engine."

Mark looked up and smiled. "I'll try, for your sake, but I haven't much time. Pack up some sandwiches and shove them into my box, old girl."

When it was time for him to go to the loco shed, he stood on his doorstep, hugging his wife tight, as if it were the last time. He tried to be casual, even cheerful, by saying, "Keep smiling, sweet-heart, and look after our little Jenny."

She returned his close hug with all her strength, looked up into his face tenderly and said: "Take good care of yourself, Mark dear."

Mark broke away abruptly from the embrace, stepped down and glanced over his home with a queer tug at his heart. He then

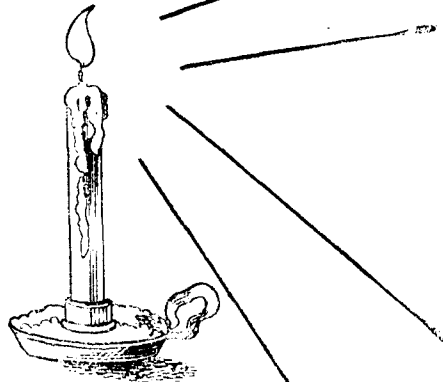
walked swiftly down the short pathway to the gate. His wife watched him until he was out of sight.

On his way to shed black thoughts of impending disaster harassed him. Why was he thinking in this gloomy strain. Was it a premonition that some calamity was ahead? He looked up at the trees, the clear night sky sparkling with star glitter, the neat hedged-in compounds of other men's houses, and the street lights shedding a friendly-gloom. All this seemed so desirable now, because it was shared by the living, but not the dead. He passed a hand over his face as if to wipe away the pall of dejection that had gripped him. He must not let these ghoulish thoughts nag at him. There was work to be done on his engine, and for that he was glad. There, he would have no time for brooding.

From the start of his trip that night, Foster found himself being extra vigilant, especially on the long non-stop runs, where top speed had to be achieved to keep to schedule. Somewhere on these long, lonely stretches the wreckers usually did their nasty work.

From his seat at the right hand side of the cab he watched the stabbing beam of his engine headlight illuminate the steel rails rushing towards him. He realised it would be difficult to spot any attempt to tamper with the track from his perch on the engine, but it gave him confidence to see those lines ahead unbroken.

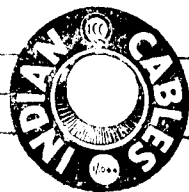
About an hour after midnight his train rumbled into the rugged country that was being used as the death trap for trains. Here, for nearly fifty miles, the track snaked through deep cuttings, rode high above rocky gorges and steep embankments. Two terrible wrecks had already been perpetrated on this section. The wreckers had made sure that any fast train jumping the rails would spread destruction and death.



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The train had just nosed out of a cutting into a straight level stretch. Here the track ran for some miles without a kink in it, but Foster knew that on this section a number of small bridges and culverts spanned narrow streams far below the metals. The engine was running smoothly, so he concentrated on the headlight beam cutting a bright swath of light into the solid block of darkness.

Perhaps the prolonged stare into the dazzle of the light beam had made his eyes tired, or his gloom-ridden thoughts was making him see things that were not there, because suddenly in his line of vision there appeared a fluttering shadow. He blinked, rubbed his eyes for a moment to relieve the strain, then deliberately gazed into the darkness behind to break the illusion. Again he looked at the brilliant light ahead. the fluttering shadow was still there; but now it seemed to take shape. He tried to think what would cast such a shadow. Ah! he had it. A gigantic hand seemed to be beckoning.

Then the shadow was gone, only for a few fleeting seconds. Again it jumped into the white beam, the same shadow of a giant hand, beckoning, and telling him to stop.

Foster was sorely puzzled. Where did that dancing shadow come from? Peering ahead intently he could see nothing to cause it.

A distinct sensation of awe crept over him; and this gave way to a chill dread, sending icy prickles through his whole being. A dancing shadow with nothing solid to throw it.

He was not the only one in the cab, so he decided to call on another pair of eyes. Two pairs of eyes could not be duped into seeing the same illusion.

Turning his head he called to his fireman Dan Mears.

"Come over here, Dan, and take a look ahead. See anything?"

Mears looked and exclaimed. "By heck, mate, I do! It's the shadow of a big hand. But there's nothing on the track, so how comes the shadow?"

Foster said: "I wanted to make sure I wasn't seeing things. But, look again, Dan. What does it seem to say?"

Mears looked, then paled, "Its' telling us to stop."

Driver and fireman both felt the same uncanny fear of the unknown, and the identical thought passed through their minds. Should they stop, or carry on, ignoring the warning?

Foster, with his hand on the controls, and his eyes on that fluttering shadow, went through a ghastly phase of indecision.

How did it come there, with nothing on the track to throw it? Yet, there it was jumping about frantically, telling him to Stop! Stop! Stop! Was this some supernatural warning, or the mirage of a depressed and tortured mind? But it could not be. Mears had seen it too. Both could not see the same illusion. Then why was he hesitating, when there may be swift disaster ahead.

With a start he made up his mind. He reached for the vacuum brake, and slowly applied it. Throughout the whole length of the train there was a shudder as the brake shoes ground the wheels to a stop.

Without bothering whether his guard at the tail end of the train would like to know the reason for this out-of-course stop, Foster climbed down from the cab, beckoning to his fireman to follow.

"Dan, we've got make sure," he said grimly.

Driver and fireman walked towards the front of the engine to try and trace the source of the shadow; if there were one. They

got to the front end of the engine, and glanced up towards the headlight, still burning brightly. There they saw something fluttering feebly against the glass lens.

Fireman Mears scrambled up to the light. Between the iron grill protector and the lens he found a large moth, now in repose.

"It's a big moth," he called down. "A death's head, the kind with a skull on it."

Foster felt a surge of relief. The giant hand was explained.

Mears then climbed down and remarked, "Come on, mate, let's get moving. It'll look fishy if we book this stop for a moth."

But Foster still had qualms of uneasiness. He had brought his train to a stop, and a few more minutes just to make sure everything was right, would not make much difference.

"I'm not starting yet. I'm going ahead to that small bridge to make sure. Come on."

They trudged along together between the rails, each man glancing anxiously at the rail joints showing up clearly in the headlight beam. They had got to within a rail length of the bridge, when both froze.

"God, look at that!" Foster exclaimed with a pounding heart-beat and a hand pointing to the left side of the track. A complete length of rail had been prised out of its fastenings, and thrown to the side.

Both felt the chill hand of death clawing at them when they saw the gap in the track. But ahead was something worse, a yawning chasm dropping a sheer forty odd feet to jagged rocks below, down which the train would have plunged if they had gone on.

Silently they turned and walked back to the engine.

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HEALTH NOTES

Our Traditional Diets and Nutrition (2)

By M. Shivaram, B. A., M.B.B.S.

In our previous issue the Author discussed on the above subject upto Vitamin "B" and its far-reaching effects on human mechanism if they are deficient in our diets. Herein the other aspects of Vitamins are discussed. (Ed.)

Vitamin "D"—Lack of which causes Rickets, was the next one to be discovered. This vitamin is soluble in fats and so it was thought for a long time that Cod Liver Oil or Shark Liver Oil alone could supply the necessary Vitamin "D." Because the fats that we usually consume like butter, ghee or edible oils do not contain Vitamin "D" at all.

Later, it was found that a "Sterol" group present in Ergot or Rye, would on irradiation or exposure to ultra-violet rays produce a substance called Calciferol. This Calciferol had anti-rachitic properties. Nowadays irradiation of quite a number of substances containing "Sterol" groups like yeast is utilised to produce Vitamin "D" or its allies.

One of our traditional customs in the coastal areas is to dry mango juice in the hot tropical sun, layer by layer till a slab of dried juice is formed. This slab is used much like sweets to satisfy children and pregnant ladies. Mango juice contains a sterol called "Sito-Sterol" and its irradiation must give rise to a certain amount of Vitamin "D" or its allies. Any substance containing a "Sterol" group and irradiated in the tropical sun, must be anti-rachitic and an investigation on these lines is proceeding.

Vitamin "A"—the anti-infective Vitamin—absence of which causes night-blindness was separated from Vitamin "D" later. This is also soluble in fat and it was felt that our diets would not have sufficient amounts of Vitamin

"A" as Vitamin "A" was contained only in cow's butter or ghee. But it is found that a fraction of Carotene the B Carotene (the crimson yellow colouring matter contained in carrots and oranges and ripe mangoes) gets split into two units of Vitamin "A" in the liver of a healthy man. And ordinarily healthy people that consume sufficient amounts of carotene do not suffer from Vitamin "A" deficiency.

Vitamin "A" Requirements of an Adult 3,000 I. U.

Name	Amount of carotene Vitamin "A" per 100 gms.
Bengal Gram	316
Agathi	9,000
Amaranth	2,500-11,000
Coriander	10,400-12,600
Drum-Stick	11,300
Curry Leaves	12,600
Betel Leaves	9,600
Fenugreek	3,900

Proteins. The next group in essential food factors is that of the Proteins. Proteins are the nitrogenous food materials which on digestion break up into the "aminoacids." These are the building "bricks" of the body and any tissue chooses a few of these aminoacids and builds up its own structure making up for the wear and tear. A good mixture of proteins gives rise to a good mixture of aminoacids, so that the body needs may be amply met with. The proteins contained in vegetables are not as easily assimilable as the proteins from animal foods like milk, milk-products, eggs, etc. A diet supplying one-fifth of its total protein require-

ments from animal proteins is considered ideal for the tropics.

The pulses contain a good amount of protein, the cereals a fair amount and the nuts also an appreciable amount. Milk and curds or butter milk supplies a good bit of the protein required.

Protein requirements for an Adult 70 gms.

Name	Amount of Proteins per cent
Rice	8.5%
Dhal Arhar	22.3%
Greengram	21.3%
Groundnuts	26.7%
Buffalo's Milk	4.3%
Cow's milk	3.3%
Agathi	8.4%
Curds	2.9%
Pappali	18.8%
Egg Fowl	13.3%
Fish Big	22.6%
Mutton	18.5%

Thus it is seen that the protein percentage in eggs and fish is no better than in pulses though the assimilability of the former is greater.

Our traditional diets, in the garb of religion interspersed the calendar with frequent feasts. A feast once in 3-4 days was common. The menu for the feast included as "Essentials" two varieties of raw salads made from soaked pulses. These were flavoured to taste, spiced with chillies, etc., to stimulate the appetite and produce the digestive juices necessary to break up the protein consumed was entirely from Dhal Arhar. Groundnuts were used as adjuncts. And pappadams were as essential adjunct. These were the essential items in all feasts, and most of these as you see from the tables contain heavy amounts of protein materials. The protein requirements if not sufficient from day to day in the usual diet, were thus made up frequently.

The Minerals. The important minerals are iron, calcium and phosphorus. Iron is an essential element in the formation of

Hæmoglobin, the colouring matter of blood. The adult needs 20 mgms. of iron per day. And this amply supplied by our cereals and vegetables.

Iron Requirements in Adults 20 Mgms.

Name	Amount contained in 100 gms.
Ragi	5.4
Rice	2.8
Wheat whole	5.3
Bengalgram	9.8
Blackgram	9.9
Amaranth tender	21.4
Coriander	10.0
Fenugreek	16.0
Neem tender	25.3

Calcium—The daily requirement for an adult is 0.68 gms. and for a growing child 1 gm. It is found abundantly in milk, including butter milk, green leafy vegetables like amaranth or Fenugreek.

No work has been done to find out how much calcium is absorbed when Pan smeared with slaked lime is chewed.

Phosphorus—Cereals in the raw state are fairly rich in Phosphorus. If a diet contains sufficient calcium it may be taken for granted that its phosphorus content is satisfactory.

Essential Food Factors: Thus it is seen that from the point of view of essential food factors, our traditional diets, contain sufficient amounts of all the essential food factors. Factors, that may be deficient in the daily diets, are made up by essential festival menus. The way our foods are preserved, is now proved to be the very correct method scientifically. And these preserved foods are used as dietary supplements, as snacks and most often given to the needy growing children.

As regards the energy producing factors, the main components are the carbohydrates and fats.

The Carbohydrates are supplied by cereals like Rice, Ragi,

Wheat, Cambu, Jola, etc., and by sugar and jaggery and fruits.

Our traditional diets in plentiful seasons contain perhaps a surfeit of these things more than the body requires, and therefore liable to tax the digestive processes, and cause some disturbance in health.

Regarding fats, the ghee or butter, the edible oils like gingelly and the nuts like almond, groundnuts and coconut used in our diets supplies sufficient fats. About 2 ozs. of fats is supposed to meet the daily requirements of an adult.

Educating the public about the nutritional needs of the body, the variety of factors necessary, their respective amounts, etc., is essential for the well-being of a community. Our traditional diets evolved through thousands of years of trial and error, contain all the essential food factors, in more than needed amounts. The tech-

nique of preserving foods is now found to be scientifically correct.

Incidentally this gives us a clue as to further research. Investigate our preserved foods and find out the active ingredient and analyse it, instead of trying to find out if particular known factors are present in it. It is only thus that we can utilise all the previous experience and improve our nutritional knowledge.

Life has changed its tempo, and diets necessarily must undergo a change. It is essential to make use of all experience and knowledge available if we want to have a healthy nation in a Free Country.

If readers of this note know of traditional methods of preserving foods peculiar to their locality, the writer of this article would welcome all such written information giving precise details of such preservation.

(Concluded)

Estd.



1944.

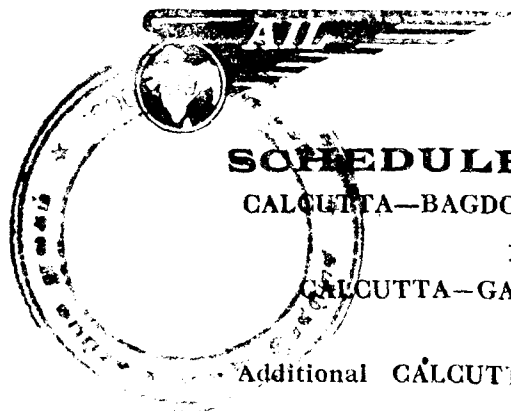
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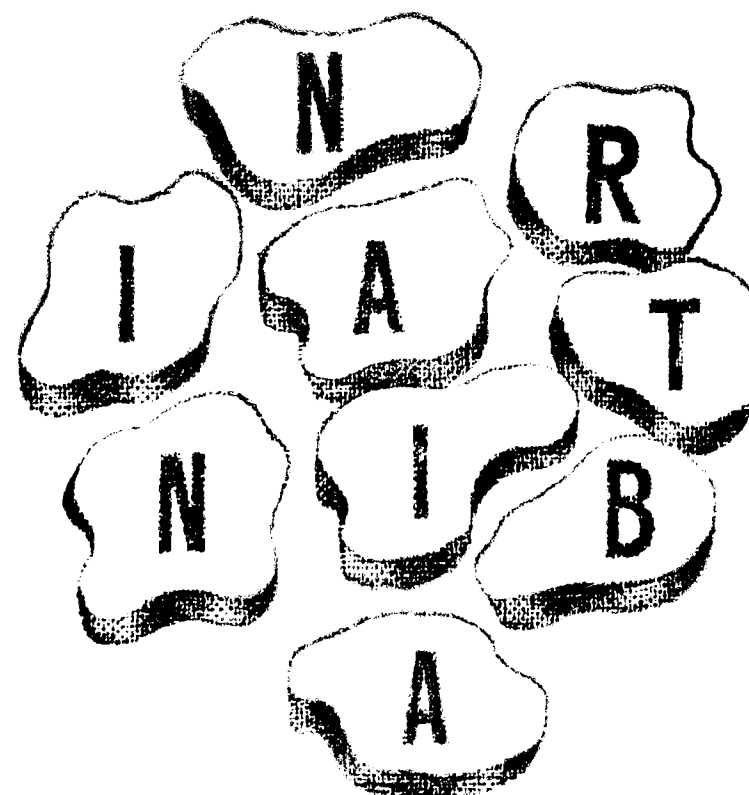
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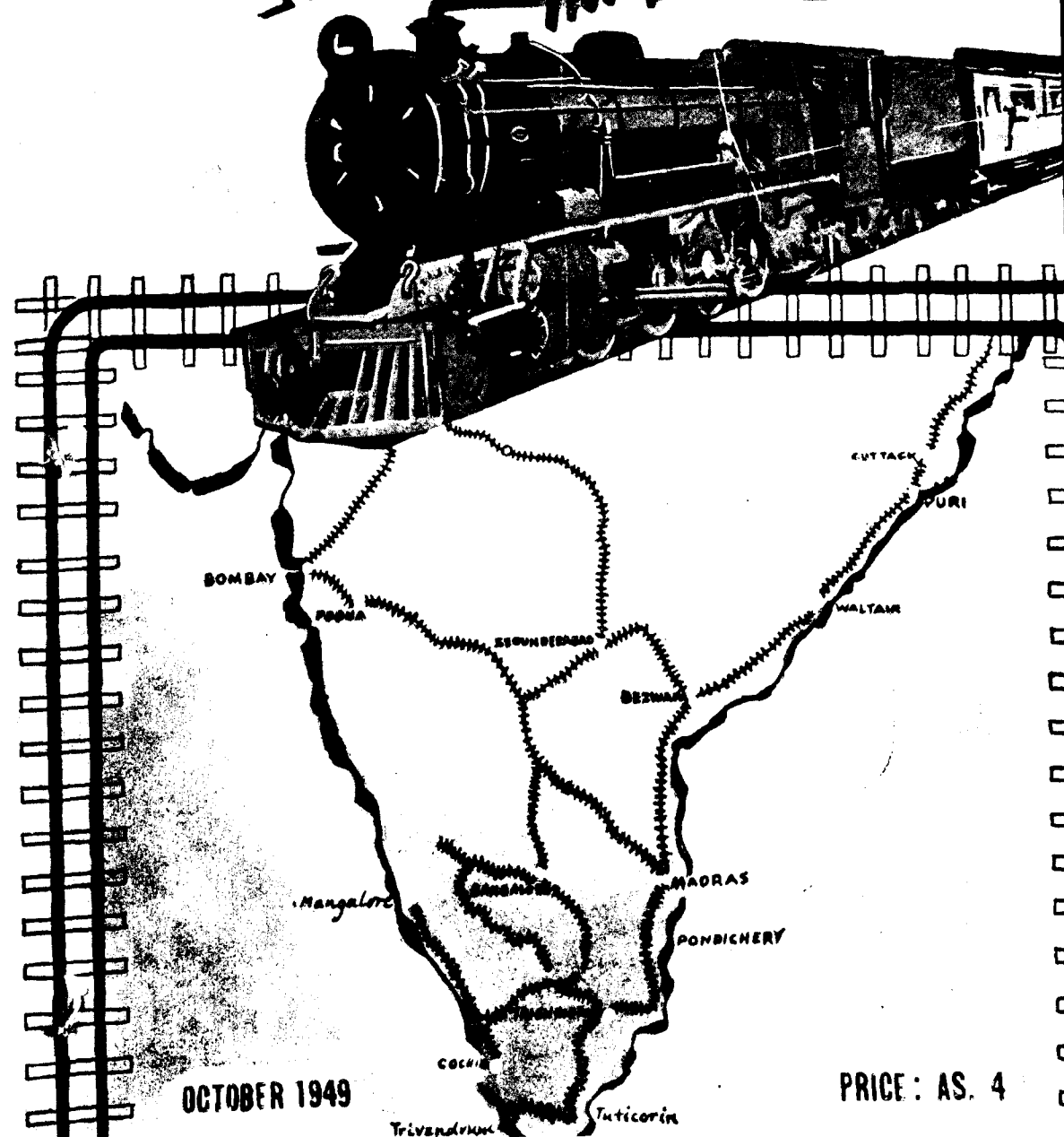
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SOUTHERN RAILWAYS Magazine

GISTRAR OF RAILWAYS



OCTOBER 1949

PRICE : AS. 4

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VOL. 1
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OCTOBER 1949

ISSUED
MONTHLY

CRIME ON RAILWAYS

IF reports in the daily press are any indication, the average man would quite reasonably conclude that the trend of crime on Railways is mounting, and would naturally feel apprehensive for the safety of himself or his family while travelling, or for the merchandise he must entrust to Railways for safe transit from one place to another.

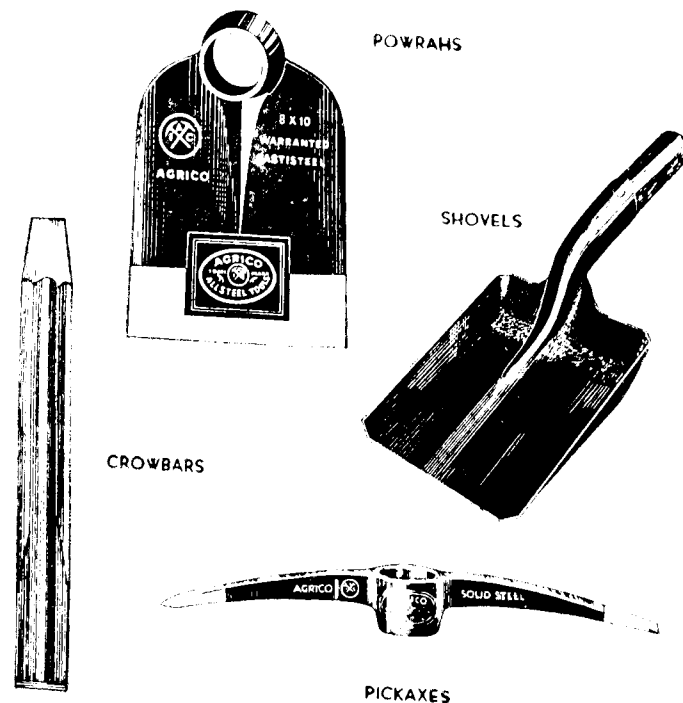
The crime position on Railways can be divided into two main groups; (a) the vicious type that does not even stop short at murder to acquire the prized booty, more often than not aimed at prosperous individuals while on train journeys; as also cunningly organized large-scale raids on goods trains, or even station offices holding large sums of money; and (b) pilferage of consignments, on a large or small scale from trains or station premises.

The robbery-with-violence, or even murder, of individuals in trains, is more probably done by the desperado-type, either singly, or in very small groups, and perhaps planned in advance. The organized raids on goods trains, or station offices, for valuable booty or cash, is probably the scheming of a seasoned campaigner in crime, an astute individual with brains, using gangster henchmen, who are not squeamish of achieving their vicious ends by means of brutality, if up against opposition. Pilferage from trains, or station premises, may also be cunningly planned, and diffused to give the impression of being the work of individuals always alert for the opportunity of sneaking off with merchandise.

For both types of crimes on Railways, the administration and their employees get their share of caustic, adverse, public criticism. If some unfortunate person is murdered or robbed of cash and valuables on a train journey, the railway authorities are asked why they are not taking adequate precautions to prevent the entry of undesirable elements into trains. But can the railway employees working on a train detect the so-called undesirables, when these are more often than not legitimate ticket-holders, travelling with the concealed motive of later indulging in a crime. Even the safety and security devices provided in carriages to prevent the entry of undesirables, especially during night travel, is no deterrent to these criminals who are astute enough to have devised methods of foiling even the best security devices. Then again, Railway employees are often accused of being in with these thieving gang, or themselves

(Continued on page 104)

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NOTES AND COMMENTS

Rail Transport in Tiruchi Priority Region

In the Tiruchirapalli rail priority region which covers the area served by the S. I. Railway, the rail transport position during the month ended August 20, 1949 was satisfactory. Twenty-nine steamers carrying food grains and coal were dealt with at Cochin Harbour. Consequently there was some delay in the movement of traffic carrying lower priority. During the period under review 17,012 wagons on the Broad Gauge and 32,783 wagons on the Metro Gauge were loaded as against 16,524 on the Broad Gauge and 33,508 on the Metro Gauge during the month ended August 20, 1943. The principal commodities moved were rice and paddy, sugar and gur, salt, cement, timber, fire-wood and charcoal, tiles, and edible oils. Non-priority traffic moved in wagon loads comprised 8 per cent of the total loading on the Broad Gauge and 4 per cent on the Metro Gauge.

Traffic, local to the S. I. Railway, is open under all classes. The following are the restrictions in force in booking to other railways: to G. I. P. Railway a quota of 15 wagons per day for traffic to and via Ittarsi; to B. B. & C. I. Railway a quota of two wagons per day for traffic to and via Ahmedabad district. Full information regarding restrictions in force etc., is available at all goods sheds and booking stations on the S. I. Railway.

Mr. Santhanam's Appeal to Businessmen

Addressing the members of the Hyderabad Chambers of commerce Mr. K. Santhanam, Railway Minister Government of India, observed that he hoped before long Nizam's State Railways System

would become an integral part of the Indian Railway System. For the present it was technically speaking an autonomous body for which some of the officers of the Indian Railways had been sent. He said that the State Railway was "as efficient as any other part of the Indian Railway System."

Mr. Sridharaka Naik, President of the Chamber, at the outset presented a memorandum which was followed by a speech by Mr. M. S. Lakshminarasimhan.

Replying to the address Mr. Santhanam observed he was glad to meet the representatives of the business community for they formed one of the two planks of Railways, the other being the third class passengers. It gave him great pleasure that the Chamber appreciated the improvements effected on the Railway Systems during the last year. The Nizam's State Railway, like the East Indian Railway at the time of partition experienced the same shock and there was great deal of demoralisation and if confusion had continued for some months more there would have been a complete collapse of the Railway System. Fortunately, conditions improved at the psychological moment.

