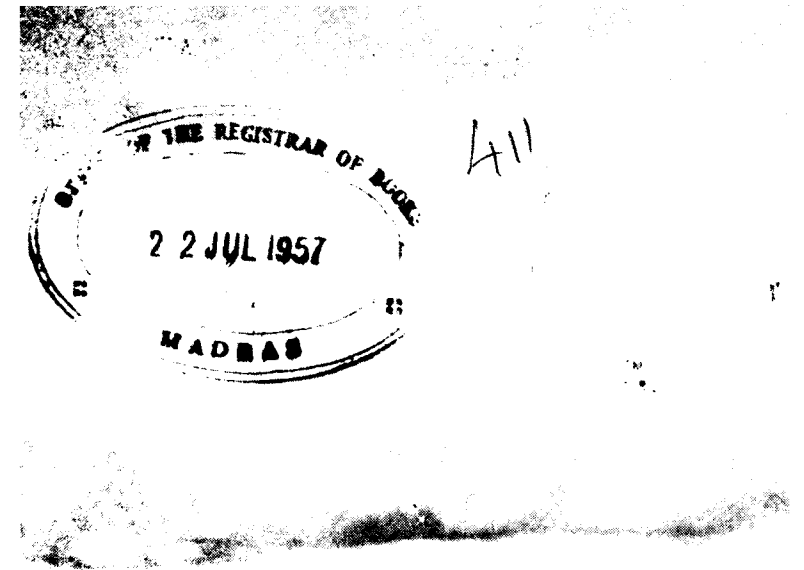


South rail News

1957 - May

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Southrailnews

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VOL. IV

MAY 1957

SOUTHERN RAILWAY

CONCESSIONAL HILL STATION RETURN TICKETS

During the period from the 1st April 1957 to the 31st October 1957, Return tickets to the undermentioned Hill stations, at one and a half single journey fares for First, Second and Third classes (Mail/Express or Ordinary fares being charged for Second and Third classes, as the case may be), will be issued from such of the stations on the Southern Railway, as from which the chargeable distance is 150 miles or more. These return tickets are available for three months from the date of commencement of the outward journey. Advance booking on these return tickets is permissible under the same conditions as for ordinary single journey tickets.

- | | |
|------------------------|--|
| 1. PATHANKOT | 9. SHILLONG OUT-AGENCY
(served by Pandu of Gauhati) |
| 2. SIMLA | 10. ABU ROAD |
| 3. SOLON | 11. OOTACAMUND |
| 4. DHARAMPORE (Punjab) | 12. COONOOR |
| 5. DEHRADUN | 13. KODAIKANAL ROAD
(including Kodaikanal Out Agency) |
| 6. KATHGODAM | 14. KOTAGIRI OUT-AGENCY
(served by Mettupalaiyam) |
| 7. KURSEONG | |
| 8. DARJEELING | |

Children above 3 and under 12 years of age, will be charged at half the concession fares.

Return tickets to the Out-Agencies mentioned above will be issued at one and a half single journey fares for the rail-portion and at two single journey fares for the road-portion of the journey.

No break of journey on the outward trip is permissible on these return tickets, but break of journey is allowed on the return trip, subject to the usual conditions governing break of journey on ordinary tickets.

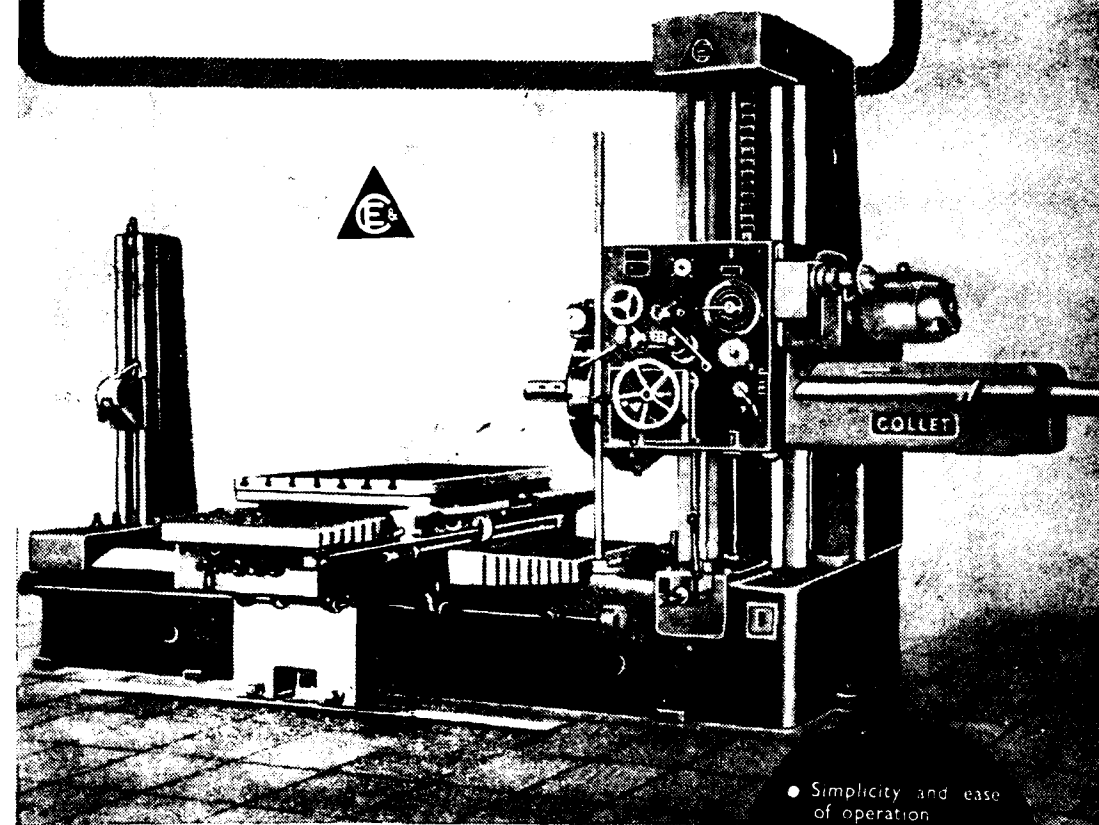
Further information can be had from the Station Masters or from the Chief Commercial Superintendent, Southern Railway, Madras-3.