Proceeding, the Railway Minister observed that it was certainly the duty of the business community to put forward their difficulties frankly and in fact they had to learn to criticise and yet respect one another. It was only through frank criticism on the one hand and frank appreciation on the other that they could develop democratic habits of self-Government. Mr. Santhanam added that he was rather surprised to hear them say that businessmen were using the goods sheds as store houses. He had found that merchants did not clear their goods promptly as they

should. Unfortunately, the business community did not realise the elementary fact that the Railways were not their own property. If one person took undue advantage of the facilities offered by the Railways it was not the Railway official that suffered but the entire business community.

Referring to representation that demurrage and wharfage charges were high the Minister

and said: "They had a moral responsibility, to prevent such pilferage." Adverting to the representation for reduction of first class fares, Mr. Santhanam said that the view of the Indian Constituent Assembly were that it was meant for richer classes and why should they take less when they were willing to pay that amount. If they introduced new special class there was nothing to prevent businessmen to choose either that class



observed that he was not inclined to take that view. Forty-eight hours had been allowed to take delivery. Two annas per maund per day in certain important stations like Bezawada, Hyderabad and Kachiguda and six pies per maund in certain other stations and two pies per maund in all remaining stations in Nizam's State Railway were not high rates, he added. The Railway Minister then said that he would order investigation, if merchants brought to the notice of the authorities cases of pilferage of coal in transit

or the first class. First class carriages would be maintained in such trains where there was demand and it would be removed from trains in which they went empty. Mr. Santhanam added that the claims of the Chamber would be considered when they reorganised the Nizam State Railway Advisory Committee.

Reduction of Rate Structure

Referring to the demand for reducing the rate structure, Mr. Santhanam said that they should

realise that while prices had gone up by 300 and 400 per cent rates had been increased only by ten to fifteen per cent. In this matter the Railways had been more generous to the public than fair to themselves. The rate structure was revised in 1948 and it was incorrect to state that they were retaining the rate structure of the old Government of India.

Mr. Santhanam referred next to the existence of congestion and said that after partition all traffic from Karachi had turned to Bombay. Some of the big goods sheds had crumbled in recent explosion. There was a great deal of congestion some months ago on account of all these factors. But they had taken all steps to clear congestions. They had built a port at Kendal and on the question of opening a port on the West Coast, the Committee's report was under their consideration.

The Railway Minister then stated that the Transport Ministry were keen in organising a tourist traffic department. But there were certain inherent difficulties in the development of tourist traffic in this country. In countries like Switzerland, the habits of the people and tourists were identical, but here they had to make special arrangements for the convenience of tourists. He was told they were losing Rs. 2,000 a month on the excellent hotel at Aurangabad and they opened about hundred hotels in the country each losing such amount. The subject was being approached in all seriousness and they hoped to achieve results, though slowly. If the commercial community and farsighted members among the public put up hotels they were prepared to give them all encouragement. Referring to the demand for a train from Bezwada to Bombay, the Railway Minister observed that there was representation to run a duplicate train to the Grand Trunk Express to prevent over-

crowding in the latter, but the traffic from Madras to Delhi did not warrant introduction of another fast train on that route. There was a proposal to run a train from Bezwada to Jhansi and the Minister said that he would examine whether it would be possible to link up Bezwada upto Nagpur. Concluding he said that there was general shortage of oil tankers in India and he hoped to put more of them on the line as soon as fresh orders for them materialised.

Development of Kakinada Port

Mr. K. Santhanam, Minister of State for Railways and Transport, Government of India was presented with an address of welcome by the Kakinada Municipal Council.

Replying to the address, Mr. Santhanam stated that it would be in the fitness of things to have Kakinada the District Headquarters on the main line; but they had to consider whether it would be in the national interests to divert the main line via Kakinada. When the Central Board of Transport met last time at Delhi, it was resolved to reconsider the whole question and direct the Railway Administration to conduct an investigation. It was their duty to consider the question from all aspects. Our country had to conserve all the resources and spend as economically as possible. There was deficiency everywhere and they had to take priorities into consideration. It was not an easy thing to find a solution to reconcile varying and conflicting views.

Regarding the Port also he had come with an open mind. Hitherto minor ports were the entire responsibility of the Provincial Governments, but in the new constitution they had come under the jurisdiction of the Central Government. The distinc-

tion between the major and minor ports was only an artificial one. They wanted more ports for the future industrial development of the country and minor ports also should be developed. They were subsidising the Vizagapatnam Port. So far as he was concerned, he said he would do his best for the development of the Kakinada Port.

The Minister then inspected the Port Railway Station and the Port Office and cruised for a while in the Kakinada Bay along with the officials and non-officials. Earlier Mr. K. Santhanam said that he was anxious to do everything in his power to give more comforts to third class passengers. Orders have already been passed to equip third class waiting rooms with electric fans and lights wherever possible. He added that the delay in the execution of some of the works connected with his department was due to scarcity of the requisite material, coaches, engines and technical personnel. He appealed to the people to help the Government in checking ticketless travel.

The Minister advised labour not to resort to strikes since the Railways had now become the property of the nation and strikes would cause loss to the people. The same thing was applicable to labour in all other nationalised industries. He wanted them to devise ways and means of settling their differences. He exhorted the people to play their part in consolidating the independence that they had won by fighting unsocial elements that hindered the peaceful progress of the country.

Quick Clearance of Railway goods

Speaking at the C. P. and Berar Chamber of Commerce Mr. Santhanam, India's Minister of State, for Transport and Railways,

appealed to the business community to treat the Railways as "common property" and not to make them "victims of your grievances."

Whatever the difficulties of the community might be, they must, he said, arrange to solve them independently and help the Railways to clear their goods with greater speed and not use Railway Premises as godowns.

He said that on the major part of the Indian Railway System goods had begun to move freely. Priority control was being gradually abolished and wherever it still remained in operation, it would be lifted soon. With the free movement of goods, the much complained of corruption would diminish considerably. From the reports he had received from all over the country, Mr. Santhanam said, he was told that corruption had appreciably diminished.

The Minister said that the Railways were making a drive to see that all pilferage and damage were stopped. They were also trying to speed up claims settlements and within the last six months, more than 90 per cent of the arrears, which had been pending for the last three years, had been cleared. The remaining 10 per cent would be cleared without delay. Hereafter, no claim, however large it might be, would remain unsettled for more than six months.

The freight structure on the railways, he added, had not been proportionate to the increased prices of commodities and even now they had raised the freights only to the minimum extent possible to enable them to balance the budget. "If prices fall and we are able to run the Railway Systems more cheaply, we shall certainly pass on a part of the saving to the public in the shape of better facilities or cheaper rates."

Reclassification

Mr. K. Santhanam said that any reversion to the four-tier system of accommodation on trains would only be an interim arrangement, pending the mass production of the new type of "integral coaches."

He said that while earnest consideration would be given to the recommendations of Central Advisory Council for Railways regarding reclassification, the Council had not yet considered the long-term plan. If their present recommendation was accepted, it would mean a practical reversion to the old system, with the difference that four classes would be available only on the main lines. The existing three classes would, however, be continued on branch lines.

The Government of India were considering the question of regrouping railways and they expected to make a final decision soon.

G.I.P.'s New General Manager

Mr. H. P. Hira, Chief Traffic Manager, G. I. P. Railway, will relieve Mr. A. C. Chatterjee as General Manager of that Railway when the latter proceeds on leave preparatory to retirement in January 1950, says a Press Note.

Nizam's State Railway

The Himayatnagar-Dhanora section of the Mudkhed-Adilab branch of the Nizam's State Railway has been opened for passenger traffic, it is learnt here. The section is about 19 miles on the metre gauge.

Amenities to Passengers on N. S. Ry.

Hawking of tea, aerated waters, cool drinks, cigarettes and other light refreshments, between 11 p.m. and 4 a.m. has been stop-

ped on the station platforms on the Nizam's State Railway in order not to cause disturbance to passengers who wish to have a night's rest while travelling by train.

A Press Note issued by Nizam's State Railway says that station refreshment rooms, will however, remain open to cater to the needs of passengers at important stations and junctions where passengers usually have to change or wait for trains, during all hours of the day and night.

Rail Facilities for the Movement of Raw Materials

The Standing Committee of the Central Board of Transport has decided to meet every demand for rail facilities for the movement of raw materials and products of the iron and steel textile industries.

The decision was taken at a special meeting of the committee to finalise the movement programmes for these two industries for the last quarter of 1949.

Mr. S. Chakravarti, Deputy Secretary of the Ministry of Transport, presided. Representatives of the Tatas and SCOB (Steel Corporation of Bengal) Steel Companies and of the Ministries of Transport, Railways and Industry and Supply were among those present.

Mr. Chakravarti, reviewing the programme for the current quarter, said that transport had moved the whole of current iron and steel production, but the situation had somewhat deteriorated in respect of stocks owing to the failure of the companies to utilise the facilities made available. The demands for the movement of raw materials had been fully met.

The Committee finalised the movement programme for the textile industry for the next quarter. It was stated that as against a target of 3,94,350 bales

the total of the present engineering during the current quarter 4,09,345 bales had been moved.

It would be recalled that the Central Board of Transport, in November last, accepted that certain topmost national priorities or objectives should be satisfied in full by a hundred per cent transport provision. These national objectives in relation to transport should *inter alia* subserve the achievement and maintenance of full production and distribution in industries accepted to be of national importance. It was decided that steel, textiles and cement should be the three basic industries to start with, for which hundred per cent transport facilities should be provided.

The decision to meet the demands of the iron and steel and textile industries for rail facilities in full was in accord with the decision of the Central Board of Transport. This decision is really encouraging to the industries at large as the aforesaid raw materials are the most essential commodities in the nation-building activities when all-out efforts are made for the food production in the country.

Provident Fund Rules Liberalised

The Ministry of Railways have issued orders liberalising the Provident Fund Rules in the case of temporary Railway Servants, says Press Note.

Under these orders, temporary Railway Servants will subscribe to the State Railway Provident Fund in accordance with the rules on completion of one year's continuous temporary service. At the time of confirmation, the Government will credit to the account of the Railway Servant an approximately equal amount plus interest thereon with retrospective effect from the second year of service.

These orders apply to workshop staff also except that in their case the Government's contribution will be credited on completion of three years' continuous service.

In the case of temporary Railway Servants who are discharged on account of reduction of establishment or physical or mental incapacity, gratuity will be paid for the period of temporary service at the rate of half a month's pay for each year of completed service.

Together with the liberalisation of the leave rules recently issued, these represent considerable improvement in the service conditions of temporary Railway Servants and fully implement in the recommendations of the Central Pay Commission that temporary servant with a little more than one year's service should be entitled to most of the privileges admissible to the permanent Government servants.

Kovvur—Polavaram Railway Line

The Government have decided to address the M. S. M. Railway to carry out a survey and estimate the cost of constructing a Railway line between Kovvur and Polavaram.

Polavaram is on the Godavari, near which the site has been chosen for the headworks of the proposed Ramapadasagar Project.

The Project has not yet received the administrative and financial sanction of the Government of India. Pending such sanction, the Madras Government are endeavouring to prepare all necessary schemes ancillary to the Project.

It is stated that the Ramapadasagar Project besides costing several crores of rupees, would require for its execution engineering man-power equal to that of

(Continued on page 113)



.....Unassuming and Unostentatious.....

B. N. R.'S NEW D. T. M. A.

Sri A. N. Roy, who has just relinquished the post of the Public Relations Officer, Calcutta Railways, and has proceeded on leave before returning to the Bengal Nagpur Railway, was previously District Transportation Officer on the Bengal Nagpur Railway. After matriculating from Calcutta University, Sri Roy proceeded to the U. K. for higher education in 1922, first in the University College of Wales at Aberystwyth, and then he went to Christ's College, Cambridge, graduating with honours in Economics and History. He also took a special course of lectures at the London School of Economics and the Teacher's training course at Oxford. When he returned to India, it was to Railways that he turned for a career.

Sri Roy joined the old Assam Bengal Railway Company as a Probationary Assistant Traffic Superintendent and within a year was made permanent (1930).

Several special jobs fell to him in the early years of his service, particularly investigation of pilgrim traffic and road competition, and it was not long before he was promoted as Personnel Officer.

When the Assam Bengal Railway was nationalized and amalgamated with the Eastern Bengal State Railway—the new line being renamed Bengal Assam Railway—Sri Roy was posted as a District Traffic Officer on the Metre Gauge Section at Domohani (in the Dooars) during a period of heavy military traffic on that line.

He also served as a District Traffic Officer on the Broad Gauge Section in charge of Paksey District and then to Chitpore District of the Bengal Assam Railway. Service at the latter coincided with the terrible riots of 1946-47 in Calcutta and Sri Roy's good work at Chitpore was the subject of appreciation by the Chief Transportation Manager as well as the Divisional Superintendent.

After partition, he was transferred to the Bengal Nagpur Railway in the rank of District Transportation Officer. He took over as Public Relations Officer, Calcutta Railways, in June, 1948 and continued in that capacity till 31st August, 1949.

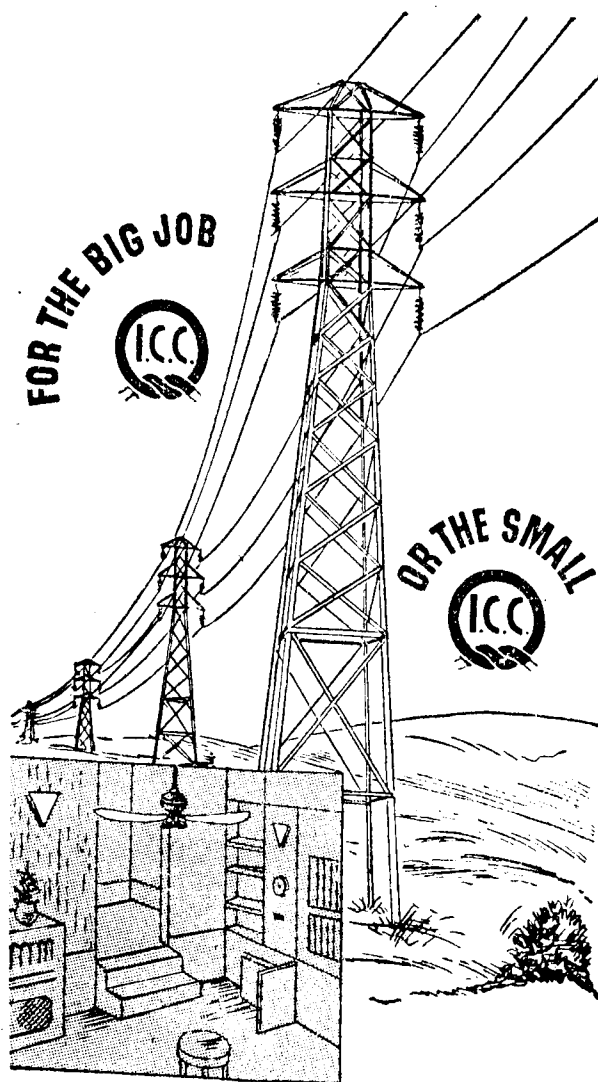
Sri Roy has won the esteem and admiration of all who have met him and has nearly 20 years of meritorious service to his credit.

OUTGOING JT. P.R.O. OF B.B.C.I. & G.I.P. RLYS.

Mr. G. De P. Leeper, Joint Public Relations Officer, B. B. and C. I. and G. I. P. Railways has recently left the shores of India on a long leave. It is understood that Mr. Leeper is availing long leave preparatory to his retirement from the Railway Service. It may be recalled here that Mr. Leeper joined Railway Service in the year 1928. As a Public Relation Officer, he has done well in his post always keeping abreast the

prestige of Railways. We wish all happiness and prosperity in his well earned rest.

We welcome Mr. M. G. Jhangiani who is likely to succeed Mr. Leeper. We can safely mention here that Mr. Jhangiani ought to have been promoted as Public Relations Officer long before; but unfortunately owing to peculiar circumstances his claims were set aside then.



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SHORT STORY

Dame Fortune's Caprices

By T. S. N. Row

Fortune seemed against Mohan he and his friend almost missed the train from Madras to New Delhi he did not have his identification card with him in the examination hall his fountain pen was inkless and two months later two telegrams came

It was a cold morning. A faint breeze was blowing in from the sea over the quiet streets of Madras City in the early morning. A motor car was speeding along the Esplanade towards the Central Station. Inside it Mohan and Ksheer Sagar were restless. They had not booked their berths to Delhi and they knew how difficult it would be to get Second Class tickets in the usually crowded Grand Trunk Express.

The car had barely drawn up under the portico of the station when Mohan and Sagar jumped out and hurried to the Inquiry Office. Their fears were realized: no upper class berth was available. But they had to get to Delhi by that train in order to be in time for the I. A and A. S. Examination. Cursing their carelessness at not reserving berths, they bought two platform tickets and walked on to the platform. The train was, of course, overcrowded: streams of passengers were jostling and elbowing each other to get inside. The prospects of boarding Express were not bright. Mohan's hopes rose, however, when he spotted a green-turbaned figure some distance away. The two boys pushed their way to him. They explained the urgency of their case, and appealed for help. Luck had not deserted them, however. Two passengers had cancelled their reservations and Mohan and Sagar were soon seated in their berths.

A Friend Indeed

Three days later in Delhi, Mohan and Sagar left their hotel in an uncomfortable tonga bound for the Examination Hall. As they alighted at the entrance, after

the inevitable haggling over the tonga fare, a clerk asked them for their identification cards. Sagar promptly produced his; but Mohan fumbling in his pockets, realized he had forgotten to bring the card with him. While he was emptying his pockets, a man passed then Mohan recognized him as a friend of his father and, to his joy, found that he was the Superintendent of the Examination.

With his help the obstacle of the missing identification card was soon surmounted and 20 minutes later, Mohan, Sagar and their co-examinees were at their desks reading the question papers for which they had studied so hard and so long. A cursory glance at the questions and Mohan was at confidence. He dug his hand into his pocket for the Parker his father had given him and which he hoped would pen him to success. The pen was there but when he put it to paper he discovered that it was inkless. Fortune seemed to have deserted him a third time. Finding out about he looked at Sagar. The latter understood and to Mohan's pleasure sent him through the invigilator a pen. Sagar had brought two with him.

Two uneventful months rolled by. It was a typical summer evening. Mohan was just leaving his house when a messenger boy handed him a telegram. Opening it he whooped with joy. It was from the Secretary, Federal Service Commission, New Delhi, and conveyed the news that Mohan had passed the examination. All those dreams of becoming an officer in the Accounts and Audit Department were on the way to being

fulfilled. Happiness breeds generosity as the message boy discovered. It was the first time that a tip of five rupees nestled in his greasy palm.

More Telegrams

Sagar too received a telegram; it was a sad story. He had failed in the examination. But Sagar refused to accept defeat; he couldn't have failed; it was impossible. So he wired back to the Secretary insisting on a re-scrutiny of his papers. When he picked up the receiver to hear Mohan's good news, he refrained from telling Mohan about his own case.

Mohan was indeed so elated at his own success that he had forgotten to inquire how his examinee had fared. Mohan arranged a grand dinner to which he invited a host of friends, including Sagar, to celebrate the occasion. Sagar attended and, though his mind was uneasy, on the surface he was as jovial as any in the decorated hall.

A week later Sagar received a second telegram from the Sec-

retary. He breathed a sigh of relief. Due to an oversight, he had been placed in the wrong category. Actually, he had done very well ranking third on the list of successful candidates. The Secretary expressing apologies, regretted the inconvenience and disappointment the error must have caused. While Sagar was still congratulating himself on his good fortune the telephone rang. It was Mohan. "For heaven's sake come around immediately. Something unbelievable has happened." When he arrived there, he found a dejected Mohan, a changed man indeed to that of a week back. Without speaking, Mohan handed Sagar a telegram. This is what it said:

"COMMISSION REGRETS INFORM YOU NOT AMONG LIST SUCCESSFUL CANDIDATES IN I. A. AND A. S. EXAMINATION STOP TELEGRAM SENT ERRONEOUSLY LAST WEEK ANNOUNCING YOUR SUCCESS ATTRIBUTABLE TO OVERSIGHT AND NEGLIGENCE ON PART STAFF CONCERNED STOP SAME HEREBY CANCELLED."

(Continued from Page 97)

guilty of indulging in petty pilferage. Is it therefore fair to judge the entire moral rectitude of lakhs of Railway Employees, because of the few who may be corrupt?

It is said that Indian Railways pay out about two crores of rupees annually as compensation for loss and pilferage of luggage and goods. Obviously, no administration would sit back complacently at a financial loss of this magnitude, without taking all practicable action to cut down these losses.

Then where lies the solution? Obviously, the prevention of crime in society is the responsibility of the police authorities, and this problem is not peculiar only to this country. We can also reasonably ask what is the average citizen's attitude towards criminals? If it is one of complacency, and thinking in terms of "I'm not my brother's keeper," then the country can expect crime becoming more frequent and more audacious. Therefore, the solution apparently lies in a constant threefold vigilance and co-operation on the part of the police, the railways and every citizen of the nation.

PRESENTING MR. RAILWAYMAN

The Train Examiner

By A. H. Pearson

 FTEEN when travelling in a passenger coach on a train you may have noticed some slight defect in your compartment—perhaps a bulb missing, a sticky window shutter, or a stiff door handle. These are minor defects and can be put right in a few minutes. But have you ever had the experience of being aware of a major defect in a passenger, a defect which would render that coach unfit, or dangerous, to move even a few more miles at high speed? The odds are that you have not had that experience, and on all your travels the coaching stock on railways run extremely smoothly, swiftly and efficiently. In fact, the rhythm of your coach clicking merrily over the rails acts as a lullaby, and makes you doze more often than not even on a short journey.

Why is it that rolling stock on railways functions so well? Because, there is a small army of railwaymen, of the rolling stock department, whose job it is to keep an ever watchful eye on every carriage and wagon that rolls over a railway track, and the man who does the major part of this job is known as the Train Examiner.

During a halt at a large station you may have heard a clang, clang, going on under the carriage. Look out of the window and you will find a man with a long handled hammer tapping the wheels of your coach. You may wonder why he is doing this. When the hammer head contacts the tire of the wheel, the sound given off is an indication of the condition of the wheel tire. If the sound is not true, then the wheel-tapper must inform the Train Examiner, who will then take

appropriate action. This wheel-tapping is done right throughout the train, and at every large halt, where there is a train examining depot.

Trains run during all twenty-four hours of the day, and therefore, train-examining gangs, under a Train-Examiner, work usually in eight-hour shifts throughout the day and night. When the Train Examiner goes on duty he must first check up all tools and plant under his care. Then he takes a muster of the staff working under him, allotting each man his particular duty. Each gang consists of fitters, wheel-tappers, oilers, repackers, vacuum pipe fitters, electric fitters, bhisties and sweepers.

Now, let us see how the gang operates. As a train comes to a stand at the station, the vacuum men go up to the driver to enquire if he has had any trouble, with the vacuum gear on the carriage or wagons. If there has been any trouble, the Train Examiner and his men get started on locating the leak. Hose couplings, train pipes, vacuum cylinders are all carefully examined. This defect must be found, as the braking power of the whole train may be jeopardized by a leak.

Even at train-examining stations, trains have a limited halt according to schedule, and this must not be exceeded. So the Train Examiner and his men must go through the whole train swiftly and expertly, the wheel-tapper tapping wheels, another man feeling bogie boxes for signs of heat, another checking up on brake-gear, the electrical man giving the once-over to electrical equipment on each coach, and the

bhisties stalking carriage roofs filling up overhead tanks.

After the train is checked, each man will make a report to his Train Examiner. Where practicable, minor defects are rectified there and then, but if any coach has developed any serious defect while on the run, which renders it unsafe to run, then that coach must be detached from the train, and sent to the 'sick line' for the necessary repairs. The 'sick line' is the popular railway phrase used to signify the Train Examining Depot.

Wherever man inhabits a confined space even for a short time, there you must expect to find something that needs cleaning up. Here is another important aspect of the Train Examiner's duty. For this purpose, there is a special cleaning gang, who go round to each carriage at large stations during the stoppage time, and get to work to clean up compartments, flush out lavatories etc. Then at the end of a train's journey, the coaching rake is taken to the special washing siding, where it is given a thorough bath, wiped down, and disinfected, and clean and ready for its next journey.

The Train Examiner also has his contacts with the public who travel in trains, and most of this is in the nature of grouses. A passenger will complain about a sticky window, or door handle, another will bring to notice the thin trickle of water coming from the tap in the lavatory, not enough to provide him with a wash; still another will complain about dim lighting. The Train Examiner must do his best to remedy all defects reported as promptly as possible. Not infrequently, the Train Examiner will come up against the passenger with an 'accident' phobia. This nervous type is always imagining that any

strange noise from under the coach must presage a developing major defect, which if not attended to at once, will cause the coach to fall to pieces. Well, even here, the passenger may be right, and the Train Examiner must at least check up to ensure that there is nothing wrong.

Don't for a moment think that the Train Examiner and his gang confine their attention to passenger-carrying trains only. The goods train, moving along the tracks more slowly but steadily, carrying the nation's merchandise, is just as important, and gets the same attention, by another train-examining gang. This is what happens when a through Goods Train rolls into the station yard. The men split up into two groups; one tackling the train from the engine end and the other from the brake-van end. As with the passenger trains, the vacuum and brake-gear, axle boxes, couplings, etc. are thoroughly examined and defects noted and reported to the Train Examiner, who decides whether a 'running repair,' like a brake adjustment, repacking of a hot box will do, and is done during the stoppage of the goods train. If the damage detected is of a more serious nature, the wagon is labelled as 'damaged,' and will soon be detached and sent to the 'sick line' for attention.

Sometimes goods trains carry awkward merchandise known as 'out of gauge' loads. These are loads which protrude over the sides of a bogie rail truck, or reach a height which may foul a station overbridge. This is known as infringing standard moving dimensions. When such loads are on a goods train the Train Examiner has to take careful measurements to avoid the possibility of an accident. The rocking and oscillation of the train may displace the load a few inches here and there, but these inches make

(Continued on Page 108)

SCIENCE IN ANCIENT INDIA

By A. F. Joseph

Ancient India: The impression that the ancient system of our philosophy has had on its modern trend of thought, is too well known to need any mention here; so is the service that the Vedas have rendered to the cause of History in preserving and handing down to posterity, the earliest accounts of the Indo-Aryan race. In addition the classical literature of those golden ages, has influenced, to a very great extent, the poets of the German Literary Renaissance. But the SCIENCE of Ancient India is, of equal if not greater importance; for India possessed a very highly developed system of the various sciences, at a time, when practically no other country had any exact science at all; and works on "Indian Science" were studied by Arabian Scientists of the 8th and 9th Centuries, and later on, their Latin versions formed the nuclear basis, on which Western Science of the 12th to 17th Century period was built up. I shall now proceed to hold a very brief survey of the progress of science in Ancient India up to its stagnancy and decline in the middle of the 12th century.

Metallurgy & Engineering: The Kutub Pillar 24 feet high weighing over 6 tons, made of the purest unrusting steel, shows a skill in metallurgy, which Occidental Science did not achieve until towards the end of the last Century. The pillars of Asoka, varying from 40 to 50 feet in height, and weighing over 50 tons prove great dexterity in the stone cutting technique, and moreover, how they overcome the problem of transporting such heavy masses over great distances in those days, is still a mystery. The process of extracting pure zinc from its ore, known to the modern world as 'distillation per decensum,' is given in exact detail, in *Rasaratna Samuchaya*.

Geometry, Astronomy and Arithmetic: A number of Geometrical problems on the lengths of sides, diagonals, chords of plane—figures on right angled triangles and the like are given in *SULVA SUTRAS* which date as far back as the 3rd or 4th Century B. C. The system of Astronomy is for the most part indigenous though you find a few traces of the influence of ancient Indian works like *Romaka Siddhantha* and others in modern Western Astronomy. In Arithmetic, the system of counting by powers of ten belongs to India. The so-called ARABIC Numerals have actually had their origin in India, and were subsequently adopted by the Arab Scholars in their Arithmetical System. Names of integral powers of ten, up to 10 raised to the 53rd power, are given in *Lalitha Visthara*, a Mathematical treatise of the 1st century A. D. The nine digits and zero are used in several works even prior to the 5th Century B. C.

Medicine: Most remarkable advances were made in the science of medicine even as far back as in the 2nd or 4th century B. C. *Charak Samhitha* and *Susrutha Samhitha* both of the 4th Century are elaborately detailed treatises, the former reading like a report of a Congress of medical experts of various lands, and the latter, containing amongst other things, a passage on surgery, which to say the least, sounds very modern.

Algebra & Trigonometry: Methods of solving quadratic and other indeterminate equations are given in detail in *Mathematical Works* dating back to the 6th Century A. D. These methods are said to be the "Finest ones in the theory of numbers before the time of La Grange." Trigonometry was first developed in India; the name

of the SINE ratio in India was "Jiva". The word became 'Jiba' or 'Jaib' in Arabic, 'Sinus' in Latin and 'Sine' in English.

Impact of Indian Scientific Learning on Arabian & European Culture: In Arithmetic, India's chief contribution to the West was the so-called Arabic numerals, which, as has been said before, had their origin in India. Arabian Scholars wrote several treatises based on Indian Originals, one of which bears in the Latin Translation, the title "*Algoritmi de numero INDORUM*." Rabbi Ben Ezra wrote in the 12th Century that all Arabian Scholars do their multiplications, divisions and extractions of roots as is written in the ancient Hindu Mathematical works.

Algebra of ancient India, was a bit more than what the cleverest of Arabians could master, and hence they learnt only the easier parts of it. A more universal adoption of Indian methods, by them, would have rendered the progress of Algebra in Europe more rapid. In the days of the Caliphs, many Indian Scholars were invited to Bagdad to teach the art of medicine and healing. Indian works like *Charaka Samhitha* were translated into Arabic in their entirety, and are often quoted as authorities in the Latin translations of the works of Avicenna (Ibn Sina) and others.

The use of Mercury Compounds was borrowed from India: and while on the subject, it is worthy of mention that PARACELSUS who practised it in France, was condemned by the Paris Faculty in 1566, as an innovator: one of the curious paradoxes of History. The Astronomical Works of Aryabhata (A. D. 476) and others were translated into Arabic, and Arabian Scholars continued the Indian practice of calculating Longitude with respect to Ujjaini.

Decline of Science in India: Since the 12th Century onwards, however, there was a definite stagnation in the progress of Science in India: and since that date no work of outstanding merit was produced until the very recent times. Buddhist monasteries were of yore, centres of learning and cultural progress: and hence the decline of Buddhism and the destruction of Buddhist monasteries, have been cited as one of the reasons of this decline; the Mohamedan invasions and the continuous state of chaos and war that was prevalent then in the country was also another serious deterrent to scientific progress; still a third reason given by the others is the rise of Brahmanism. Together, all these reasons brought about a complete cessation in Scientific progress, which received an impetus only toward the beginning of the last Century.

(Continued from page 106)

all the difference between safety and disaster. It is the Train Examiner's job to adjust these loads to keep them within the standard moving dimensions.

When you come to the end of your train journey, you may feel a little grimy, your luggage may be a little dusty, and so too the compartment in which you travelled; but this is the kind of dirt that can hardly be avoided, as a

fast moving train must collect dust on its journey. But your train has moved fast, your coach, and every coach on that train, has sped along the rails for hundreds of miles, with you taking no anxious thought even for the next few minutes ahead. So when you step out of the train, remember the ever-watchful Train Examining railwaymen, who have kept the coaches running swiftly and smoothly.

BRITISH LOCOMOTIVES LEAD THE WORLD

BIRTH OF AN ENGINE

In 1814, George Stephenson, the son of a colliery engineman at Wylam, Newcastle, constructed the first locomotive. Within a generation this great invention began to revolutionise the transport system of the world. Britain, homeland of the inventor, has retained its lead in the production

works the Company operates in the Glasgow district; it is the largest organisation of its kind in Europe, and its record of experience is unequalled anywhere. While the present Company was formed in 1903, it is based on the merger of three old-established firms of locomotive builder whose foundation goes back to the year 1833.



IN THE TESTING PIT: Qualified inspectors closely check the behaviour of each completed engine under realistic working conditions. Steam is raised in the boiler and the engine moved about in the testing yard of the Springburn Works.

of locomotives and these costly and complicated engines form an important part of the country's exports to all parts of the globe.

This series of photographs illustrates the construction of locomotives from the drawing board to the testing pit. It is a story of engineering skill of a high order, check and counter-check at every stage of production. The pictures were taken at the Springburn works of the North British Locomotive Company, one of three

Locomotives vary very considerably in size and type. They can be steam, diesel electric or electric; on an average, however, it takes 16-18 weeks to build a locomotive. North British Locomotives have built 26,000 since 1903 of which only 9,000 were produced for Railways in Great Britain—the rest went to equip railways all over the world. In fact, there is hardly a country with a railway system anywhere in the world that did not buy a number out of those 17,000 locomotives which were exported.



MACHINING TO SIZE: Rough forgings are passed to the Machine Shop for precision machining to exact size. Operator (he has been with North British Locomotives for just over fifty years) is seen milling the surface of a connecting rod.

MADE TO ORDER

The average steam engine (of the type illustrated in our

photographs) costs in the region of £24,000 (Rs. 3,20,000), whereas a diesel electric locomotive in the 1,800 H. P. range may cost any-

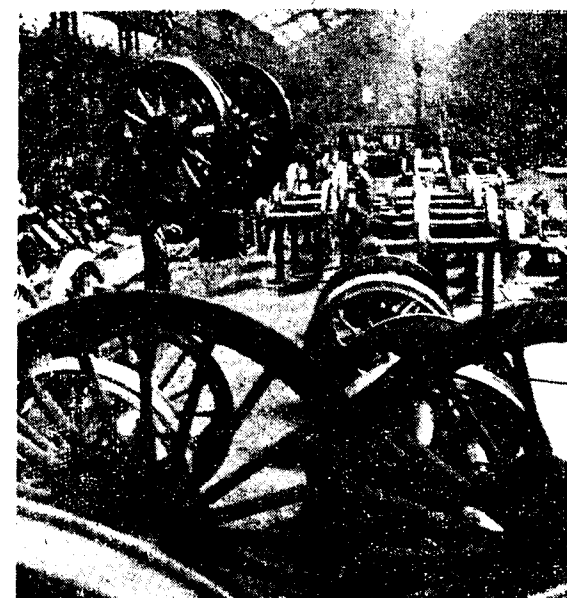


GENERAL VIEW OF THE ERECTING SHOP: In the foreground, crane carrying the 'Cab' of an engine. The completed locomotives seen in the picture are ready for the testing pit. They are part of an order finished at the North British Locomotives works at Springburn, Glasgow, for the South African Railways.

thing up to £45,000 (Rs. 6,00,000). The average life of the steam locomotive can be 50 years and over, provided replacement of specific assemblies is made at certain intervals, but in the main the normal life span is taken as being

6,500 gallons and is designed to enable the locomotive to work in districts where water is scarce.

Employing some 5,000 men and women at all trades, the works have a capacity of from five



WHEEL ASSEMBLY SHOP: A Corner of the Wheel assembly shop showing wheels mounted in various stages of completion. Assembly consists of fitting axles, crank pins, which are pressed in under hydraulic pressure and final machining and greasing.

from 30 to 35 years after which time more up-to-date types are usually purchased in replacement.

These engines, seen in the course of production, are part of an order for 50 class 19D mixed passenger and freight engines built for the African 3' 6" gauge. It is not a locomotive designed for high speed, as many of the sections in which it will be operating carry a speed restriction of about 40 m. p. h.—naturally much higher speeds are possible where track conditions permit. The particularly large tender has a water capacity of

to seven of the heavier type steam locomotives per week, but all other types of modern locomotives are also built.

Upwards of 450 drawings may have to be made of individual parts of a locomotive; these are analysed, the production is planned. The main processes in locomotive building are: making the frame; building the boiler; preparing wheels and axles; casting and machining the cylinders; making valve and motion gear; erecting the locomotive; and testing the finished engine.

LOCOMOTIVE REPAIRS AND THE ROLE OF MACHINE SHOP EQUIPMENT

By K. N. Verma, G. I. P. Railway, Parel

Locomotive repairs require the use of many types of machinery and the services of many different classes of mechanics: machinists, boilermakers, blacksmiths, etc. There may be variations in tools or methods employed according to the quantity of work or type of locomotive handled, but in general all the modern locomotive workshops follow somewhat definite lines. Before dealing individually with every type of machine used in an up-to-date locomotive workshop, I would like to give a brief description of Locomotive repairs itself.

Dismantling the Locomotive.

THIS is the first process when the locomotive is placed in the Erecting Shop and dismantled. This process is also known as stripping. In this process, the main rods and valve mechanisms which are liable to obstruct work are removed. This is accomplished by lifting the Boiler and its attached components. Overhead cranes are used during this operation. After raising the Boiler, the wheels are rolled out or the boiler is moved to another position and placed on blocks and jacks. Usually the boiler frame, cylinders and cab are not disturbed, but this depends on the nature of repairs necessary. It may be necessary to remove the cab when heavy repairs are needed on the fire-box; even the boiler has to be removed from the frame. But this depends on the nature of repairs.

After the wheels are rolled out, all parts such as spring rigging, pistons, crossheads and guides, valves, etc. are then stripped from the frame and cylinders and the Driving Boxes are removed from the Axles. If a new firebox is required the entire boiler is removed to the Boiler shop where all parts needing replacement are changed or repaired and those which are in good condition are stored until the boiler is ready for assembly.

All parts requiring repairs should be given a bath of hot water and lye and the grease and dirt removed. After cleaning the parts thoroughly they should be properly

inspected and the necessary repairs should be noted down. Arrangements should be made to stamp the Engine Number on the different parts or use some other method to avoid mixing up and for easy identification.

The Process of Repairs.

After the wheels are removed they are taken to the wheel shop placed on a lathe and a new contour turned on both tyres simultaneously. If the tyres are worn to the minimum limit of thickness they must be removed from the wheels and replaced with new ones. Tyres are bored to a slightly smaller diameter than the wheel rim, then heated and shrunk on. The journals and crankpins are then trued up or replaced with new ones and the wheels are then ready for use.

Wear on the interior walls of the cylinder due to the motion of the piston causes a shoulder to form at each end. This must be removed by re-boring. If the re-boring of the cylinder only makes slight difference in the diameter, it may be compensated by replacing the piston rings with others of large diameter. But if the diameter of the cylinder is considerably enlarged a liner should be inserted. This liner is bored to the desired size, thus restoring the cylinder's original dimensions. The reciprocating movement also causes wear on that portion of the piston rod which passes through the packing. This may be machined off

Drilling jigs are an essential part of the repair shop equipment and will effect a great saving in time of laying out work. Properly designed jigs speed up the work and render accuracy easy of attainment. Every shop should have a complete set for all the various parts which they may be required to drill in the course of the repair operations. A jig should be provided for the cylinder heads, hub plates, steam pipes, smoke box parts etc. of each class of locomotive.

Assembling the Locomotive

When the work of overhauling is nearing completion and repairs or replacement of parts made, the truck and driving wheels are assembled over the pit and the boiler with the spring rigging in place is lowered on them. The wheels being so placed that their boxes, which have been previously attached to the axle, will enter the frame jaws. The shoes and wedges are then put between the frame jaws and boxes and pedestal braces bolted to the frame. The wedges are then adjusted to take up any play between the box and

jaws and the liners with which the frame shoes have been fitted are tested by measuring with a trammel the distance between the wheel centres on both sides of the engine. If the measurement shows that the axles are not parallel, one or more of the shoes must be removed and planed off as required, and the two sides squared with relation to each other.

The pistons are placed in the cylinders, keyed to the cross-heads and the valve mechanisms coupled together. The main rods are then put on, the valves are set and guide rods erected. The various cab fittings that may have been removed in the overhauling are refitted and the entire job given a thorough final inspection. The operation of various parts are further tested. The locomotive is then released for breaking-in and then placed in regular service.

The operations as explained above indicate very clearly that Machine Shop plays an important role in a Modern Workshop for repairs of Locomotives. General description and advantages of various types of Machines used will be given later.

(Continued from page 90)

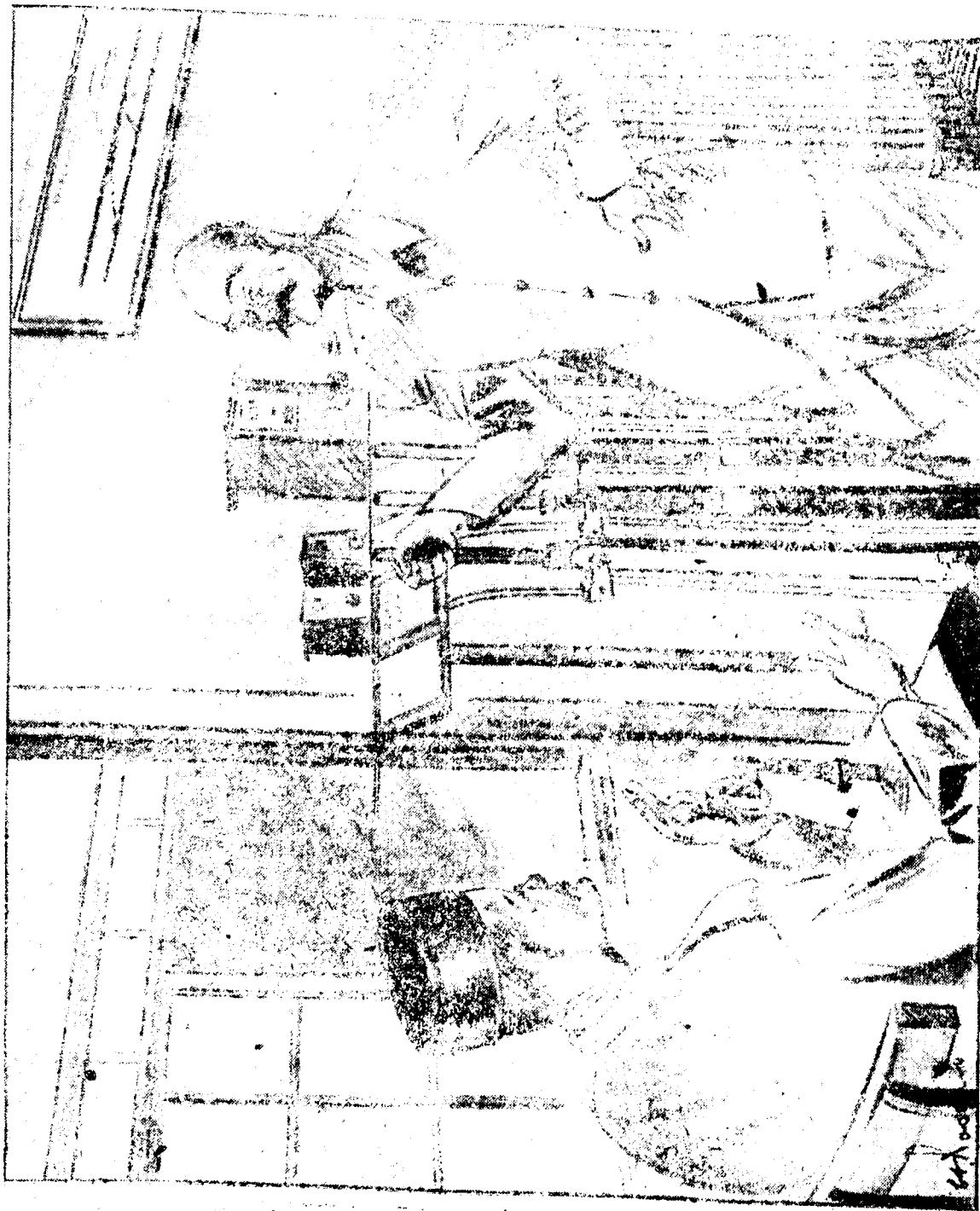
services in the Provinces. As for steel and cement, the Project would absorb such a quantity as to completely starve out other schemes for at least ten years. In view of these considerations and in view of the demand now made for the early execution of

the Krishna-Pennar Project to serve the needs of the Southern Andhra districts, the question for consideration of the Ministers is which of the two Projects should be preferred, Ramapadasagar or the Krishna-Pennar for immediate execution.

RAILSKETCH

"Do Number 28." "Do!" (i. e., Set the point for line number 2)—2 Cabin A, S. M., gives at order in the vernacular, to the Cabin Signaller for the setting of points for a particular line. The setting of the points may necessitate the pulling over of two or more levers. Cabins may have as many as over a hundred levers, but the number of levers does not disturb the calm of the Cabin Signaller in his work. Continued practice has made him as familiar with the many levers in the lever frame as a typist is with the letters of the typewriter keyboard.

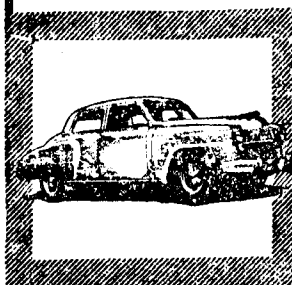
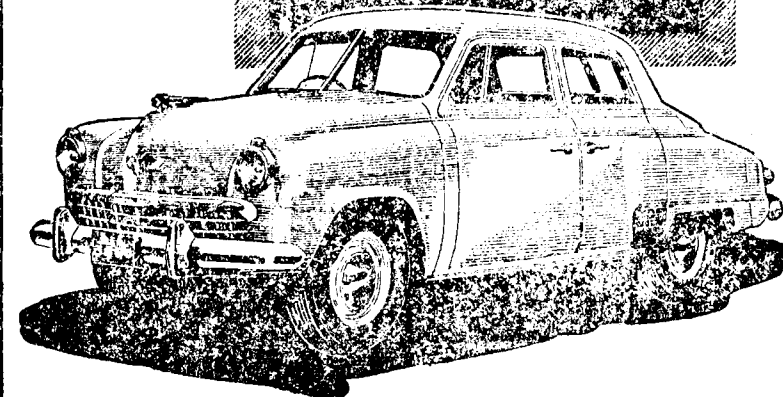
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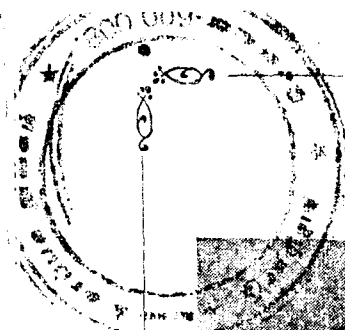


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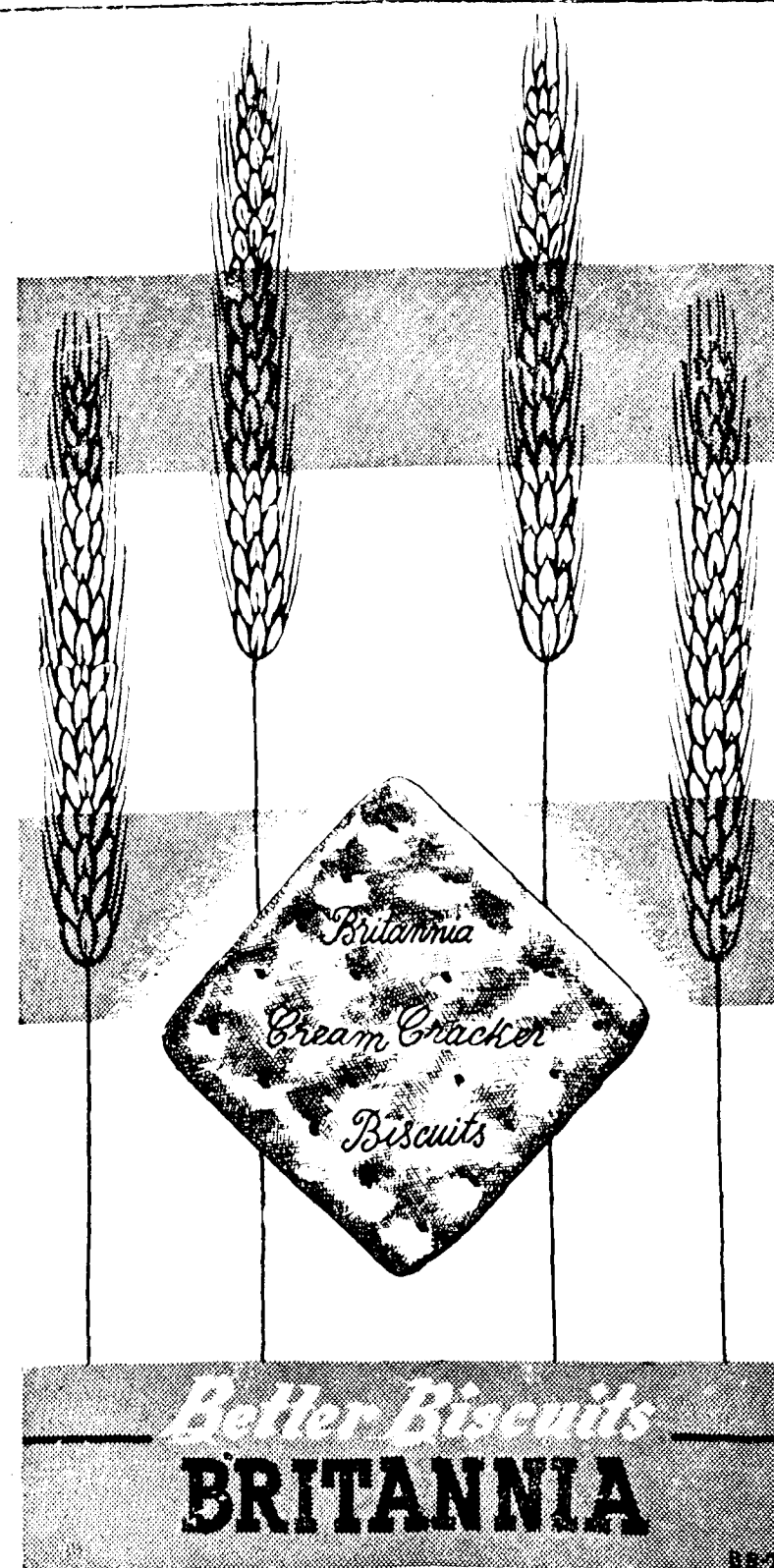
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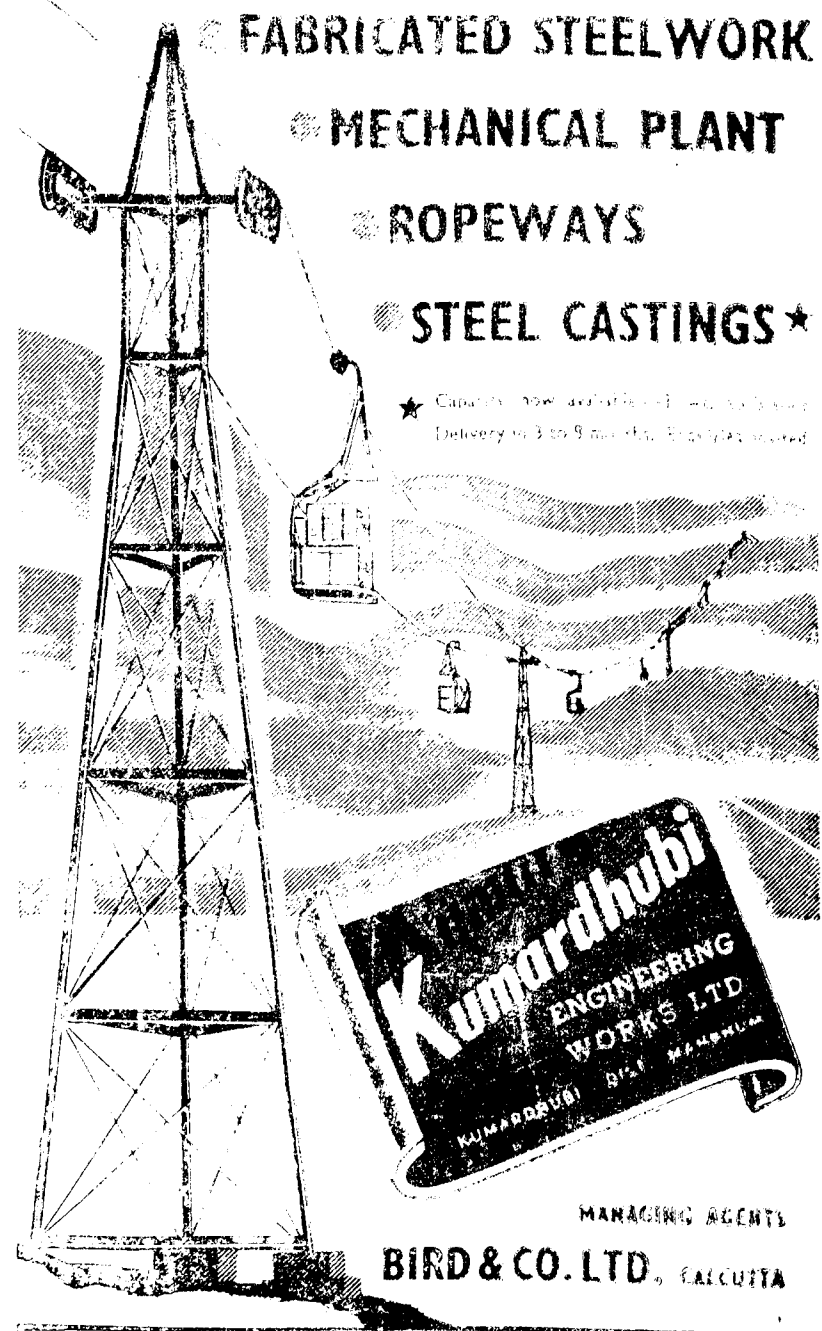


All the Staff of the "Southern Railways Magazine" extend their hearty felicitations to Sundar Rao, Advertisement Manager on the occasion of his wedlock with Sakunthala Bai and wish all happiness and prosperity. The Managing Editor acknowledges the congratulatory messages sent by H. E. Governor of Madras, H. E. Governor of Bombay, H. E. Governor of West Bengal, H. E. Military Governor of Hyderabad, H. E. Governor of Assam, H. E. Governor of Bihar, H. E. Governor of Orissa, H. E. Governor of C. P. & Berar. Hon'ble. Sri. K. Santhanam, Dy. Minister of State Transport & Railways, New Delhi; Hon'ble. Sri. P. S. Kumaraswamy Raja, Premier of Madras; Hon'ble. Sri. H. K. Mahtab, Premier of Orissa; Mr. A. C. Chatterjee, General Manager, G. I. P. Rly., Bombay; Mr. K. P. Mushran, General Manager, B. B. & C. I. Rly., Bombay; Capt. E. J. Austen, Editor, B. B. & C. I. Rly. Magazine, Bombay and others.



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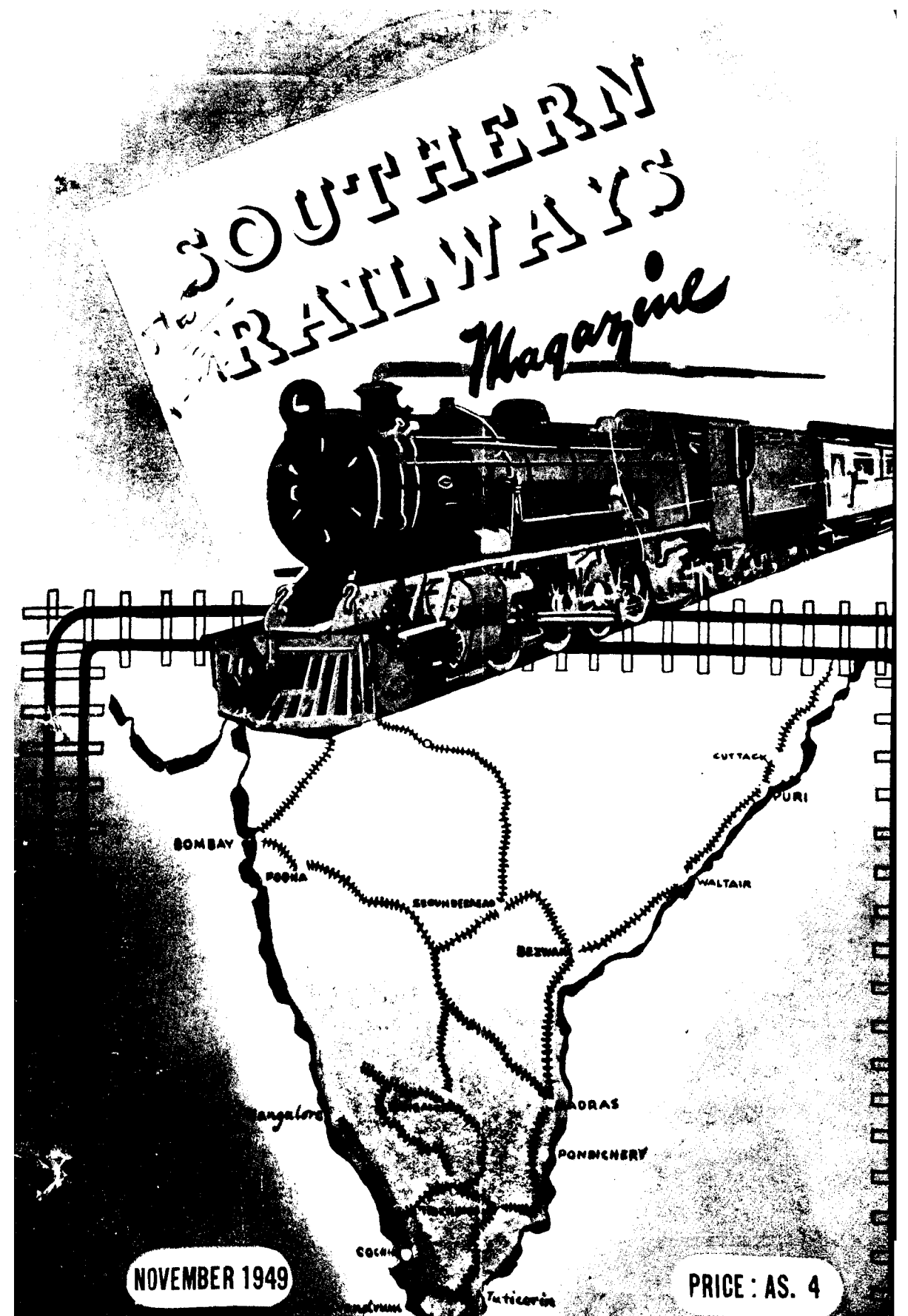


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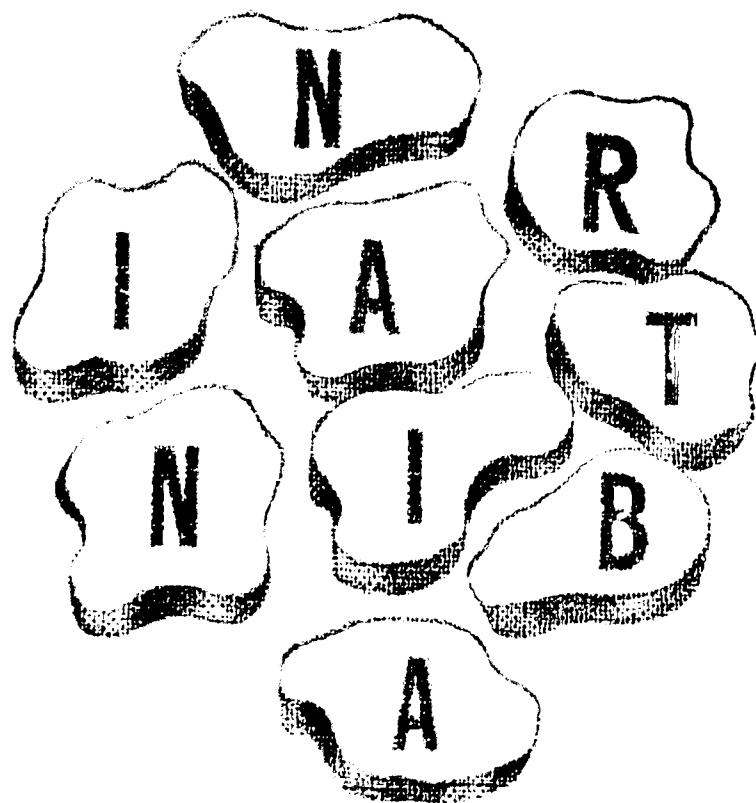
SOUTHERN RAILWAYS Magazine



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NOVEMBER 1949

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Southern Railways Magazine

VOL. I
NO. 5

NOVEMBER 1949

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"FOUR CLASSES OF TRAVEL AGAIN"

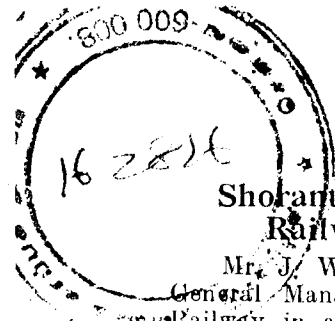
AT the commencement of this year 1949, the Ministry of Railways in the interests of the travelling public and Railway revenues, eliminated the Intermediate Class of travel altogether, leaving only three classes—Classes I, II & III. With what results? The former Second Class traveller, not willing to pay for the higher Class I travel, had to resort to the new Class II, cheaper in fare no doubt, but equivalent in comfort to the former Intermediate Class. So the new Class II travel became more overcrowded and more uncomfortable. As a makeshift panacea later, a Class II sleeper was introduced, for which one had to pay ten rupees per night for the privilege of having a berth to sleep on, in addition to the Class II fare. The Class II sleeper was just like the old Intermediate sleeping car coaches provided on certain trains and you had to pay more for it for less comfort. And the Class III traveller? He was just where he was before, still packed tight in his compartment, still hanging on grimly to footboards, still missing his train for want of accommodation.

The weight of public opinion must always tell, added to the weight of figures of profit and loss. The public were definitely against the elimination of the Intermediate Class. They had got accustomed to four classes of travel, and they had no grouse against it, except that train accommodation was inadequate.

The experiment of eliminating one Class is now over. The Railway Ministry are re-introducing four Classes of travel again from the 1st December 1949 but the additional Class is being termed 'Class II Special.' The Class II Ordinary remains as it is, fares and all. The only difference now is that Intermediate Class basks under the dignified term, 'Class II Ordinary.' The Class II Special is our old friend the 'Second Class' back again, with the same privileges regarding reservations, and it is hoped, comfort also.

But the saddest part of the experiment is the cost to the nation's finances. Some put it at Ten Crores of Rupees.

The milk has been spilled, and apportioning blame does not help in recovering what has been lost. But for the future, it is hoped that when the Railway Ministry intends launching an innovation, or elimination, which must closely affect the millions of passengers who travel on our country's Railways, they will first invite the reaction of public opinion to such changes. Perhaps what we need in India is something on the lines of a Gallup Poll to decide such issues.



NOTES AND COMMENTS

Shoranur-Nilambur Railway Line.

Mr. J. W. Restrick, Deputy General Manager, South Indian Railway in a communication to Mr. Karunakara Menon, Member, Constituent Assembly has stated that the restoration of the Shoranur-Nilambur Railway was discussed at the meeting of Central Board of Transport on 24th May, 1949, when it was recorded that the line should be restored subject to the amount of guarantee payable by the Government of Madras being limited to Rs. 1.39 lakhs per annum. It is understood that the Railway Board's orders on this project have, however, not yet been received.

We would urge the Railway Board to take into consideration the statistics of figures pertaining to passenger as well as goods traffic carried in the Shoranur-Nilambur Line before the dismantlement of this section and also by restoration of this Line in this section would yield sufficient return to the Railways in view of the huge costs involved in this project. It may be recalled here that this line was dismantled during war time owing to shortage of rolling stock and locomotives.

Wagon Supply on S. I. R.

Several subjects relating to trade and industry in the area served by the S. I. Railway and train service were discussed at the meeting of the S. I. Rly. Advisory Committee, held in the first week of this month, Mr. T. A. Joseph, Chief Traffic Manager, presiding. The Committee were informed that the minimum weight prescribed for a metro gauge wagon load in respect of matches had been fixed at 81 maunds, that it had been decided to continue the running of dining cars on the Indo-Ceylon Expresses and that arrangements would be made for giving a reasonable forecast of the supply of wagons that would be made at

particular stations. The Chairman explained that owing to the paucity of engines on the Mettupalayam-Ootacamund Section, difficulty was experienced in moving all the traffic that was offering. If, however, the Government made arrangements to move all their foodstuffs by lorries the position would ease.

A suggestion was made that the New Day Express from Madras to Trichinopoly should leave Egmore later than at present and be speeded up. It was agreed that this matter would be investigated in the light of views expressed by the travelling public. In regard to the running of more passenger trains the Chairman explained that the present train service represented 92 per cent of the pre-war service and that the difficulty in putting in additional train was the non-availability of engines and coaches. It was, however, expected that more new engines would be available for service in the near future.

The Committee were informed that return tickets at concessional rates could not be introduced as overcrowding was still taking place and the Railway was not in a position to invite more travel. No reduction in the prices of coffee and meals sold in the Railway Refreshment Rooms could be agreed to as the Railway was already losing a considerable amount of money owing to the increased cost of Staff. It was also pointed out that the prices prevailing in the Railway Refreshment Rooms were not excessive when compared with those private restaurants.

We agree with the Chief Traffic Manager's views in respect of wagon position on the South Indian Railway System. But we cannot endorse the views of Mr. Joseph with regard to reduction in the prices of coffee and meals sold in the Railway Refreshment Rooms

run by the Railway administration. What amuses to note is the untenable argument put forth by the Chief Traffic Manager in respect of reduction in the prices on the plea that the prevailing prices in the Railway Refreshment Rooms were not excessive as compared to private restaurants. While we could appreciate the increased cost of the staff and extravagant over-head charges involved therein, we cannot but request the Chief Traffic Manager to study the conditions prevailing in private restaurants. Further the eatables prepared in Railway Refreshment Rooms are less in volume and weight than the prescribed weight set forth by the Catering Department. A vigilant watch and surprise check on the Refreshment Rooms would obviate the grievances of the travelling public as well as the scathing criticisms levelled against the Railway administration.

Mysore Railwaymen's Demands.

Mr. S. Guruswami, General Secretary of the All-India Railwaymen's Federation assured the Railwaymen of Mysore State Railway in his speech last month at Mysore that there would be no retrenchment even after the integration of the M. S. Railway with the Indian Railways, which is expected to materialise in April next. Although all other Railways in India had accepted the Central Pay Commission's recommendations Mr. Guruswami said it was a matter for deep regret that the Mysore Railway and the Jaipur Railway had not yet accepted them. He said that the demands of the Mysore Railway workmen were fair and he recalled the Mysore Government's promise in 1947 that if the Railwaymen showed profit within two years their demands would be conceded. The Railways had yielded a profit of Rs. 80 lakhs last year and a reserve fund of Rs. 146 lakhs had

also been built. Under these circumstances, the Mysore Government were wholly unjustified in not granting the scales recommended by the Central Pay Commission.

Although the General Secretary, is justified in his statement, any unconstitutional procedure such as the one-day strike on Indian Railways would paralyse the entire transport system and consequently the public would be put to difficulties on unprecedented scale. We would urge the Railwaymen of Mysore State Railway to adopt constitutional methods for achieving their demands.

Regrouping of Railways

The Railway Ministry has, it is understood decided to appoint a Committee to examine the question of regrouping Indian Railways under one administrative system and splitting it up into six regional units.

Mr. A. K. Chanda, Financial Commissioner, Railway Board, will be the Chairman of the Committee with two members of the Railway Board as members. It is believed that the scheme will result in greater co-ordination and efficiency of working on the Indian Railway system, besides resulting in substantial economy in expenditure.

New Second Class to be Introduced

The Railway Board have decided on the recommendation of the Central Advisory Council for Railways to introduce a Class II Special on important trains with effect from December 1, 1949. The standard of comforts provided in this new class will be almost equal to those provided in the old II Class. There will be provision for berths and arrangements for reservation, both by day and night as in the old II Class.

The rate of fares for the new Class II Special will be 14 pies per

mile as against 9 pies and seven-and-a-half pies per mile for Ordinary Class II by mail and express and passenger trains respectively.

Public reaction to this new introduction is worth watching. Any hasty comment is premature.

Cut in Railway Budget Proposed

It is understood that a cut of about Rs. 25 crores in the capital Budget of Railways for the year 1950-51 is proposed to be effected in pursuance of the general policy of reducing the overall capital expenditure of the Government of India. The budgeted capital expenditure under the head "Railways" for the period 1950-51 was Rs. 62.35 crores and it is now proposed to bring it down to Rs. 37 odd crores.

Under the revenue expenditure, there is likely to be a reduction by Rs. 6.55 crores for the current year. All new projects will be temporarily suspended except the Assam line which is designed to link up Assam with the Indian Union via Silgura in North Bengal and the Chittaranjan locomotive manufacturing scheme. Further, there is no intention to effect any retrenchment in the Railway Staff on any considerable scale was the reply of Hon'ble Sri. K. Santhanam with regard to the proposed economy measures. Explaining the policy of the Government in this connexion, Mr. Santhanam said that even if retrenchment became at all necessary it would not affect those employees who had been recruited before September 15, 1945. Among the persons appointed after that date, those who were solely dependent on their Railway employments for their maintenance would be similarly excluded.

What we are concerned with, is about retrenchment. At this stage any retrenchment scheme would be detrimental to the

country's transport systems owing to the fact that already all the Railwaymen are discontented. This action would lend an handle to the disgruntled political parties to exploit the situation for their ulterior purposes.

New Station Opened

With effect from the 1st November, the South Indian Railway authorities have opened PUDUR station between Trichinopoly Junction and Pungudi on the Trichinopoly Dindigul Section for the convenience of the passengers. We believe that the Railway administration have taken this decision of opening a new station after studying the passenger traffic position.

Goods Traffic on S. I. R.

The rail transport position on the South Indian Railway during the month ended October 20, 1949 was satisfactory. Twentyone block specials with 730 wagon loads were run with potato traffic from Coimbatore to Shalimar and other stations. During the period under review, 14,906 wagons on the Broad Gauge and 30,214 wagons on the Metre Gauge were loaded as against 14,654 wagons on the Broad Gauge and 33,056 wagons on the Metre Gauge during the same period in 1948. The principal commodities moved in wagon loads were rice and paddy, sugar and jaggery, potatoes, tiles, timber, firewood and charcoal, cement, petroleum products and fodder.

The percentage of non-priority traffic to total traffic booked in wagon loads was 11.2 per cent on the Broad Gauge and 5.8 per cent on the Metre Gauge. Demands for wagons on the Metre Gauge and Broad Gauge are currently met and at several stations the demands are being met on the day of registration itself except in the case of potato traffic on the Broad Gauge which is concentrated at a few stations with limited capacity

or loading. So far as the S. I. Railway is concerned, traffic is open under all classes but the restriction in booking of traffic from Foreign Railways to the Stations on the Nilgiri Railway continues. Information regarding other restrictions on the movement of goods traffic is available at all Goods Sheds and Booking Stations.

Pre-partition Claims on Railways

A procedure designed to facilitate the disposal of pre-partition compensation claims was announced by the Railway Board on December 11, 1948. The announcement appears to have created in certain quarters some misunderstanding with regard to the liability

of Indian Railways for articles, booked prior to partition from stations now in Pakistan to destinations in India and the export of which was subsequently banned by the Pakistan authorities or which have been otherwise detained by the authorities in Pakistan. Indian Railways are not liable for the non-delivery of such articles because of the impossibility of performance of the contract by reason of the action taken by the Dominion of Pakistan at stations in India in these and similar circumstances. The Government of India are, however, endeavouring to negotiate a settlement of the question with the Government of Pakistan according to a Press note issued by the Ministry of Railways.

RAIL CARTOON NO. 1

Illustrated by Ananthraman



The inside view of a Booking-Office is not familiar to all. Many people are ignorant of arrangements that are made there to facilitate the work of the booking clerk. Here is a picture portraying a typical portion of a Booking Office. Look at the manner in which the tickets are arranged in the ticket chest. There is an ingenious device in every chest to make the ticket present itself even at the slightest touch.

After receiving the money from the passenger, the Ticket Clerk takes out the required ticket and puts it in date-machine to get the number of the date impressed on it. Then he issues it to the passenger.

MR. N. G. AYYANGAR'S SURVEY

On Working of Railways

THE Indian Railways have during the first six months of the current financial year registered so substantial improvement in every field of activity, be it Goods Traffic, Passenger Traffic, disposal claim for compensation or provision of amenities to passengers that the term transport bottleneck is no longer heard in the country

cut would in no way affect the money to be spent in connection with provision of amenities to the passengers.

The gap between the demand for and supply of Rail Transport has been so largely bridged by careful planning and avoiding wasteful and cross traffic there it



as in the past, thus observed Mr. N. Gopalawamy Iyengar, Minister for Transport, addressing a Press Conference on October 28th which was attended by Mr. K. Santhanam, Minister of State, besides Members of the Railway Board and the General Managers of all Railways in India who had come for half-yearly conference.

The salient features of Mr. N. G. Iyengar's survey are (1) A cut of Rs. Fifteen Crores in the capital expenditure and Rs. Six and a half crores in the revenue expenditure of Railways. But the

is no longer necessary to maintain war-time priority control over movement of goods and from the beginning of November whatever control remains will be completely removed.

It was intended that the regrouping of Railways into a smaller number of administration should come into operation by the beginning of the next financial year. Regrouping would be done with due reference to the economic factors in various parts of the country and also of administrative convenience.

At present between 25 and 30 per cent of locomotive parts were being manufactured in India, and that it was hoped that in the next four or five years this percentage would go up to 90.

Loading of wagons:

There has been a marked improvement in the loading of wagons particularly of coal on the Broad Gauge, in wagon usage and the progressive reduction in the traffic and ground awaiting despatch. Wagon turn-round has improved from 14.88 in August 1948, to 10.89 in August 1949, and wagon miles per wagon per day on the Broad Gauge have increased from 33.4 in August 1948 to 39.3 in August 1949. The traffic on the ground awaiting despatch in August 1949 was just one-third of what it was a year ago and on the most Railways it was hardly equal to two days loading capacity.

The Railways have not only been able to discharge their commitments fully for the movement of essential industries such as iron and steel, textiles and cements, but also to move what was formerly regarded as non-priority traffic, compared with the figures for the same period with previous year, the increase in tonnage moved was from 3632 to 5482 in the case of Sugar, from 5704 to 8289 in the case of Iron and Steel from 1715 to 2364 in the case of Textile goods and from 3012 to 5959 in the case of Cement.

Punctuality of Trains:

During September 1949 on the Broad Gauge the best performance has been on the G. I. P. and E.P. Railways, ninety per cent of the Mail and Express Trains having run to time. The E. I., B. B. & C. I. and O. T. Railways have also registered punctuality percentage between eighty and ninety. It is noteworthy that only one Railway recorded less than Seventyfive per cent. The

same upward train is noticeable in the punctuality of Mail and Passenger Trains on the Meter Gauge. Additional trains have been introduced on all Railways within the limits set by the availability of power and rolling stock. Janatha Expresses have been introduced exclusively for Class III passenger on the E. P., E. I., O. T., and S. I. Railways, other Railways are also considering the introduction of such trains.

While framing their timetables recently the Railway administration speeded up some of the important trains so as to reduce the overall journey time.

Railway Earnings:

The earnings for the first six months of the current year have been quite satisfactory compared with the corresponding period of the previous year. The change in passenger classification which was introduced with effect from January 1, 1949, has hardly affected the earnings from the Upper Classes. It is, however, anticipated that devaluation and the Government of Pakistan's decision not to devalue their rupee will adversely affect the volume of Railway traffic and earnings due to Inter-Dominion Traffic. Dealing with compensation claims, the report states that the number of unsettled claims on Indian Government Railways has been brought down from about 164,000 on January 1, 1949, to about 80,000 on September 1, 1949. Claims which were more than six months old during the same period were brought down (in round figures) from 60,000 to 4,000. The drive for claims prevention has been undertaken on a planned basis. New claims in the third quarter of the year registered a decline of about 12 per cent as compared with the first quarter.

Considerable progress has been made on the Railways in the pro-

vision of amenities to passengers, particularly those of Class III. Among the measures taken in this connexion are: (1) construction of new waiting halls and waiting rooms and extension of existing ones wherever necessary; (2) installation of electric fans in waiting halls for Class III passengers at important stations and in Class III carriages; (3) improvement in the provision of clean and cool drinking water; (4) provision of additional booking windows for Class III long-distance passengers; opening of additional booking windows particularly for women; (5) improvement in catering arrangements; (6) provision of waterborne sanitation; satisfactory arrangements for bathings; (7) better lighting facilities on platforms and in trains and (8) provision of cement-concrete and (9) provision of cement-concrete benches at stations and flooring of platforms.

On the B. N. Railway, provision has been made for improvised platform covers at 39 stations and the work has already been completed at 17 stations. Bathing places are being provided at 18 stations. Additional booking windows have been opened for the convenience of long-distance Class III passengers at 10 important stations. Electric fans are being installed in III Class waiting halls at 30 stations.

On the S. I. Railway, the passenger platform at Coimbatore Junction has been widened. Rail-level platforms at ten stations on the Broad Gauge have been converted into high-level ones. Tube-wells have been sunk at several stations to improve the water supply. Twentyfive stations have been provided with electric light during 1948-49 and similar provision for 29 stations has been made during the current financial year.

On the O. T. Railway Class II waiting Halls are being provided at 50 additional stations. High power lamps are being provided at 23 stations and electric fans in Class III waiting Halls are being provided at 21 stations. Similar works are in progress on other Railways.

Enquiry Committee's Report :

A Committee of three Engineers was appointed by the Ministry of Railways last May to enquire into and report on the conditions obtaining on the M. & S. M. and S. I. Railways relating to health, hygiene and sanitation of Class III waiting Halls and Waiting Rooms, Latrines, arrangements for drinking water and catering. The Committee was also asked to recommend standards and designs to be followed when stations are remodelled or reconstructed and to make proposals for improving the existing conditions in other stations. The Committee's Report which was submitted a few days ago is under examination and some of its recommendations are likely to be of general application to all the Railways.

Integration of Railways

The decision was taken to integrate State Railways with the Indian Government Railways and to bring the entire Railway System under the aegis of the Centre from April 1, 1950. One of the State Railways had already been taken over. The general outline of the tentative conclusions that had been reached in regard to the reorganisation was that the number of Railway Administrations functioning in the country would probably be reduced. A Committee had been appointed to draw up a detailed scheme of reorganisation.



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KEX 16A

CPC'S RECOMMENDATIONS & THE PLIGHT Of the T. Is. on S. I. Rly.

WE have just now received a printed copy of the memorandum submitted by the Secretary, South Indian Railway Traffic Inspecting Officials' Association, Trichinopoly to the Secretary, Railway Joint Advisory Committee, Railway Board, Ministry of Railways, New Delhi. We take this opportunity of reproducing below certain salient features from the Memorandum with a view to bring such anomalies to the notice of the Ministry of Railways

for according due justice to the Traffic Inspectors of the South Indian Railway who are the only victims in the implementation of CPC's recommendations. It is hoped that the Ministry of Railways will review the 'Traffic Inspectors' case in the light of the facts enumerated below. We would urge the Railway Board to maintain the *status quo* of the Traffic Inspectors on South Indian Railway hitherto allowed if no elimination of the anomalies is possible.

Anomalies have arisen in two different ways:—

- (i) by fixing the bottom grades for T. Is. on the S. I. Railway without consideration of the existing higher grade and the existing seniority and position; and
- (ii) by fixing very meagre numbers in the higher grades provided for, and simultaneously separating the avenue of promotion for T. Is. from the then existing combined seniority of T. Is. and Junior Station Supts. who were eligible for promotion to senior S. Ss.' posts, without making equitable provision and retaining the then existing seniority and position.

The Central Pay Commissions recommendations in regard to the grades for the Traffic Inspectors were that there may be four grades viz.,

Grade "A" Rs. 360—20—500 Grade "C" Rs. 260—15—350
Grade "B" Rs. 300—20—400 & Grade "D" Rs. 200—10—300

The total number of T. Is. on the S. I. Railway is 18. All the 18 were on Rs. 250—10—300 grade. The fixation under the C. P. C. Scales has been made on the S. I. Railway is as under:—

No. of Posts.		No. of Posts.	
Grade "A" Rs. 360—500	1	Grade "C" Rs. 260—350	4
Grade "B" Rs. 300—400	2	Grade "D" Rs. 200—300	11

In the application of the C. P. C. recommendations, while fixation of T. Is. on grades "A", "B" and or "C" had been generally made on the B. B. & C. I., B. N., G. I. P., and E. I. Railways, grade "D" also had been operated on Railways like M. S. M. and O. T. It may be pointed out that the bottom grade for T. Is. on the M. S. M. was Rs. 190—240 and that on the O. T. Railway was Rs. 75—100; and therefore on

these Railways grade "D" viz., Rs. 200—300 being operated for T. Is. bears no comparison or justification for the T. Is. on the S. I. Railway who were already on the grade of Rs. 250—300 being fixed on a reduced scale of Rs. 200—300.

The Traffic Inspector's post is one of selection by merit from amongst senior and experienced

staff of real integrity, respectability and capability. The Traffic Inspectors form the real Out-Door Assistants of the Traffic District Officers, not only on the Transportation side but on this Railway, to a very large extent, also on the Establishment side (each T. I. looking after almost the entire establishment of about 400 to 500 Class IV staff within his beat); and also on the Commercial Side, as it is they who deal with commercial matters as well, except rates and the post-mortem side of claims—contradistinguished with the pro-

vention side of it; besides Stores work. In the light of the onerous, arduous and responsible duties, the Traffic Inspectors, from the very inception of the Railway, have been the senior-most Inspecting Officials of the Traffic Department as a whole, even on the South Indian Railway. This is borne out by the fact that while the Traffic Inspectors were already on the Rs. 250—300 scale, on this Railway the other Inspecting Officials of the Traffic Department and allied Departments were on lower grades as detailed below:—

	Existing Scales	Fixation under the C. P. C. Scales :
Commercial Inspector :	Rs. 75—4—99 Rs. 105—5—125 Rs. 130—5—160 & Rs. 180—200	} Rs. 200—10—300 Rs. 260—15—350 Rs. 300—20—400 Rs. 360—20—500
Special Commercial Inspector	Rs. 200—10—250	
Ticket Inspector	Rs. 80—4—100 & Rs. 105—5—125	} Rs. 200—10—300 Rs. 260—15—350
Chief Tickets Inspector	Rs. 130—160	
Travelling Inspector of Accounts	Rs. 75—4—99 Rs. 105—5—125 & Rs. 130—160	} Rs. 200—15—350
Senior Travelling Inspector of Accounts	Rs. 180—225	
	Rs. 350—500	

Difference in salaries are generally sought to be justified on grounds of increased responsibilities. In due recognition of this principle the Central Pay Commission have rightly provided higher grades for Traffic Inspectors. The Central Pay Commission's chief aims were to raise the minimum basic wage to a fair level and to bring about unification of grades on all Indian Railways, fixing equal pay for equal work. It is therefore only meet that the Traffic Inspectors on the S. I. Railway, should have the same status and position as those of their contemporaries on the G. I. P., E. I., B. B. & C. I. etc., more so, when more work and more responsibilities are under-

taken by the T. I. on the S. I. Railway—(on any Railway the Establishment and Stores work is not given to a Traffic Inspector).

Further, the T. Is. who were on a par with the Junior Station Supts., were hitherto having combined seniority with them to seek promotion to Senior S. Ss'. Posts. Now on the plea that with the introduction of the C. P. C. Scales, higher grades for T. Is. have been provided for, the avenue of promotions for T. Is. and S. Ss. have since been separated. At the time of such separation no equitable provisions were made on either side. Nor were all the T. Is. consulted as to which line of promotion each would like to choose.

This separation of avenues of promotion between S. Ss. and T. Is. was done without preserving each individual's seniority and position for further promotion in whatever category it be. Of the 23 persons in such a combined seniority list, while all the 5 Junior Station Supdts. have been automatically fixed on Rs. 260—350 Scale, 11 T. Is. have been fixed on Rs. 200—300 Scale, thus reducing the latter set in pay, position, and grade. Further the number of higher posts to which the 18 Traffic Inspectors on Rs. 250—300 scale could hitherto aspire for (along with Junior Station Supdts.) was 8. With the fixation of grades for T. Is. and with the simultaneous separation of avenues of promotion as stated above, while the 5 Junior Station Supdts. have between themselves 8 higher posts, the number of higher posts now left for T. Is. has been reduced to 3. While therefore their Juniors in pay, grade and position—Junior Station Supdts. are all fixed on Rs. 220—350 grade, also now with better chances of promotions to higher posts, many Traffic Inspectors on Rs. 250—300 grade have been fixed on Rs. 200—300 grade without the least consideration of their relative seniority and position. Therefore the doublefold anomaly of 11 out of 18 T. Is.

(i) Not being allowed to maintain their "status quo" in grade position and seniority, and also getting placed on a grade lower than that of the Junior S. Ss., and

(ii) Losing the chances of promotions to higher posts which had existed hitherto, is one for rectification.

It is requested that the anomalies mentioned above may kindly be solved by—

(1) The basic grade for T. Is. on the S. I. Railway being fixed on Rs. 260—350 grade;

(2) Fixation of equitable numbers on higher grades for Traffic Inspectors on the S. I. Railway being made as under:

3 in Grade "A"
6 in Grade "B"
and 9 in Grade "C"

and (3) The seniority and position as it existed once not being set at nought by arbitrary decisions; but fair and equitable provisions are always made to preserve the existing position and seniority, before separating avenues of promotions to categories of very senior staff who have been clubbed together for purpose of seniority and further promotions—(such separation in this case have been on the plea that under the Central Pay Commission's recommendations, higher grades for T. Is. have been provided for). The anomaly in this respect will be solved if only, after providing equitable chances on either side each of the T. Is. is individually asked to opt in or opt out.

REMINISCENCES OF A RAILWAYMAN

By R. Kaveri

(In the following paragraphs the writer presents in a comprehensive, vivid and lucid style the Reminiscences of a Station Master who was till lately serving the South Indian Railway System as to how a Railwayman should be courteous towards the general public in the discharge of his day to day responsibilities. We would commend this article to all the Railway Personnel in general and Station Masters in particular to take lessons from this. This article will run in series—Editor).

CIVILITY is a sacred quality. It is like mercy, the gift of Heaven. It is the one quality that distinguishes man from beast. It is the one mark of true civilisation. It is the habit of being always good at thoughts, sweet in words, pleasing in behaviour, and loveable in deeds. Every true gentleman has this quality forming part and parcel of his being; the quality is in his very blood. It is mostly hereditary, and it is partly acquired. Some are born with the quality inherent in them; some acquire it after coming into this world from imbibing true education and from the company they keep; some put it on for success in life. When a person puts it on for an occasion or for a specific purpose, it is called 'Tact.' When a nation puts it on for dealing with other nations, it is called 'Diplomacy.' Thus, whilst civility is the natural form of the quality, tact or diplomacy is the artificial or vitiated form of it—an imitation passing for the original. It is the genuine variety that my readers should aspire for and acquire, if their ambition is to benefit here and hereafter.

We often hear people talk as if one's private life is something entirely different from his official or public life, that is as if the two are water-tight compartments. There is no huger hoax than such a statement. One that is bad at home cannot be good in public. One that is dishonest in private is bound to be dishonest in public also. In general, it must be said that what is one in private life, that he is in public life also. The

life of an individual is an indivisible whole, and each thought, word or deed that escapes him has its effect, subtle or pronounced, on his entire life. One's private life has a tremendous influence on his official life, and vice versa. And so one cannot be courteous and civil in his official life without his being courteous and civil in his private life also. And so with every other virtue. Courtesy must pervade one's whole life or not at all. It must come as a matter of habit unawares. It must not be as a matter of conscious effort or will. If it comes only as the result of a conscious effort or will, for a specific occasion or for a specific purpose, then it is artificial and degenerates into tact or diplomacy, and cannot be called a virtue.

Cardinal Newman defines a True Gentleman in the following terms, from which the Railwayman has much to learn and adopt in his daily life:

"The true gentleman carefully avoids whatever may cause a jar or a jolt in the minds of those with whom he is cast: all clashing of opinion, or collision of feeling, all restraint, or suspicion, or gloom, or resentment; his great concern being to make every one at his ease and at home. He has his eyes on all his company; he is tender towards the bashful, gentle towards the distant, and merciful towards the absurd; he can recollect to whom he is speaking, he guards against unseasonable allusions, or topics which may irritate; he is seldom prominent in conversation, and never wearisome. He makes

light of favours, and seems to be receiving when he is conferring. He never speaks of himself except when compelled, never defends himself by a mere retort, he has no ears for slander or gossip, is scrupulous in imputing motives to those who interfere with him. He is never mean or little in his disputes, never takes unfair advantage, never mistakes personalities or sharp sayings for arguments, or insinuates evil which he dare not say out. From a long-sighted prudence he observes the maxim of the ancient sage, that we should ever conduct ourselves towards our enemy as if he were one day to be our friend.

"He has too much good sense to be affronted at insults, he is too well employed to remember injuries, and too indolent to bear malice. He is patient, forbearing, and resigned, on philosophical principles: he submits to pain, because it is inevitable; to bereavement, because it is irreparable; and to death, because it is his destiny.

"If he engages in controversy of any kind, his disciplined intellect preserves him from the blundering discourtesy of better, though less educated minds.

"He may be right or wrong in his opinion, but he is too clear-headed to be unjust; he is as simple as he is forcible, and as brief as he is decisive."

The public who have to deal with Government servants in the various Departments in their day to day transactions always look for courtesy, civility or true gentlemanliness in those servants, for to them these servants are the Government in visible form, especially the servants of the Railways, the Post Offices, the Customs, and such other services. Railway Administration and Postal Authorities have been circularising their

staff very often on this aspect of their official life in relation to their customers, but so little has been the result achieved.

It is proposed herein to quote one concrete living example of a public servant, a Station Master at that, who every minute of his waking hours felt it both a pleasure and a duty to serve humanity at large, irrespective of every consideration except 'Service for the sake of service,' who achieved much more than one may expect by his simple natural quality of first making his person and appearance presentable and attractive, then putting on a sweet and smiling countenance towards any person who approached him for any kind of help, be it accommodation on the train or purchase of a ticket, or booking of a parcel or luggage or goods consignment, and speaking sweet and endearing words, as if their acquaintance had been years old, irrespective of caste, creed or colour, irrespective of age, position or status, and irrespective of sex-disposition or nature of help required, with the result that when the administration—a Company, for the Railway had not yet become a State Railway then—transferred him from the Station, a storm of protest was raised by the entire public of South India, loud enough to be heard by the then General Manager, who felt forced to order his being kept at the same station—Kodaikanal Road—until he himself chose to transfer him.

That was Mr. P. Kunhiraman, which literally means 'Little Raman.' He was more familiarly known for brevity's sake as P. K. Ram. He remained the Chief Station Master at Kodaikanal Road Station, the Railway Station on the Queen of Hill Stations on the Railway's Metre Gauge System, for 18 long years, and that was until his retirement under age limit—which is perhaps a record period for a

Station Master to be at one and the same Station continuously in the whole of India. In all my 30 years service as a Railway Man in different categories of work I must confess I have not come across such a uniformly proficient and efficient Railway Servant, who was at once dear to, and whose advices and opinions on momentous questions on railway working were so eagerly sought after by, staff and public high and low, superior and inferior, whose recommendations passed muster in every quarters because they were always based on very valid reasons, and whose words carried so much weight with Collectors, District Magistrates, District Boards, Municipalities and other Public Bodies, as well as the lay villagers.

His life is so full of interesting incidents, which are likely to be of immense value to the vast number of Railway Staff that might be reading this journal. His biography

presented in a form most suited to the readers of this magazine will, it is hoped, be an education in itself, and so his life-sketch may appear off and on in this journal in instalments. The life of such a man, who has toiled hard for well-nigh three decades and a half, and seen working under two foreign Railway Companies—the Madras Railway Company and the South Indian Railway Company—and under a Host of Officers—European and Indian, good, bad and indifferent, certainly will have several lessons for the present generation. The stories of his trials, troubles and tribulations, in spite of which he kept up his good qualities, because they were the very marrow of his bones, will serve as a strong incentive towards inspiring the present day staff to emulate him in service to the public. Such an example is far more useful than a thousand circulars—an ounce of practice is far greater in value than tons of precept.

S. V. O. C.'s Achievement

On 15-11-49 Messrs. Standard Vacuum Oil Co. exhibited a technicolour film "New Mobil Oil" for the first time at Kumbakonam Raja Talkies. This kind of publicity through visual education heralds a New Era in the history of Standard Vacuum Oil Co. We sincerely hope that this new Mobil Oil will give an unsurpassed performance for the engines of modern cars. This Mobil Oil is an highly evolved lubricant which will play a notable part in the Industrial expansion of India. We are quite sure that this new product will meet with the demands of the consuming public of South India.

PRESENTING MR. RAILWAYMAN

The Goods Clerk

By A. H. Pearson

AS a person who has travelled by train, a Railway Station is quite familiar to you; but a Station does not only consist of Rail Tracks, Platforms, Waiting Rooms, and Booking Offices. If you happen to be a merchant, or a merchant's agent, there is another part of a Railway Station, which will be just as familiar to you, and that part is the Goods Shed.

If you happen to be a Casual Visitor to a Goods Shed, two things must strike you; one is stacks and stacks of all kinds of merchandise, and the other, a variety of odours, some pleasant, some pungent, and some definitely unpleasant. In one corner of this large warehouse in an office, commonly known as the sanctum of the Goods Clerk, the custodian responsible for the safety, accountal, despatch and delivery of goods worth anything from half a lakh and more.

The Goods Clerk starts his day's work at nine o'clock in the morning. After opening his Shed and Office, he makes a rapid survey of the shed, reviews his wagon position, noting the numbers of wagons to be unloaded and those allotted for outward loading. Then inward wagons must be conveniently placed alongside their respective bays for unloading, as it is always imperative that wagons are not unnecessarily kept underload and idle.

The job of checking all inward invoices is tackled next. Details to be scrutinized are rate, classification, freight charges, nature of commodity; the object being to see whether the Despatch Station has charged freight correctly. Any errors perceived—like an under or overcharge—must be

noted as each Invoice is entered up in the Delivery Book.

The visitor to a Goods Shed, on looking around, may get an impression of a chaotic dump; actually this is not so, as a little enquiry and explanation will soon reveal that goods are stacked according to a prescribed method, inward on one side, and outward on the other.

When wagons are being unloaded the Goods Clerk must ensure proper supervision of the labour who are unloading the wagons. Careless tossing about of packages, sacks, etc. by labour, may result in damage or leakage, and when the merchant comes to take delivery, any suspicion of damage is brought to notice, shortage noted, and a claim may be in the offing.

Next comes the major part of the Goods Clerk's job—that of collecting freight and giving delivery to merchants. Throughout the working day, merchants, or their agents, come in with their Railway Receipts. Most of the traffic dealt with is 'freight to pay.' Paid traffic is not so heavy, as only freight on perishables and livestock must be paid for at the Forwarding Station. In giving delivery, the Goods Clerk must satisfy himself and the consignee that goods while in Railway transit and storage, are not in any way damaged or deficient. Both parties satisfied, the cash collected, the consignee is permitted to remove his goods from the shed, a final check-up being made by an alert watchman as the goods pass out.

The Goods Clerk's contact is mainly with what may be termed

the 'trading' public, and like a number of other Railwaymen, he must be a man of considerable tact. For instance, the Despatching Station, in calculating freight, may have in error, undercharged. A check at the receiving end reveals this, and the consignee is asked to pay the difference. Often this leads to argument, as the merchant often declines to pay for the mistake made by the Goods Clerk at the other end. The Goods Clerk collecting the freight has to convince the merchant that in spite of the error, he is still to pay the correct freight.

Then there are the 'open delivery' cases. This happens when for various reasons, a consignment has been damaged in transit and is now short in weight or quantity. Merchants are quite naturally upset, if not indignant, when this happens, and the procedure followed is to make a careful inventory of the contents of the consignment, shortages in weight or quantity mutually noted, and delivery given with 'qualifying remarks.' This is most important, as the monetary value of claims is decided on this.

Next he tackles goods brought in for outward despatch. If in full wagon loads he deals with the job personally, as this requires registration of the merchant's request in a priority register. As far as the Goods Clerk is concerned he will register the merchant's request in strict order of priority, and in keeping with the instructions on this subject.

The Goods Clerk must always be on the alert for instances of misdeclaration of goods. Commodities are elaborately classified from minerals like coal, iron, ballast, in class 1—the lowest—scaling up to explosives, petrol, etc.

in the higher classes. The reference volume for this is 'The Goods Tariff,' which contains all the information required.

Misdeclaration occurs when a consignor tenders goods of a higher class and declares it to be a commodity in a lower classification—the object being to pay less freight. The dishonest and unscrupulous use a variety of tricks and subterfuges to get away with misdeclaration and the experienced goods clerk soon knows all the dodges.

Next comes the invoicing of outward freight, and after all documentary procedure is completed, the goods must be loaded into wagons. Wagons are loaded according to zones or areas, and not by indiscriminate dumping. Also it would be unwise to allow a consignment of tins of ghee to be loaded cuddling up to bales of valuable cloth, as a ghee tin may spring a leak in transit and stain the cloth, resulting in a heavy claim to be paid later by the Railway.

The Goods Clerk also has a considerable amount of routine desk work to get through each day. Correspondence, posting of daily registers and account books, preparation of periodical returns of traffic moving to and from his shed, and most important of all—the daily cash book, which is a record of the day's cash transactions.

Before long the shadows lengthen, the time is nearly five in the evening, and the Goods Clerk is getting ready to call it a day. His cash account is correct, the cash placed in a leather bag and sealed, and ready for the journey to the Treasurer's Office. So ends the Goods Clerk's day.

SODIUM LIGHTING IN SHUNTING YARDS

(In the following special article an expert of Philips Lighting Service Bureau discusses the advantages of Sodium Lamps in Shunting Yard Lighting and its role among Railways.—Ed.)

Every class of work, every scene of human activity has its own peculiar lighting requirements and so Railway Shunting Yards too require a lighting system which takes into account all factors connected with the working of such a yard.

Years ago, the so-called are lamps with all their disadvantages such as high cost of maintenance etc., were used. After the war 1914-18 special fittings for 300 watt and 500 watt lamps were introduced but these were merely imitations of the old arc lamp type, and like their predecessors, they have a very low efficiency.

Nowadays many shunting yards are illuminated by floodlight arrangements. Apart from the fact that the current consumption of such floodlight lamps is very high and the life of the lamps rather short, floodlighting of shunting yards has the disadvantage that considerable glare is caused, whereas it is also extremely difficult to achieve a proper uniformity in lighting. Moreover, this system has another drawback, namely that shadows are mostly cast just before the moving railway carriages, a fact which makes the shunting job none the easier. Fortunately, the modern light-sources which are nowadays at our disposal, and we are alluding to Sodium Lamps, render it possible to achieve a good and efficient shunting yard light. In order to convey a better idea of the advantages of Sodium lighting the following explanation might be of interest.

Light—By means of the lens the eye produces an image of the object on the retina, in the same way as the image is obtained in

the camera, but the images of the various colours of the object perceived are not all pictured with equal sharpness, for a normal eye focusses to the dominating colour of the object, the other colours giving less sharp images. This phenomenon is called chromatic aberration. With the usually low level of artificial outdoor lighting, the eye acts with a widened pupil, owing to which the lack of sharpness of the image is greater than in day time, when the pupil is narrow. It follows that in such cases the chromatic aberration is more strongly felt.

High Visual Acuity—When Sodium Light is used, which is monochromatic (i.e. of one colour, there being practically only one colour in the spectrum), the phenomenon of chromatic aberration (also when the pupil is wide open) can naturally not occur. It is true that owing to the monochromatic light all colour discrimination is impossible and therefore Sodium Light is not very kind to the complexion, but the picture on the retina is very sharp indeed, owing to which the outlines are quickly recognized. This increased sharpness guarantees also a more rapid perception, owing to which safety in the shunting yard is greatly promoted.

Enhanced Contrast—With a lowered lighting level the maximum sensitivity of the eye shifts towards the blue side of the spectrum. This phenomenon is called, after the discoverer, the Purkyne effect. As the level of daylight gradually decreases this phenomenon passes unnoticed, because of the energy of colours of the same order in daylight. With monochromatic Sodium Light, on the other hand, to contrast

between light and dark becomes greater when the lighting level is lowered, for the eye remains highly sensitive to the light parts whereas owing to the shifting of the sensitivity, it has become much less sensitive to the dark parts; the colour of Sodium Light is on the long wavelength side of maximum eye sensitivity. Owing to the increase of contrast between light and dark, an object strikes the eye more easily.

When, for instance, during night shunting operations, an approaching railway carriage is at a certain distance, its outline will throw a very sharp image on the retina of the eyes of the shunters and moreover, this image will sharply contrast with the Sodium lit background. Needless to say that this excellent visibility guarantees a high degree of safety for the Shunters during night shunting operations.

No Glare—Glare means Danger. Many an accident during the hours of artificial lighting is due to too high a brightness in the fields of vision of the observer.

Some data regarding Philips Sodium Lamps—

	Current consump- tion of lamp only	Current consump- tion with ballast (220 V)	Light output in lumens	Luminous efficiency in lumens/ Watt (220V) (1)	Average Life (2)
So-45...	45	65	2,700	41	3,000
So-60...	60	80	4,300	53	3,000
So-85...	85	105	7,000	66	3,000
So-140...	140	165	11,000	66	3,000

(1) For comparison's sake—A 300 watt. glowlamp of A-1 quality for an average life of 1000 hours, emits about 16 lumens/watt.

(2) Based on 3 hours burning per switching.

The brightness, i. e. the light intensity per apparent area unit, is very low in Sodium Lamps, due to the comparatively large size of this tubular source of light, and is sufficiently below glare level. Even if the eye is struck by direct radiation from a Sodium Lamp there is no glare which is a real advantage especially for shunting yard—or road lighting.

Light Output—The light output of Sodium Lamps is about four times and even more, than that of a normal filament lamp of equal current consumption. Consequently with Sodium Lamp lighting, considerably less power will be consumed compared with normal filament—or floodlight lamps, in order to achieve the same if not better results.

The latest types of Sodium Lamps emit a far greater luminous flux than before, and so it has been found that the lighting standards need no more be placed so close together. On yards using 300 watt. incandescent lamps the Sodium Lamps can be mounted on the existing standards.

Sodium lighting in Shunting Yards has the following advantages:—

(1) The shunting operation can be observed to the end.

(2) The rails can be clearly seen from the signal box.

(3) Visibility is greater than under normal light.

(4) The lumen per watt efficiency of the lamps is very much higher than that of the Tungsten Lamp.

(5) The actual average life of the lamp is 3000 hours.

(6) There is no dazzle.

(7) Where 300 watt. incandescent lamps are replaced by 85 watt. Sodium Lamps, a better light is produced together with a 65 per cent consumption saving.

(8) Saving on the actual cost of mains installation.

Sodium lamps should not be used in yards where due to periodic shunting, the lamps are switched off in order to save current. If this is done, it is found that Sodium Lamps take about ten minutes to reach full intensity once they are cold.

When a new lighting system is installed in Shunting Yards, the saving on the cable may alone be an economic reason for installing Sodium Lamps. Leaving the advantages of the light of Sodium Lamps for this particular application out of consideration, the following calculation will show whether the cost of converting an existing installation into a Sodium installation is justified:—

Let a —number of lamps.

b —standing kilowatt charge.

c —number of yearly burning hours of the lamp.

d —price per unit.

e —price of the Sodium Lamp.

f —price of the Tungsten Lamp.

g —installation cost.

Saving on decreasing the standing charge per kilowatt (all money values in shillings):—

$$\frac{(500-100) ab}{1000} = 0.2 ab.$$

Saving due to reduced current consumption—

$$a (300-100) cd = 0.2 acd.$$

Total saving on cost of current = $0.2 ab + 0.2 acd$.

(Total cost of Sodium Lamps per annum) (based on an average guaranteed life of 3000 hours)—

$$\frac{ace}{3000}$$

Total cost of incandescent lamps per annum—

$$\frac{acf}{1000}$$

Higher annual cost of lamps—

$$\frac{ace}{3000} - \frac{acf}{1000}$$

The total annual saving will thus be found as follows—

$$B - 0.2 ab + 0.2 acd - \frac{ace}{3000} + 0.304 acf.$$

It is essential that if the efficiency of the fittings is to be maintained, they must be cleaned periodically.

It will be seen from all the above data that when a new lighting installation of a shunting yard is contemplated, Sodium lighting merits serious consideration.

SCIENCE NOTES

U. S. Tests Show Streptomycin Can Cure Diarrhoea in 24 to 28 Hours

Tests in the United States show that diarrhoea, the leading cause of death among infants and young children, can be cured in 24 to 48 hours by the "wonder drug" streptomycin. The tests are described in the *Journal of the American Medical Association*, by Dr. Sidney Ross, Paediatrician of the Children's Hospital at Washington, D. C., and by four of his associates.

Streptomycin treatment in the tests was directed against diarrhoea caused by Shigellosis, a major form of bacillary dysentery that is very often fatal to children. But limited tests indicate that streptomycin may be equally effective in curing many other types of diarrhoea, the doctors report.

During the test period, Dr. Ross said, a total of 34 children suffering from Shigellosis were admitted to the hospital. Twenty-five of these children were in the acutely ill phase of the disease, with extremely high fever, severe

intestinal disturbances, and partial dehydration of the body. Streptomycin, given by mouth, broke the fever and reduced the diarrhoea of even the most acutely ill children within 12 to 14 hours after it was administered. All trace of the dysentery germs disappeared from the bodies of the children within 48 hours.

Dr. Ross credited the streptomycin treatment as one factor responsible for reducing the mortality among children admitted to the hospital with diarrhoea from 15 per cent to one per cent in a 2-year period. Other factors that contributed to saving the lives of the children were prompt recognition of the critical nature of the diarrhoea, and speedy restoration of water to the child's body, he said.

A special ward to study diarrhoea was established at the Children's Hospital two years ago under a grant from the U. S. Public Health Service.

SOME FACTS ABOUT LOCOMOTIVES IN INDIA

At present there are 100 different types of locomotives on Indian Railways. The Railway Board, with a view to economize, has, as a measure of standardization, evolved seven types of locomotives for the Indian system.

There are —

I. Standard Gauge—

W. P. standard passenger, W. L. Light passenger, W. M. Tank, W. G. standard goods.

II. Metre Gauge—

Y. P. and Y. G. for passenger and freight service, respectively.

III. Narrow Gauge—

'Z' class.

The existing types will not be replaced or renewed but allowed to run their lives.

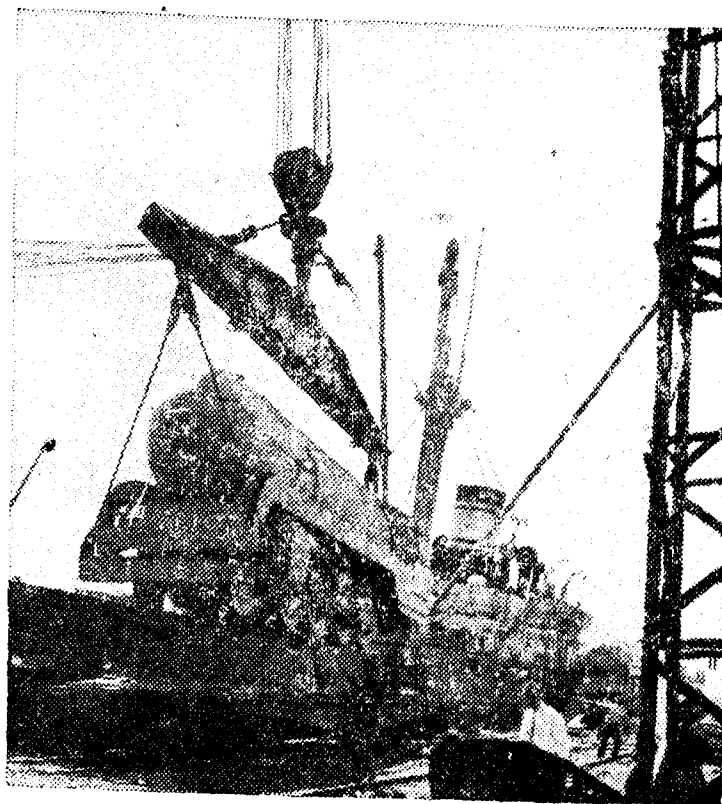
Indents have been sent for (i) 300 W. P. s. (ii) 100 W. G. s. (iii) 20 Y. P. s. (iv) 150 Y. G. s. (v) 20 'Z' s.

Following is the proposed distribution of 300 W. P. engines likely to be received in India this year.

East India	...	95
Bengal Nagpur	...	66
Great Indian Peninsula	...	56
Bombay Baroda and Central India	...	43
Madras and Southern Mahratta	...	35
Eastern Punjab	...	15

On June a batch of 36 fully mounted W. P. s. arrived at Bombay from the Baldwin Locomotive Works, Philadelphia, U. S. A. Another batch of 33 W. P. s. fully assembled has been shipped from Canada to Calcutta and a third batch is expected.

The Bengal Nagpur Railway's M. Class Pacific 4-6-2 is the heaviest and most powerful passenger engine in India and works the Mail Link on the Kharagpur-Nagpur Section.



Thirty-six locomotives built by the Baldwin Locomotive Works of Philadelphia, a leading United States manufacturer of Railway equipment, were loaded aboard the S. S. Peter Dal, British freighter, at Philadelphia for shipment to Bombay, India. The locomotives, complete with tenders, comprise the first shipment of a total of 140 ordered in the United States during the past year by the Government of India for use on India's State Railways. The photo shows one of the locomotives being lifted into the hold of the Peter Dal at a Philadelphia Dock.

"POPPED COAL" FOR RAILROADS, HOMES

M. S. Mathur, G. I. P. Rly., Parel.

In the battle of fuels, coal has made another advance. Coal, pulverized by bursting at a nozzle, and as fine as powder will power two new coal-burning gasturbine locomotives in the U. S. A. This pulverized coal flows through hose or pipe and requires no more handling than oil.

In favour of coal are its abundance, relative cheapness and wide distribution. In favour of fuel oil, is its easy handling. American oil reserves are facing depletion, not so the coal. Manufacture of oil products from coal will be expensive.

Hence to keep coal on top as a fuel, two requirements are being attempted and must be met.

1) Develop methods of combustion that will convert full energy in coal to useful work.

2) To develop easy handling of coal as in oil and gas.

If the experiments succeed, pulverized coal will be the answer.

Laboratory and pilot-plant tests have declared favourably on face-powder-fine coal. This will be tried out in building-heating and in power plants. The commercial building-heating try out in Baltimore, wherein finely pulverized bituminous coal will be used as fuel, will not sell coal but will sell heat. The company will supply the furnaces, and they will be operated by the company's men. Maintenance and servicing will be carried out by the company. Company's tank truck will deposit pulverized coal through hose pipes and remove the powdering ash after combustion. The furnace is a vertical sheet metal cylinder lined with refractory material. The powdered coal burner is top mounted, providing down firing, ignition being helped by a pilot flame. This system gives smokeless combustion.

On the Locomotive, one difficulty was to pulverize the fuel. Mechanical process would be too bulky for a locomotive. The method to be used on the new locomotive will be the so-called air-operated "coal atomizer." This consists of a nozzle through which is passed air under pressure and coal that has been crushed and dried. As the coal particles leave the nozzle and the pressure is reduced, the coal particles burst with internal explosions due to the air entrapped within the pores of the coal being suddenly relieved of pressure. This device is well suited to Locomotive on account of its simplicity and lightness.

The development of the coal-burning gas-turbine is under the Locomotive Development Committee of Bituminous Coal Research Inc., Baltimore, with John I. Yellot as Director, and Charles F. Kottcamp as assistant.

The actual burning of the coal under pressure presented special problems of its own. Extensive contributions were given by the Battelle Memorial Institute in Columbus, Ohio. Included in the experiments also are The John Hopkins University, Purdue University, The Institute of Gas Technology in Chicago and several makers of gas-turbine engines.

The Battelle combustion is the Vortex type. Air, mixed with face-powder fine coal, is driven into a cylindrical tube through vanes, which causes the air to spin as it passes a centrally located outlet. Ignition is started by a pilot flame, which is put out after burning is under way.

As the residue fly-ash is very damaging to the turbine vanes, causing serious abrasion; a method of removing this fly-ash had to be evolved. Under tests already made, cyclone separators made by

the Aerotic Company and the Thermix Engineering Company, both of Greenwich Conn. produced satisfactory results. This ash will be held in special receptacles on the Locomotive and deposited at unloading stations, for if the ash is allowed to fly off it would clog the air-conditioning system of the following cars.

One of the reasons why fuel has to be pulverized in the locomotive

is that if stations were built to stock previously pulverized coal, the new Locomotives would be able to run only on those particular lines.

These Locomotives are expected to lower mainline operating costs to one-half that of diesel-electric power plants, and will cost the same to build saving a lot on lubricating oil. Also gas turbines take no water. (R. T.)

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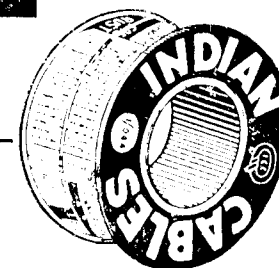
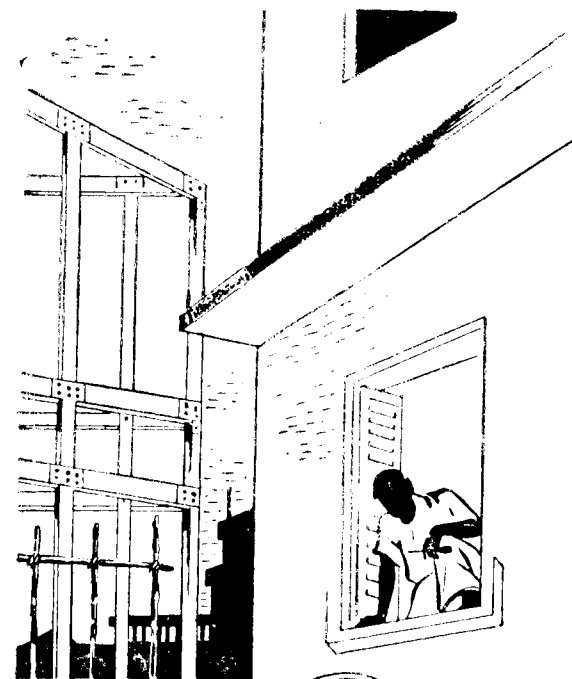
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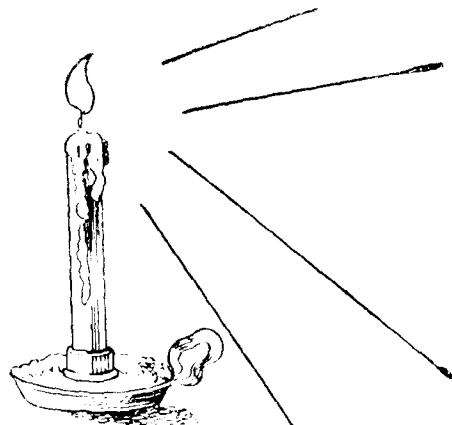
THE INDIAN CABLE CO., LTD.

Office: 9, Hare Street, Calcutta.

Works: Tatanagar.

Printed at the Press of the Government of Madras and Published by SHI T. A. S. Rao,
General Manager, 11, Cross Street, Madras.

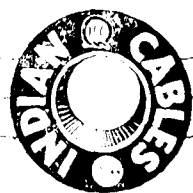
The image shows the cover of the 'Southern Railway Magazine' for December 1949. The cover is a high-contrast, black and white graphic. At the top left, a small box contains the number '8'. The title 'SOUTHERN RAILWAYS' is written in a large, bold, sans-serif font, with 'Magazine' in a smaller, cursive script below it. The central illustration depicts a steam locomotive pulling a train across a bridge. Below the train is a map of India, with the railway network highlighted by a dotted line. Key cities labeled on the map include Bombay, Poona, Secunderabad, Bikaner, Madras, Pondicherry, Cochin, Tuticorin, Waltair, Puri, and Cuttack. The bottom left corner features the date 'DECEMBER 1949' in a rounded rectangle, and the bottom right corner shows the price 'PRICE : AS. 4' in a similar shape. The overall design is reminiscent of mid-20th-century propaganda or institutional publications.



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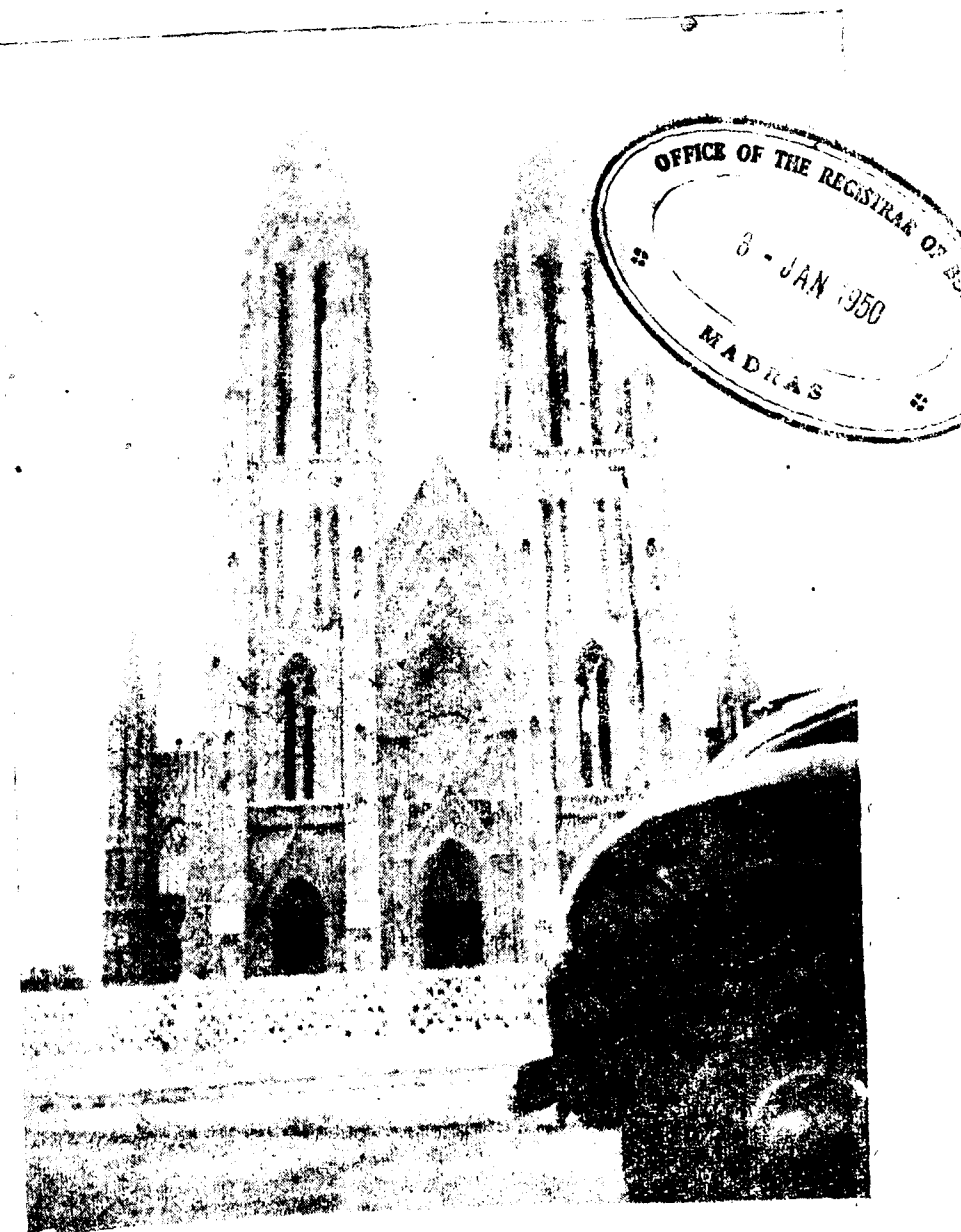


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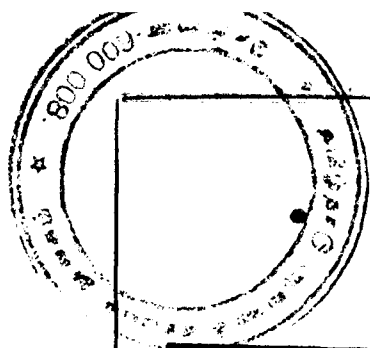
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St. Philomena's Church in Mysore



At Pisa the Church of San Francisco contains a chapel lately dedicated to Santa Filomena. Over the altar is a picture by Sabatelli, which represents Filomena as a nymph-like figure floating down from Heaven, attended by two angels bearing the lily, the palm, and a javelin. In the foreground are the sick and maimed, healed by her intercession. This Church in Mysore is a famous shrine and during this period of the year it attracts thousands of visitors from all parts of the country.



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Southern Railways Magazine

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NO. 6

DECEMBER 1949

ISSUED
MONTHLY

"Cutting the Costs"

The nation is facing an economic crisis. An S. O. S. edict has gone forth that the cost of running governmental machinery must be cut to make the national balance sheet to show revenue inclining and expenditure declining.

The means advocated to achieve the end are: possible abandonment of new and costly projects; paring down the administrative and executive cadres where possible; a compulsory savings for Central Government employees drawing salaries of Rs. 250/- and above; intensive and exhaustive utilisation of all available material resources to prevent placing large-scale orders for new materials; 'eternal vigilance' to prevent wastage and too-lavish use of available materials, etc. Retrenchment of personnel is hinted at with caution, and wisely too with the present touchy and restless state of labour.

Railway administrations get no exemption from the 'cut the costs' campaign.

Diagressing somewhat from the unpleasant to the pleasant, it has to be ungrudgingly admitted that Railway efficiency, especially from the operational aspect, is definitely on the upgrade. Trains are running on time more often than not, and the availability of wagons for merchandise loading has eased so much that priority controls have been considerably relaxed.

What is the inference from these two aspects alone? That the output of work per Railwayman engaged in operational duties is definitely indicating a plus, and not a minus figure. Here is the positive attitude. Cutting the costs, although necessary to some extent, is the negative way.

Railways are productive units, as long as the traffic, both in passengers and merchandise, is there to be moved. Move it faster, more efficiently, and earnings must go up. The power to move the traffic is not only the locomotive, the carriage or the wagon, but the man who drives the loco, and keeps the carriage and wagon filled to capacity and running smoothly over the rails. And the man in the cabin, the running shed, the station yards, the hundreds of offices, large and small, on the open tracks, and in the workshops and repairs—get him to increase his output of work day by day, week by week, year by year, and the positive way is in action. But how, it may be asked, can this be done? By keeping his mind free to concentrate on his job wholeheartedly and with vigour, and not churning over and

Notes and Comments

M. S. M. Rly. Advisory Committee

The important factor of the last meeting of the M. S. M. Railway Local Advisory Committee held in the General Offices of the M. & S. M. Railway at Madras is the revised constitution of the local advisory committee as recommended by the Central Advisory Council for Railways which had been accepted by the Railway Board.

In regard to a suggestion to issue through tickets from and to halt stations, it was pointed out that the halt agent was not a Railway employee and the existing arrangements at halts did not permit of proper safeguards which would be necessary if through tickets were to be sold. The possibility of supplying a limited number of long-distance tickets to particular stations for which there were persistent demands would be investigated.

The most commendable action of the Administration is to combat ticketless travel. Checks had been organised on different sections and stations and quotas of earnings were being fixed for certain important stations.

Mr. W. G. W. Reid, General Manager, informed the Committee that the new classification of passenger accommodation would be introduced on the M. S. M. Railway with effect from December 1. A certain amount of inconvenience might be experienced at the outset in view of the fact that the extent to which the different classes of the proposed accommodation would be occupied could not be gauged immediately but the position would be carefully watched. This note of pessimism on the part of the Chairman seems to be having inconveniences on unprecedented scale consequent to the introduction of new classification from this month.

Another new proposal announced by the Chairman is to convert

one of the passenger trains each way between Madras and Waltair into a fast train to connect with suitable trains of the Bengal-Nagpur Railway at Waltair.

Construction of New Railway Lines

Last month a considerable amount of importance was given to Mr. A. Vedaratnam Pillai's query in the Madras Legislature in respect of construction of new Railway lines. To this Mr. M. Bhaktavatsalam, Minister for Public Works replied that the construction of the "Arantangi—Karaikudi line" has been recommended by the Government of Madras and the Central Board of Transport. It may be recalled here that the Central Board of Transport in May 1949 recommended to the Government of India that sanction should be accorded to the construction of the aforesaid line without any guarantee from the Madras Government and that the project should be included in the construction programme for the year 1950-51. The Board gave the first priority for this line among the lines included in the priority list. Further communication from the Government of India, regarding sanction to the construction of the line is awaited. It is not known when the work can be expected to be completed since action rests with the Government of India.

Hon'ble Minister further stated that the following nine other new lines were recommended by the Government of Madras to the Central Government: Calingapatam—Chicacole Road line; Kovvur—Ramapadasagar Dam site line; Diversion of the main line via Kakinada; Ellore—Sabari Valley line; Chinnasalem—Chingleput line; Mangalore—Hasan line; Kollengode—Trichur line; Tanjore—Pattukottai line and Dindigul—Gudalur line.

These lines were considered by the Central Board of Transport

at its meeting held in May 1949 and it was decided that the proposals for the construction of Calingapatam-Chicacole Road line and Kollengode-Trichur line should be dropped, and that surveys should be undertaken immediately in respect of proposals for the construction of Kovvur—Ramapadasagar Dam site line and diversion of the main line via Kakinada. In regard to the construction of the Dindigul-Gudalur line, the Board decided that sanction should be accorded to the construction of the Theni-Gudalur portion of the line, the project being included in the construction programme, partly in 1950—51 and partly in 1951—52. The Board also decided that the proposals for the construction of the other lines referred to should be held over for the present. Necessary action for implementing the decisions of the Central Board of Transport has to be taken by the Government of India in the Ministry of Railways and as stated above, that Government are considering the question of availability of funds for new line projects in 1950—51.

Advice to Railwaymen

It is heartening to note that the Minister for Railways had assured the General Secretary of the All-India Railwaymen's Federation Mr. S. Guruswami when the latter met the Minister at Delhi in his recent visit that the decision of the Government of India on the long-standing question of according weightage for service in fixing pay would be implemented very shortly. The General Secretary had informed the Minister for Railways that as a gesture of goodwill between the Government and the Federation it had recommended all Railwaymen to agree to the scheme of compulsory savings at the minimum rate of Rupee one a month in the case of all employees drawing below Rs. 250 up to the end of February 1952 without prejudice to any

claim for weightage for proper fixation of pay. How far the Railwaymen would act in this spirit is worth watching.

Locomotive Factory

We take this opportunity of welcoming the Mission representing the Locomotive Manufacturers' Association of Great Britain who were in India last month to discuss the subject of rendering technical assistance in the establishment of the first Indian Locomotive Manufacturing Factory in Chittaranjan near Asansol, in West Bengal. During their stay in India, the Mission visited the site of the factory and held discussions with the Ministry of Railways. If the Government of India could secure all technical assistance from these Manufacturers, there is every reason to believe that Chittaranjan would be turning out locomotives and boilers at the end of 1951 as expected earlier.

Railway Workers' Provident Fund

All categories of railway employees, who were till now only optional subscribers to the State Railway Provident Fund would now be required compulsorily to subscribe to the fund. This announcement was made by the Transport Minister Mr. Gopalswami Ayyangar at a meeting last month with Mr. Jai Prakash Narain, President, All-India Railwaymen's Federation and seven Members of the Federation's Working Committee. Thus the new concession, which mainly affects workshop employees and Class IV staff is estimated to cost the Government about Rs. 1 crore annually. This meeting reviewed the progress made in the finalization by the Government of the points raised by the Federation in their discussion with the Minister earlier this year. Most of the points had been examined and final orders issued. Two or three, which were still outstanding, were further discussed.

The working of the Joint Advisory Committee, which had been set up a few months ago to consider the anomalies arising out of the implementation of the Central Pay Commission's recommendations, was also reviewed. The Ministers agreed to publish the recommendations of the Joint Advisory Committee along with the orders of the Government from time to time. This announcement of the Ministers should naturally enthuse certain section of the long-awaiting railwaymen who are hit hard by the CPC's recommendations.

Central Transport Committee

The Standing Committee of the Central Board of Transport at a meeting held during last month, found that the transport of food-grains, sugar, steel, cement and iron ore have been satisfactory during October, 1949. It may be recalled here that this committee meets periodically to review whether the transport programme for the various industries planned by it has been properly implemented or not. A review of the transport position by the Committee, however, showed that the despatches of manganese are from Baraj on the Bengal Nagpur Railway to Calcutta for export have been very poor recently. The committee was informed that the movement of manganese are from Baraj to Calcutta between October 24, and November 4, averaged only slightly over 40 wagons a week, though four special trains of 50 wagons each had been allocated for this purpose. In view of the inadequate utilisation of the transport facilities by the manganese industry, it was suggested that the transport capacity unused by the industry be switched over for use elsewhere.

The Committee's discussions revealed that movement of sugar has been quite satisfactory and

that sugar allocations made by the Agriculture Ministry to the various provinces have been cleared according to schedule. Between November 9, and 20 about 650 wagons of sugar were moved from stations on the Oudh-Tirhut Railway to various destinations. The meeting was informed that sugar wagons held up by recent breaches on the M. S. M. Railway had been transported by two special trains. The number of tank wagons for the transport of vegetable oils have been increased from 54 to 69.

In the light of the above facts and figures, we commend the standing Committee of the Central Board of Transport's actions as there would be no more cry of "transport bottle-neck" from the commercial and industrial quarters.

Hindi Signboards for Rly. Stations

Hindi Script *lingua franca* of India—will occupy the first place on signboards at all stations on the Indian Railways, it is understood in Bombay. The regional language will be employed to indicate stations in the respective areas and in the case of bi-lingual areas, both the scripts will be adopted. Urdu script will be adopted in areas where it is predominantly spoken.

Work in this direction has already commenced on the G. I. P. Railway and the sign boards at Bombay suburban stations now bear out this change. Pending final decision on the question of common language for India, it is understood that the Railway Authorities have decided to indicate the name of the stations in Devanagari script in addition to English and the regional language of the area.

At stations within Hyderabad State for example the existing system of showing the name in English, Urdu and Kanarese scripts will continue.

Working of the Mysore State Railway Department

Important Measures undertaken :

Remodelling the station yards and buildings at Kadur and Chickjajur is nearing completion. Remodelling the station and yards at Devangere and Arsikere also made good progress.

Strengthening the track on the Bangalore-Mysore section to run YB class engines is completed.

The proposal for augmenting the strength of the Drawing Branches of the Chief Engineer's and District Engineers' Offices was sanctioned by Government as a temporary measure for one year.

Certain anomalies that crept up during the recent revision of scales of pay were examined and proposals have been under consideration of Government.

As an amenity to the Railway men, a canteen on modern lines was opened at the Central workshops, Mysore South, and the question of opening such canteens at other places is also receiving consideration.

R. C. C. roofing was provided to the Island Platform at Mysore towards Nanjangud Town and the dismantling of the existing Mangalore tiled roofing and replacing it with R. C. C. roofing for the remaining portion is nearing completion.

The work of sinking a 20 feet diameter well on the rear of tank bund near Sandal Oil Factory for supplying water the Central workshops and Railway Colony at Mysore South has been taken up and is in progress.

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GOVERNMENT OF MYSORE

The policy of restoring passenger train services to the pre-war level was pursued. The Administration, though handicapped by the shortages of coaching stock, took care to afford relief to sections where over-crowding was acute.

The following additional train services were introduced :—

- (i) One pair of shuttle trains between Mysore and Bangalore;
- (ii) One pair of shuttle trains between Birur and Davangere;
- (iii) One pair of trains between Bangalore City and Chickballapur;
- (iv) The shuttle trains running between Bangalore and Gubbi were extended up to Arsikere;
- (v) The shuttle trains running between Mysore and Hosagrahar were extended up to Arsikere.

The Mail trains on the Bangalore-Mysore section and the Poona Passenger trains on the Bangalore-Harihar section were accelerated. YB class engines were introduced to work the Mail trains between Mysore and Bangalore. This has enabled not only speeding up these trains but has enabled the hauling of three extra coaches by each train.

Arrangements have been made to provide non-vegetarian refreshment rooms at certain stations on this Railway for the convenience of travelling public.

Seven-bogie carriages built in Central Workshops were released for service.

The re-survey of the traffic prospects of the proposed Chamara-janagar—Satyamangalam—Mettupalayam Railway was completed by the South Indian Railway in collaboration with the Traffic Representatives of this Railway and of the South Indian Railway and their report is due.

The manufacture of cast iron sleepers for the use of Railways by the Mysore Iron and Steel works is under progress.

General State of Work and Efficiency :

The gross earnings for the half-year under review were about Rs. 120.80 lakhs as against Rs. 116.33 lakhs for the first half of last year. The coaching earnings for the half-year under review were about 69.21 lakhs, the goods earning Rs. 51.03 lakhs and miscellaneous earnings Rs. 0.56 lakh as against Rs. 70.55 lakhs, Rs. 44.30 lakhs and Rs. 1.48 lakhs, respectively, for the first half of last year.

With a view to arresting creep on Bangalore-Mysore section, orders have been placed on Messrs. Guest Keen Williams Ltd., Calcutta for the supply of 80,000 creep stoppers and the work will be taken up as soon as these stoppers are received.

An intensive campaign for rail drawing work on all sections of the Railway was taken up simultaneously for a period of four months to avoid buckling of rails.

The flying squad of Travelling Train Examiners appointed to eradicate the evil of ticketless travel have done good work and 26,262 ticketless passengers were excessed realising Rs. 40,885 whereas the figures for the corresponding period of last year was only 11,680 passengers and Rs. 27,808.

The turn-round of wagons has been improved to 4.7 and compares favourably with the figures of other Government of India Railways. The number of wagons loaded on this Railway for the half year under review was 40,811 as against 32,380 for the first half of last year.

There has been an improvement in the settlement of claims cases. The number of claims cases dealt with during the period was 6,862 as against 5,498 dealt

with during the corresponding period of last year and the average time taken to dispose of a case was 101 days as against 107 days, taken previously.

There has been considerable improvement in the punctuality of train services which has increased to 56 as against 36 for the corresponding figure of last year.

With a view to developing rail traffic and providing greater facilities to the mercantile public, four more out-agencies were opened at Hunsur, Chellakere, Mulbagal and Saklespur and it is proposed to open a few more out-agencies at other places shortly.

An additional sub-store was opened at Bangalore City to cater to the urgent needs of several departments and also to reduce unnecessary haulage of stores materials.

Important Measures requiring Attention :

With a view to eradicating the evil of ticketless travel on this Railway system and to educating the public in this direction slides are proposed to be displayed in movie theatres of important towns and placards and posters are proposed to be displayed at the Booking Offices of important Railway Stations.

To prevent thefts and pilferages of goods, it is proposed to strengthen the watch and ward establishment, especially at Bangalore, Mysore and Arsikere which are junction stations.

Proposals for constructing Island platforms at Bangalore City station as a first step of

remodelling that station have to be worked out.

Detailed proposals for duplicating the metre gauge track between Yesvantpur and Bangalore have also to be worked out.

Sanction of Government has been received to convert the three old Dodge Buses, now lying idle in Central Workshops into ambulance vans with a view to equipping the same with necessary first-aid kit, stretchers, etc., and to make them readily available to rush to the spot of accident in an emergency. It is proposed to take up immediately the conversion of one vehicle into an ambulance van at estimated cost of Rs. 3,000.

Observations and Suggestions relating to the Future Working :

The question of opening an Engineering Workshop for the manufacture of permanent way materials is receiving consideration of the administration.

With a view to implementing the orders of Government sanctioning extra staff for the Drawing Branch of the Engineering Department action is being taken through the Public Service Commissioner to select the required personnel.

Orders of Government have since been received for the appointment of Production Chasers in Central Workshops and action is being taken to select the personnel with requisite qualification.

With a view to clearing up the "Outstandings" at Bangalore, "Outstanding" Inspectors have been posted and personnel drafted from the Audit and Traffic Departments.



Our Christmas and New Year

Greetings to all our

Patrons and Friends

Capt. John Brinnand,
General Manager.

Maintenance of London's "Tube" System

Every 90 hours the 484 trains of the London underground system carry two million passengers through 278 stations and over 243 miles of route covering a total distance of 100,000 train miles. The remaining four hours is all the time that the maintenance and cleaning gangs have in which to do their work.



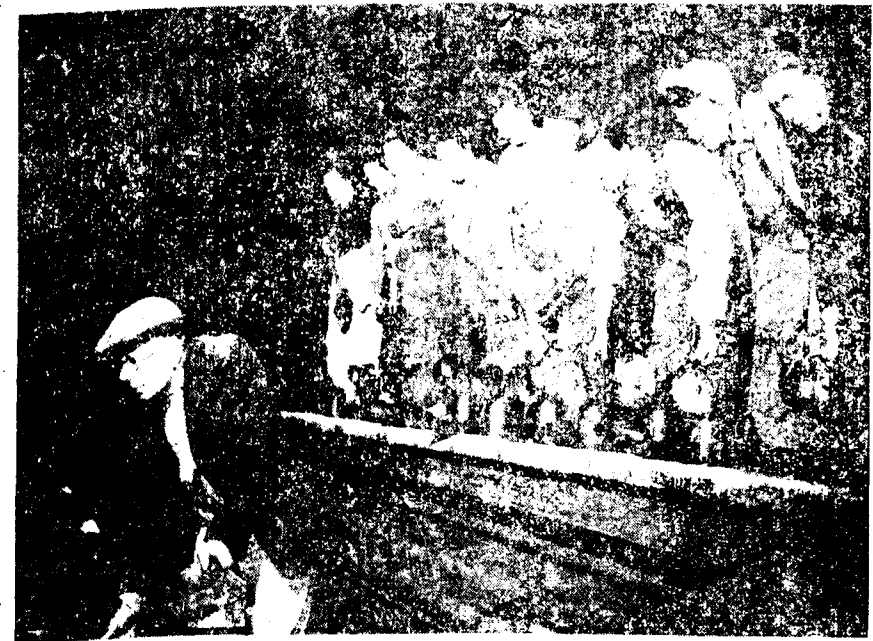
The answer is that a life saver has been added to the evening's expenses by having a £5 punch at the emergency switch which in case of need will stop the moving stairway.

(Below) The Hon'ble Sri N. Gopala wami Ayyangar, Minister for Transport and Railways and the Hon'ble Sri K. Santhanam, Minister of State for Transport and Railways met Press Representatives at a Conference held in New Delhi on October 28th with a view to giving them an account of various improvements recently made on Government Railways. Those present at the Conference included the General Managers of the various Railways in India.



The 'FLUFFERS' job is to remove the fluff, the accumulation of grease, dust and passenger's litter from the track. A cigarette stub or spark from the flying wheels could easily start a fire if this rubbish were not collected. Or, left to accumulate, it would eventually cause some trouble such as the rotting of cables.

The 'Fluffers' use acetylene hand lamps and scrapers specially designed to get round the chairs in which the rails rest.



Like swimmers waiting for the starters pistol the 'FLUFFING' gang stand by for the gangers O. K. to begin work. Before the gang get on to the line the ganger must test that the current is off. If the lethal 600 volts are 'on,' lamps in the box on his left hand will light. Of the four lines, only the one furthest from the platform carries enough 'JUICE' to the fatal.

Two million passengers leave a lot of debris behind. Cigarettes stubs, toffee papers, newspapers, matches and the general dust and dirt that they bring from the street litter the booking halls, stairways lifts and escalators, platforms tracks and carriages. All this must be cleared up, not only for the sake of cleanliness but to prevent the danger of fire or jamming the works.

More important still is maintaining the efficiency and safety record of the system which are unparalleled in the world. Every night 800 platelayers inspect every rail bond and set of points. The signal system is checked. Wheel tappers test the wheels for cracks and experts examine the car brakes. The fact that only one in over 420,000 passengers carried, meets with—usually a minor—accident and that cars average 12,000 miles before a train is delayed by any mechanical failure is proof enough that the work is well done.

In addition to all this, there are posters to be changed, ticket machines to be replenished, stairways and platforms to be resurfaced and the air-conditioning plant to be inspected. Eighty-six fans pumping 4,000,000 cubic feet of air a minute change the air in the tunnels every quarter of an hour. The temperature is kept at around 70 degrees all the year round.



Every car is swept and disinfected nightly. Every three or four days it passes through the washing machine which can clean an eight car train in two minutes. Once every eight weeks it gets a special scrubbing to remove all grease. Six million gallons of water are used each year to clean 310,000 cars.

The night staff employed is relatively small, about 1,300 men and women, for there is no room for big gangs. They must work not only like demons but to split second schedules to get through their work, upon which the safety and comfort of millions depends. It is largely this night staff who handle every year the 3,500 tons of running rail, 1,500 tons of conductor rail, 20,000 tons of track ballast, 40,000 sleepers and 100,000 chairs to hold the rails on to the sleepers. And all this is achieved in some 1,500 annual man-working hours.

It is a feat of dove-tail organisation and of ant-like

Coasting with a Caprotti

BY P. FRASER

(The following is an article written by a Scottish Driver of British Railways and published in the 19th August issue of the "RAILWAY REVIEW" which is the organ of the National Union of Railwaymen in the United Kingdom. As this article will be of great interest to our readers especially Indian Engine Drivers, we take this opportunity of reproducing the same herein and convey our sincere thanks both to the author and the "RAILWAY REVIEW"—Editor.)

When I first saw one of the new L. M. R. Class 5 engines fitted with Caprotti valve gear, I thought the front end looked ugly. Reports which I had heard of the performance of these engines were not impressive, and I imagined that the test on ten Class 5's would be unlikely to lead to its extensive adoption.

Now I have had the opportunity of working one of these engines between Glasgow and Carlisle and have nothing but praise and admiration for them.

On taking duty recently, I was pleasantly surprised to learn I was getting a "Caprotti" as these engines are familiarly known, and had a good look round before starting off, the engine having been prepared for us. The instruction plate fixed in the cap states that the throttle must be fully open when the engine is working and shut when coasting. To reverse from fore gear, it must be screwed into full back gear, and similarly, to reverse from back gear, it must be put into full fore gear. Having done this, any cut-off may be selected to suit load and speed. When coasting with throttle shut the valves act as a perfect by-pass. After reading the instructions the dynamo was started by means of the steam cock provided in the cab and lights examined. The appropriate lamps were switched on by means of switches built into the lamps to be ready for use when it became dark when the dynamo would be restarted.

A good impression of the engine had already been formed

on the way to the station and the start with the train was made a little behind schedule. Care is advisable on the sharp curve leaving St. Enoch station, to avoid slipping; but once out on the straight over Clyde Bridge, I put the throttle full open. Almost immediately I was surprised by the rapid acceleration, and quickly brought the cut off back to 20 per cent. At this cut off it soon became evident that the engine was doing better than scheduled time but I left it at that, having in mind the severe gradients from Barrhead to the "Shilford" and report I had heard that the "Caprotti" was "poor on hills."

The heaviest gradients on "Shilford" are 1 in 67-68-69-70, with very short stretches of easier gradients between. From the start of the 1 in 67 at Barrhead to the 1 in 70 South of Neilston, a distance of 3½ miles, cut off was progressively increased to 50 per cent.

The engine climbed smartly and easily giving no impression of hard working. On the following half mile are so of 1 in 100 down speed, increased so rapidly that the cut off was reduced to 5 per cent. and maintained at that over the easier gradients to the summit beyond Dunlop. Lugton, 14½ miles from Glasgow and 3 miles before the summit was passed 3 mins. early. Coasting down to Kilmarnock with throttle shut, the engine now demonstrated how smoothly and swiftly it can run with steam off and the brake had to be freely used to avoid a too-early arrival.

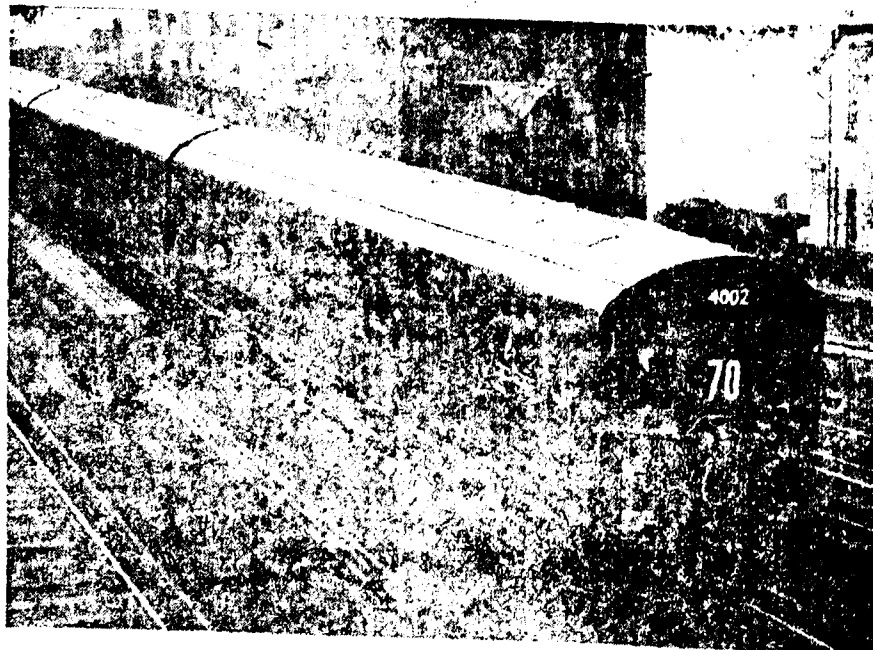
(Continued on page 155)

The restart from Kilmarnock was 1½ mins. late, and a yellow distant signal, 3½ miles out, necessitated the use of the brake and added to the deficit. Putting the engine to work again after the signal check, cut off was set at 38 per cent. up 1 in 100, reduced to 30 per cent., then increased to 40 per cent. up 1 in 99. On falling gradients of 400 and 600 over the next mile rapid acceleration was again prominent and cut off was reduced to 3 per cent. (the minimum obtainable) on reaching the level through Mauchline.

Here I must pause for a moment to proudly remind English readers that Mauchline claims undying fame through its connection with the life of our great National poet Robert Burns. Every time I cross Ballochmyle Viaduct a mile to the south, I never fail to hum or whistle the tune of Burns' lovely song "The Lass O' Ballochmyle." But we have left Ballochmyle behind and cut off must be increased to 7-15-25 per cent for rising gradients of

180, 150, 200 etc., over the next 8½ miles to the summit. New Cumnock was passed 4½ mins. late with the engine going so well that I considered the lost time could be quickly recovered on the 10 per cent cut off at which it was now working.

The "Caprotti" whisked the 210 tons train along at high speed until reaching the falling gradient of 1 in 200, 3 miles from Kirkcunel, I again closed the throttle. Passing Kirkcunel I opened up and worked on 7 per cent cut off to Sanquhar, 10½ miles from New Cumnock. Over this distance and with the greatest of ease 4½ mins. had been recovered plus nearly ½ min. gained on schedule. From Sanquhar we coasted 6½ miles on to the rising gradient of 1 in 200 about a mile from Drumlanrig Tunnel, surmounting over a mile of 1 in 275-900-210 up to Ardock without steaming. The engine was then worked for about 2 miles on 10 per cent cut off, then coasted over 17 miles to Dumfries to arrive



Double Decker Coach

there 2½ mins. early. From there on the run was uneventful, but a further 6 miles were coasted from the summit of Ruthwell Bank to within sight of Annan distant signal and 2 miles from Rigg to Gretna Jct. From that point successive signal checks resulted in a 5 mins. late arrival at Carlisle.

Throughout the run the engine performed with remarkable smoothness, and even at the maximum cut off of 50 per cent. used on the run, did not appear to be hard-worked. The fireman had no difficulty in maintaining a full head of steam and suitable water level; in his own words it was "money for old boots." The train was 50 tons below maximum load for the first and most difficult part of the route, but the "Caprotti" went spanking along in such grand style that I am confident it could have timed the full load with ease.

My lost time could have been recovered earlier had it not been for my trying various cut-offs which at times proved a little too short for load gradient. Acceleration and speed on the level on very short cut-offs are truly astonishing and are no doubt due to the full supply of high pressure steam

provided by the rapidly opening valves at the moment admission commences, and the free and full exhaust at all cut-offs. Hillclimbing, in my opinion, compares with the latest Class 5s, which also require a longist cut-off when climbing. Altogether the engine coasted with throttle shut, more than 40 miles of the 115 miles run and the saving in coal and water must have been considerable.

The only unpleasant feature of the "Caprotti" was some chattering in the gear which reached a maximum at 3 per cent cut-off but was practically eliminated at 15 per cent. But I must point out that I had worked the engine several times on cut-offs of 5.7 and 10 per cent before noticing the chattering noise coming from the reversing gear.

No engine with normal valve gear could put up such a performance and I sincerely hope the Caprotti valve gear proves reliable in operation and compares favourably with normal valve gears in maintenance. I feel that this excellent valve gear may well play a big part in improving the efficiency and in preserving for a few more years, the ever popular outline of the steam loco.

(Continued from page 154)

industry to keep this vast, complex system working smoothly for 20 hours a day, year in, year out. While London sleeps tonight, the 'conveyor belt' which carries the

working and spending population in and out is oiled and cleaned, ready to carry them again tomorrow.

Paint Performance

N. S. Pandya, G. I. P. Rly., Matunga.

The Indian climate is hard on most of the materials used in the construction of Railways rolling stock, and this is true to a greater extent on the finish which protects these materials. Cross country trains have to pass through varying climatic conditions. The factors which make a finish satisfactory from the point of view of protection and appearance are (1) Formulation and manufacture of the finishes, (2) Conditions under which the finishes are applied and dried as well as pre-priming treatment of the surfaces and (3) Conditions of service.

So far as the formulation and manufacture of the finishes is concerned, it can be said with some confidence that ALKYD enamels gives the best protection. Pheno-

lic resins as well as natural resins soon breakdown. Heavy bodied linseed oil paints though losing their gloss after a short time remain protective for periods as long as 2 years. No facilities for the complete manufacture of synthetic resin enamels suitable for the conditions of service, obtaining here exist in India. Whatever little facilities are available are confined to the manufacture of enamels from imported ingredients. As this is the case, research into the field of finishes suitable for our peculiar climate is essential. The Government of India (Railway Board) had invited before the war, a Paint Technologist from England for a survey of the conditions prevailing and suggesting methods of improvement in the

Paint shops of Indian Railways. He made some valuable suggestions. These suggestions it however appears have not been followed up to the detriment of the rolling stock, the Railway, the country and the poor tax payer.

Variations in Temperature and humidity, and the presence of dust in the atmosphere are contributory factors towards the early breakdown of the most durable of finishes. The constitution of a paint film formed under adverse conditions is weak, owing to the improper distribution of the vehicle and pigment in the body of the film. The power of resistance is low, and vulnerable spots many. Moisture, which finds its way into a finish while being applied or dried forms the nucleus for the commencement of condensation. Depending on the variations of temperature and humidity during the course of a day, moisture is absorbed and evaporated in a regular cycle from films rendered permeable, resulting in several defects in the finish. Fluctuations of temperature set up disturbances in the rate of evaporation of thinners and absorption of oxygen by the vehicle, upsetting the formation of a homogenous protective coating.

Ample evidence is available to show that the durability is affected by the preparation of the surface prior to priming. It can be demonstrated that the life of a coat of paint can be increased at least 10 times by suitable preparatory priming treatment. Our Railways have a vast scope for improvement in this direction.

It is natural that the severe conditions of operation of Railway rolling stock will demand the utmost resourcefulness from the Chemist, the Manufacturer and the

Painter. Some of the important contributions towards the quick destruction of a coat of paint are (a) High humidity (b) large variations in temperature from place to place and during different parts of the day, (c) abundance of Actinic rays from the sun (biggest individual factor in the breakdown of a paint vehicle), during a large part of the year, (d) rain and sand storms, (e) mould growth. Mention must be made here of the pigments with leafing characteristics. These pigments spread like a layer of leaves on top of the vehicle and protect it from sunlight. Aluminium is proved to give maximum resistance; second being Red oxide of Iron (Micaceous). Mould is likely to grow on carriages stabled out in the open. It is impossible to provide shelter for all the rolling stock and the only prevention seems to be to keep the stock moving.

A paint system of a railway coach fails in two manners. (1) Loosening of the film by loss of adhesion with the surface underneath, as in the case of iron, which is due to corrosion or formation of chemical products by zinc used in galvanizing, and (2) unsatisfactory appearance. To be of real value a finishing system must provide against both of these. In addition to providing adhesion to the under-surface it must improve in appearance with age. It should be considered most unfortunate if the whole coating has to be removed say every five years. Proper preparation and treatment of surface when a new coach is built is the only remedy against this—one of the most expensive items in the rolling stock maintenance. Lowest target to be fixed can be touching up and re-varnishing every two years with complete repaint after 10 to 15 years. (R. T.)



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"The Travelling Ticket Examiner"

BY A. H. PEARSON

The Travelling Ticket Examiner (TTE—to use the code) is undoubtedly the most unpopular Railwaymen riding a train. He is not unpopular amongst his fellow Railwaymen, but in the eyes of the passengers on the train. The inference is obvious. The TTE may be likened unto a Railway detective, always nosing around from passenger to passenger in a compartment with the spoken, or unspoken request to produce a ticket for immediate examination. When he comes up against the passenger who cannot produce a ticket for his journey, the one can imagine the feeling of unpopularity almost crackling in the space between the TTE and the guilty passenger.

Unpopular or not, that is the brass tacks of the TTE's job. He must examine the ticket of every passenger asked to produce one or take prompt steps to realise the legitimate fares due from the passenger who cannot. Dull and uninteresting job, you may say. But you will change your mind if you stepped into his shoes for even a short week, and did his job.

Let us start from the beginning and see how he does it.

About a half-hour before the departure time of the train which he is booked to check, the TTE reports to the office of the Head Ticket Collector on the station platform. In these thirty odd minutes he scans important office circulars, paying special attention, and making notes in his pocket book, of unused tickets etc. reported to be lost or stolen from booking offices. This is important as those lost tickets may be in the hands of some unscrupulous gang, who are selling them and misappropriating the cash realised to

their own accounts. If a passenger is found in possession of any such 'lost' tickets, he must be closely questioned as to how he came to be in possession of the ticket. An alert TTE can often be the detective who digs up the valuable clues to tracing the source of ticket frauds.

The poet Alexander Pope once wrote, "the proper study of mankind is man." A TTE spurred on by Pope's dictum to study man has an unlimited field for his research work. And he gets all this in the mere asking of a ticket from a passenger. The latter's reactions to this simple request are varied and interesting.

Some are eager and produce the ticket with alacrity; others are reluctant. Some are playful, and even facetious. It has been known for a passenger to tell the TTE that the ticket will be found in his shoe. Some think they are expert conjurors and will suddenly produce a ticket from behind an ear. Others think the TTE a con-founded nuisance and will tell him that their tickets have already been examined half a-dozen times on the journey, and 'that's enough, thank you.' If the TTE persists, they will get indignant, implying that their honesty is being questioned. Some are sarcastic, and will say with a sting, "What do you think I am? A crook? A bunch of boisterous students may decide to have some fun to the embarrassment of the TTE. They will jeer at the unfortunate TTE, and the latter—after all, he is human—will feel his temper rising, and want to hit back, but he must clamp down on his feelings and do his job calmly.

Often, it is quite a job to convince the ticketless passenger

that Railway fares are legitimate dues paying for the cost of transportation. These must be paid, and collecting the cash is quite a feat. Supposing a Class III passenger is found without a ticket, the TTE must now work out, with the aid of pocket distance and fare tables, the amount the passenger must pay. The passenger's ability, or inability, to pay is not always the deciding factor. He may start whining to be let off, as if the TTE were collecting a private debt, or he may adopt evasive tactics with endless back-chat. The TTE must warn him that if he does not pay up, well, the passenger will take the consequences with a prompt acquaintance with the Railway Magistrate or Police. This may have the decisive effect, and the passenger will pay. But not always. Then it is the unpleasant but bounden duty of the TTE to make that passenger over to the police.

Another type of dodger is the passenger who buys a ticket short of his actual destination, hoping that he will get there before the TTE has a chance to spot his trick. When he is detected that passenger will try and absolve himself from all blame by saying that he asked for a ticket for the correct destination, and in fact paid for it, but the accursed booking clerk gave him the wrong ticket. But these wiles are the old, old tricks, which even will not take in the fledgling TTE. The passenger has to pay, or else, once again, the Railway Police.

The TTE is not only responsible for collecting revenue from ticketless travellers, he must also be on the alert for passengers carrying excess luggage for which freight is not paid. The amount of free luggage permitted to each Class of passenger is printed on his ticket, and he can take just so

much free luggage with him in the way of personal effects like beddings, light suitcases, boxes etc. But, here again, because the passenger has paid his fare, he thinks he can fill up a compartment with half his household effects. It is not uncommon for a TTE to find beddings large enough to conceal a grown up man inside, and when questioned, the passenger will shrug his shoulders and say nonchalantly, or with a grin, just my bedding, you know, pillows, blankets, rezais, etc. If the passenger was honest, he would have to admit that the enormous bedding perhaps contains iron or brass rods, bed-poles, and various oddments scaling even up to a maund or more. These beddings may also be concealing valuable rolls of silk, cloth, etc. which are definitely merchandise, for which freight must be paid. Apart from beddings, passengers guilelessly, or with deliberate intent, think that cycles, sewing machines, spare parts of machinery etc. can be classed as personal luggage. But the TTE has to educate such people, and the best way of education, is by making them pay up the freight due.

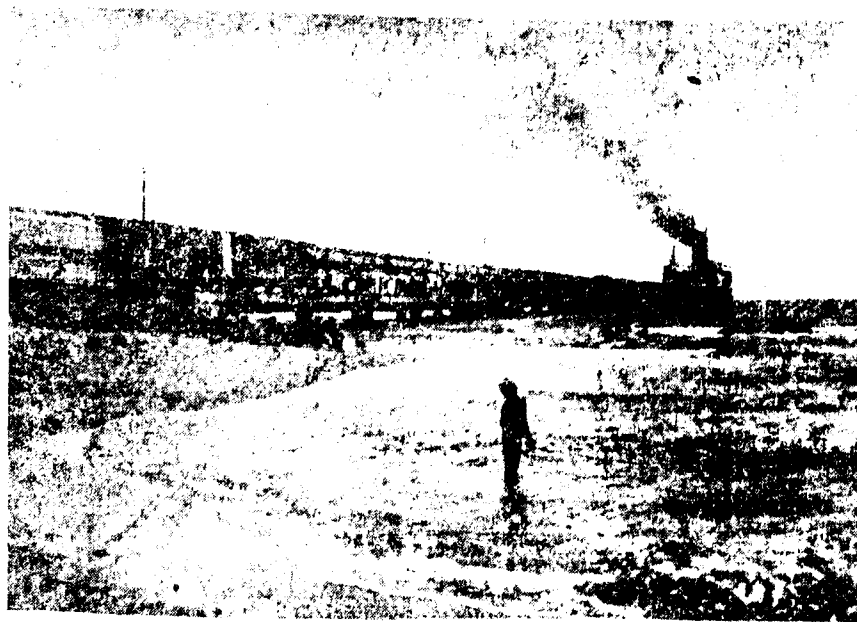
Beggars, itinerant vendors of all kinds of miscellaneous stuff, and the pseudo, or genuine 'holy men' are a problem to the TTE. Most of these haven't the cash to pay, so they must be made over to the police, or sternly told to get out of the train as quick as possible.

Travelling on footboards is another worry to the TTE. In spite of official warnings that this kind of travel, although a grand way of getting plenty of fresh air, is almost a sure invitation to an early death; but footboard travelling is still popular. Short of using brute force to oust these hangers-on, the TTE is practically helpless.

The TTE is at the end of his trip—perhaps 100 to 125 miles from his headquarters station, or returning to it. He is tired, but with the job he has to do, he must have collected quite a sum of cash

from passengers without tickets, with short journey tickets, excess luggage etc., and this cash he will then make over to the booking clerk on duty. He can now call it a day, and think of home and rest.

DIHANUSHKODI PIER



Dhanushkodi is a vital link which connects the two Dominions. Passengers for Ceylon have to board the Steamer Service. Twenty-four-hour-vigilant Customs Officials check all the passengers before boarding the Steamer with a view to prevent possible smuggling of merchandise into the Ceylon Dominion.

It may be mentioned that the South Indian Railway system terminates here. The above photograph shows the Indo-Ceylon Express from Madras is steaming in and the Steamer is awaiting to pick up the passengers for Ceylon.

"You Can Ration Words"

BY ALPHA

Rationing is not yet a belt-tightening evil of the past, but still ever present. For instance sugar is on the ration, than off, and you lick your lips at the thought of having some real sweet tea or coffee again. Just when you think no more about it, the head lines hit you, 'Sugar shortage in the country. Stocks must be conserved.' And you know it's coming. A few days later you get the thin end of the wedge, and apart from the black-market, you know that sugar is again an item on your ration card. But these are trials forced on long-suffering humanity, the result of some vicious circle. However, there is a form of rationing, which we could do with very well, and not at Governmental dictation. We could ration words, especially when we put pen to paper, or paper to typewriter.

This is how it can be done.

(A) The Business Letter.

First, there is the 'Dear Sir' opening. Now, imagine addressing a stranger, or near-stranger as 'dear.' He is no more dear to you than your mother-in-law, if you happen to have one. The fellow who will eventually get your letter may be some crusty, grasping old gent, who would make you feel hot under the collar if you had the nerve to address him as 'dear' in his presence. Of course, the term 'dear' may on some occasions be most apt: for instance, when you have been the gullible dupe of a sharper who has relieved you of a tidy sum of cash.

So, out with the word 'dear.'

Now take the word 'sir.' This is commonly a form of respect, and the only blokes you call 'sir,' are those who are in some form of authority over you. That is, they can make or break

you in your job, or be generous or mean when the topic of a substantial rise in salary is mentioned. And you have enough of this 'sir'-ing in trying to get on in the world. But if you are writing to somebody enquiring the price of a pair of shoes, there is no obligation on either side, and 'sir' is sheer verbosity. So, out with 'sir.'

Let us go a little further in the business letter.

Some unfortunate fellow has ordered and been supplied—on credit—by his favourite tailor a couple of suits, some shirts, underwear, socks, etc. so that he will not run around naked and ashamed. The bill is about three hundred rupees. Well, he pays up a few instalments. Then a run of bad luck hits him. His account is overdue. The tailor-cum-creditor starts dictating. 'I shall be glad'. Now, is there a gleam in his eyes? Are his hands itching to rap out a joyfui roll on any improvised drum within easy reach, or his feet twitching to dance a jig. All of which would indicate that he was glowing with the emotion termed gladness? Definitely not. He is probably boiling inside, churning over in his mind what superlatives of abusive names he would like to put on paper. So, score out 'I shall be glad to.....' it doesn't mean a thing to you.

Another widely prevalent flying start in most business letters is the 'I beg to.....' phrase. Let us look a little closer at this tiny word 'beg.' The dictionary will tell you a few home truths about what it means. "To ask for alms, charity, etc. habitually. To ask for a thing earnestly: to beseech, to pray." See what I mean. When you beg to inform, intimate, or invite attention, you don't do any knee-bonding, hand-folding,

or pitch your voice to a 'gimme' whine. So, cut out this 'bog to' stuff.

Then we have the grand finale curtain with the words 'Yours faithfully.' This gag needs some close thought. It's plain, unvarnished hypocrisy. Can you imagine a hard-hearted creditor swearing fealty to the poor wight who owes him a couple of hundred rupees. Is he honestly trying to produce that confident feeling of faith towards his debtor, that would prompt him to slap a loving hand on the back of his debtor and say, 'I'm not worrying. He'll pay up soon.' Not on your life. The creditor is seething with a lot of almost boiling hate. That 'yours faithfully' stuff is pure bluff. Leave it out.

Now, applying the principle of rationing your words, let us see how a creditor would write to his debtor Mr. Blank. The letter must be short, straight to the point, and with no frills, no hypocrisies. This is how it should read:

"Mr. Blank, you still owe me Rs. 200. Pay up, or else, signed -A. Tailor."

Just about a dozen words on a small slip of paper, and Blank knows exactly what is required of him and how much. The closing 'or else' brings him to earth with a jolt. He knows he is dealing with a flint-heart and respects the forthright approach. This is where inference talks louder than words.

(B) The Love Letter.

Boy writes girl; girl writes boy. Before marriage, and afterwards. Wads of paper, sky-blue, pale green, soft pink, and the hint of the products of perfume distillers. And the superlatives, lines and lines of them. Or the diminutives, also more lines of these.

All meaning one thing. 'You are so wonderful, and so am I.' And those almost endless repetitions like, 'you're mine, mine, mine,' or 'I'm yours, yours, yours.....' decorated with exclamation marks and heavy underlinings. Why not say it once, 'You are mine,' or 'I am yours,' and have done with it. Perhaps few exquisite and repetitive thrills are lost, but what of that. More to come when we meet again. And those kisses, represented by small or large 'x's. They start with a few good-morning ones; then a few more thrown in for the afternoon, followed by those for evensong, and later for the goodnight blessings. Well, count 'em up. Two hundred altogether? Well, why not write it in figures—'200'—and tell your beloved to divide by four and take so much for each quarter of the day.

Perhaps you would like to know what a specimen love-letter should look like on the rationed-word principles. Well, as it is a subject much too close to the heart, one cannot stereotype them. But you can spare the words so as not to spoil the paper, and so much of it. Think of all the extra love letters you can write with the paper saved, and at no extra expense.

Well, there's the idea. Yours for the taking. Perhaps it will save you the cost of a few fountain-pen nibs, a few bottles of ink, a few pads of writing paper, and to those who detest the art of putting pen to paper, a way out of their misery.

But I'm glibly offering you the preaching, and it is about time I did the practicing myself, before I start writing a new book with the title "Streamline Your Letters."

Ceylon's Ancient Capitals

BY A. MADHAVAN

Ceylon is definitely the tourist's dream of Paradise, and very few other countries offer such wide and varied scope for sight-seeing. Of all the beautiful things that this tropical island has to offer to the visitor's interest the most important are the ruins of that country's ancient capitals. Due to the war, a visitor to Ceylon was not to be able to cover all these places in less than four weeks' time. During the course of one year during the war I made four or five journeys to that island and during my short stays there, made attempts to gather some

A day in Anuradhapura is definitely very instructive and I have spent a few days there, enjoying the extensive shades of the huge trees that are in abundance every where, in Ceylon.

Anuradhapura

The present town of Anuradhapura stands on the Railway line connecting Colombo with Talaimannar and from thence to India. It is a big Railway Station of first class military importance. There are a few good hotels also and one feels easy in such an atmosphere. One sleeps



Warrior Chief and his Consort,
Isurumuni Temple, Anuradhapura



Statue of Parakramabahu the Great
Polonnaruwa

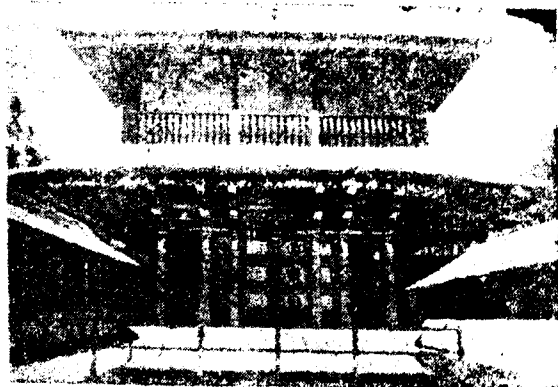
details regarding the history of the country and the traditions of the people. It shall be my attempt to give below the facts I gathered about the various seats of government in the past. I could make an exhaustive study of Anuradhapura, the most important and famous of them all, and I gathered facts about the others from the Archaeological Commissioner whose headquarters are at Anuradhapura.

off the night in peace and gets up in the morning, quite refreshed. You can engage a small bullock-cart drawn by a single bullock or a taxicab and go about sight-seeing. The roads are none to receive and radiate praise and you jolt along to the oldest of the remains, the Thuparamaya, a Dagoba built in 508 B. C.

Thuparamaya is very huge Dagoba built by King Dewanam-



The Thuparama Dagoba before Modern Repairs,
Anuradhapura



The Temple of the Tooth, Kandy



Group of Elephants Isurumuni Temple, Anuradhapura
(7th Century A. D.)

pariya (the Beloved of the Gods). It is said to contain the right collar-bone of Lord Buddha. King Dewanampariya was the first king of Ceylon to embrace Buddhism. This is held out by the fact that there is a Hindu temple also at Anuradhapura, the Iswaramuni temple which is said to have been built by the same king.

The name of the same town is, according to one version, derived from that of a king Anuradha who ruled Ceylon. Another version says that the name is not Anuradhapura, but it is Anurajapura. Anu in Sinhalese means ninety and it is said that ninety kings have ruled the country from there. But chronicles show there were more than ninety kings who ruled at that capital. From Dewanampariya in 300 B. C. or Vijaya in 200 B. C. to Sri Vikramarajasingha in the eleventh century of the Christian era, Ceylon had its capital at this spot. And during this period, many beautiful and magnificent buildings rose up. Anuradhapura at that time was a vast city of 250 sq. miles and is said to have had a population of more than six millions.

At the beginning of the eleventh century A. D. there was an invasion from India and to stem the progress of the invader, the citizens broke the dykes and flooded the country. The capital was removed to Polonnaruwa and Parakramabahu the Great built a beautiful city there.

There is an excellent system of mud pipes that from the irrigation system in a place called Mihintale, some six miles away from Anuradhapura. It is a marvel of engineering and still intact, after a lapse of so many centuries.

The drainage system of Anuradhapura also was constructed in mud pipes and in some places can be seen still functioning. But, of all things in Anuradhapura, the

things worth seeing and remembering are the remains of Buddhist influence and culture in the country.

The most famous of the relics is the bo-tree that stands at the centre of the city. It is said that Sangamitha, a daughter of Emperor Asoka and sister of Mahinda who brought the message of the lord to Ceylon, brought the Southern branch of the bo-tree under which Gautama attained knowledge and planted the tree in Anuradhapura, where it stands to this day.

Then there is the Boazen Palace some of the granite pillars of which are standing in front of the bo-tree temple. This palace was built by King Dattu Gamanu in 150 B. C. and had forty rows of forty pillars each, thus making a total of one thousand six hundred pillars. This palace was nine-storeyed and in each storey there were hundred rooms. It was here that the priests of Mahavihara used to perform the festival ceremonies. At that time, this building was known as the Opposathage or the Poyagao.

Near this Boazen palace there are some ruins which are said to be part of the Buddhists' railings where the younger priests or monks were educated. The ruins date back to 161 B. C.

Two ponds, twins they call them, were built by king Dattu Gamanu somewhere about 200 B. C. Of these one was for the ordained priests and the other for the unordained.

There is a Dagoba of the name of Abhayagiri, built by some Valagan Bahu in the year 78, B. C.

Going to the outer fringes of the present town we come across Jethawanaramaya, built by king Mahasena in the year 284 A. D. Its original height was 480 feet and circumference 1,200 ft. It was built in solid brick mortar. It is now covered with jungles.



Kantaka Cetiya Mihintale



General View of the Isurumuni Temple,
Anuradhapura



The Lotus Bath, Polonnaruwa

The wife of king Mahasena, Lankadevi, has one Dagoba to her credit. It is called Lankaramaya. It was also covered with forest, but is now being cleared.

There is another Dagoba, built by king Dattu Gamanu, with a circumference of more than 900 ft. and a height of 300 feet. Its name is Kuwanwelisoaya. It is being repaired now.

There are other ruins also, built in the early days of the Christian era. There are excellent images of Buddha and his disciples,



Guard Stone at so called Elephant Stables, Anuradhapura

Mahinda and others in many of these Dagobas. In the Iswaramuni temple to which reference was made earlier there are some excellent carvings of elephant on the rock.

The most important Buddhist ruins are called the Atamastana (the eight places).

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Pollonaruwa

During the latter half of the eleventh century A.D., Parakramabahu the Great built the beautiful city of Pollonaruwa. It was four hundred square miles in area and contains sixteen ruins of sacred shrines. This group of sixteen is called Solosmasthana. This city was capital for about a hundred years. Most of the palaces and Dagobas are named after those in Anuradhapura. There is a beautiful pond carved in rock in the shape of a lotus.

Kandy

The hill station of Kandy was the next capital of the kings

of independent and united Ceylon. The famous tooth temple at Kandy was built somewhere in the twelfth or thirteenth century A.D. It was capital only for a very short time. Later on the country broke into pieces and there were warring chieftains everywhere.

Sigiriya Rock Fort

For a time there was a Hindu king of Ceylon by name Kashyapa who killed his father and ascended the throne. He was king of Ceylon in sixth century A.D. He built his capital on a huge rock in Sigiriya by carving out a palace. This rock is now famous for the frescoes on the walls of the palace.



Mohen at so-called Queen's Pavilion, Anuradhapura
(Photos by kind courtesy of Archaeological Dept. of Ceylon Govt.)

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Travel Feature

Who is to be Blamed

BY J. J. DORAI RAJ

"We must look at both sides of a question"—is a favourite maxim that we hear in the school debating societies. Many of us are ready to shout from our house-tops that the railway journeys in India are an unpleasant experience. But have we ever tried to look at the other side? Are the Railway administration, staff time-table and the other arrangements to be solely responsible for this unhappy state of affairs?

A student who does not adjust himself to his teacher, a patient whose relationship with his doctor is not one of trust and the 'yogi' who does not attune himself to the Divine should not expect to achieve success. A prospective traveller must learn the easy art of availing himself of the amenities that are prepared for him by the Railway Administration if he really means to make his journeys comfortable and enjoyable.

I have in mind a third class passenger whom we shall call Raghava Chetty. Though he arrives at the Railway station an hour or two earlier to the departure of his train, yet exhibits all signs of unrest and uneasiness. He brawls at the porter and after bargaining for more than fifteen minutes comes to the final decision as to the fare.

Then he runs—not walks—to the Booking Office, where though there are only five or six persons he elbows his way to the front. As a result of this unsocial act he picks up a small quarrel and wastes some words and energy. Owing to the recent excitement he is unable to pronounce the name of destination audibly.

The Booking Clerk who is already overworked has to repeat his question more than twice before he could find out the correct name. Raghava Chetty thinks that the man behind the bar is in charge of the inquiry department as well and hence takes the opportunity of clearing some of his doubts. Does the train stop at Ambatur? Will it be possible for me to catch the first bus at Trivellore?—are some of the questions that he asks. Meanwhile the poor clerk has to count the change—reject the uncurrent ones—stamp the date on the proper ticket. Can you blame him if after all these, he throws the ticket with an uncivil jerk? Feverishly grasping it in his hands Raghava Chetty together with his porter climbs up the steps of the over-bridge. His suspicious nature compels him to turn back at the end of almost every third step to see whether the porter is following him or not. After arriving safely at the platform Raghava Chetty shows fresh signs of trotting and fuming. His eyes are constantly looking towards the direction from which the train is expected. To do this to his satisfaction he stands at the edge of the platform and stretches his neck uncomfortably forward. A well meaning Railway man's timely warning saves him from the casualty list.

The train steams in. But look, look at Raghava Chetty! He presents the appearance of one who is preparing to run a race. No sooner the train stops than he rushes towards it. He does not give a chance for the passengers to alight from the train, but tries to force his way in—a task which he finds to be almost impossible. He instructs his porter to butt the

trunk in through the window of the carriage and thus reserve a seat. (What a simple method to reserve a seat).

Raghava Chetty literally fights his way to a seat. During this process, his coat, fresh from the dhobi crumples beyond recognition. His turban requires rewinding. The right sandal has lost its strap! Yet a feeling of triumph and victory is visible on his face. Placing his suit case on the seat, he rests his hand on it and makes a leisurely survey of his fellow passengers.

* * * * *

The question arises, what is wrong with Raghava Chetty? In the first place he ought not to have travelled by the third class at all. He is a rich man who could afford to travel by the second. In India both the rich and poor travel in the third class which is quite unfair to the latter. If a man travels in the third if could he afford to travel by the second, then he must be counted as an enemy to the have not's. By choosing to be miserly with his money, Raghava Chetty has made the journey more difficult for the third class passengers. With a nominal sum he could have reserved a seat in the compartment.

The railway has fixed rates for the porters, and hence there is no need to argue with them. On the other hand Raghava Chetty relying on his usual powers of bargaining thought that he stood to gain by it.

In all the chief Railway stations an enquiry office is maintained, and the man-in-charge answers all the questions of the passengers in a pleasant manner; add to this a time-table is issued giving all necessary information to the passengers. Mr. Raghava Chetty thought it wise not to spend money on it.

Posters in bold letters exhort us to observe the queue system at the booking office window. But Raghava Chetty turned a deaf ear to them.

Porters are licensed coolies. They bear registered number plates. Very rarely play malpractice. Raghava Chetty's natural lack of trust in human beings increased his worry.

No amount of anxiety on the platform will make the trains arrive in time. Politeness demands that we must first allow the passengers in the train to alight. There is plenty of time to get into the carriage and arrange the 'samaans.' Above all, the selfish passenger who places the trunk on the seat must not be disappointed if he finds his journey uncomfortable.

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(Please see Photo on Page 156)

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