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The Northern Railway is issuing at a concessional fare of 3/4th of the tariff fare, first, second, and third class tickets for a number of standard tours. These tours cover a number of specific itineraries, details of which are available from station masters on this Railway. In addition, if any itineraries are proposed by the public to the Chief Commercial Superintendent (Rates) of this Railway, they will be examined and concessional fares granted provided certain conditions are fulfilled.

Special Trains

Requests for special pilgrim or excursion trains on the broad gauge will be considered and the following concessions will be permissible :-

- (i) Kitchen arrangement— One bogie vehicle will be attached free with each train.
- (ii) One conductor and four cooks/servants will be allowed to be carried free.
- (iii) For tours exceeding 1,500 miles and over, a concessional fare equivalent to 3/4th of tariff fare will be permissible under certain conditions.

For detailed information, please apply to the Chief Commercial Superintendent (Rates), Northern Railway, Kashmiri Gate, Delhi.

THE PUBLIC RELATIONS OFFICER, NORTHERN RAILWAY

SOUTHRAILNEWS

(Official Organ of the Southern Railway)

EDITORIAL NOTICE

VOL. IV

No. 2

Editor :

K. SRINIVASAN

All contributions must be clearly typed and double-spaced on one side of the paper only, and signed, not necessarily for publication but as a guarantee of good faith.

Manuscripts and photographs, not accepted for publication, will be returned only if the sender so requires and encloses the usual stamped, addressed envelope.

Contributions should be addressed to the Editor, not by name, and reach him not later than the 10th of the previous month.

The Editor does not assume any responsibility for the accuracy of the news supplied by correspondents or for opinions expressed by contributors. Opinions expressed in the **Southrailnews** whether editorially or by contributors should be regarded as having no official authority.

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THE EDITOR

"Southrailnews"

18A, Mount Road, Madras-2

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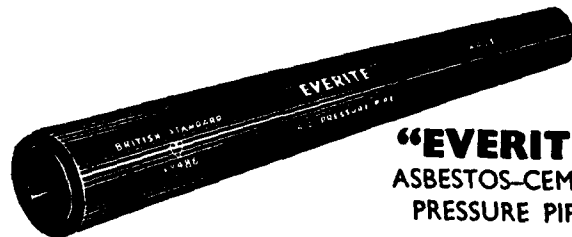
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Cover : Panoramic view of Perumal Peak & township, KODAIKANAL.



talking of pipes...

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RAIL—SEA CO-ORDINATION COMMITTEE'S RECOMMENDATION

THE five-man Committee was set up on June 2, 1955, to suggest ways and means to co-ordinate the development of railways and coastal shipping to ensure harmonious development of the two forms of transport, and to avoid wasteful competition between them.

The five members of the Committee are Mr. N. S. Lokur, Chairman, Railway Rates Tribunal, Mr. S. R. Kalyanaraman, Additional Member (Commercial), Railway Board, Mr. P. R. Subramaniam, Senior Deputy Director-General of Shipping, Mr. B. Das and Mr. M. Govinda Reddi, Members of Parliament. Mr. D. Mahadevan, Superintendent, Rates, Eastern Railway, was the secretary of the Committee.

During the last year the Committee ascertained the actual costs of operation by examining the accounts of coastal companies. The Coastal Conference submitted several memoranda to the Committee dealing with the determination of economic freight rates and the over-all problem of rail-sea co-ordination.

It might be remembered that the Government accepted, as a matter of policy, that there should be an adequate and efficient coastal fleet which would cater to the needs of the country. Subsequently, the Government announced a policy of reservation of the coastal trade for national shipping and also one of assistance to Indian companies in building up their fleet principally through grant of loans on reasonably easy terms.

The Committee addressed 161 chambers of commerce, and other commercial bodies, issued

questionnaires to the Railway Board, port authorities, the Indian Coastal Conference, and individual shipping concerns. The Committee held 47 meetings so far, visited all the major ports and most of the minor ones, and its findings with suggestions were submitted to the Union Ministry of Transport on April 17, at Delhi.

Among the recommendations of the Committee, the following may be considered important:

(a) Measures for rail shipping co-ordination or allocation of traffic between the two forms of transport.

(b) That commodities should move by the mode of transport best suited for the purpose.

(c) The Committee has also recommended a machinery to co-ordinate the movements because of the different Portfolios under two different Ministries—Railway Ministry and the Transport Ministry.

(d) They have also laid stress on the need for avoiding overlapping between the two forms of transport and for developing adequate coastal shipping in the larger and long term interest of the country.

(e) Last but not least, an increase in rates to assist coastal shipping industry to operate satisfactorily on a sound financial basis, which is a far-reaching recommendation and it is understood, it has been made to enable the industry to serve the country's needs for additional transport expected to materialise during the Second Five-Year Plan period.



NOTES ON CURRENT RY. TOPICS

"INDIAN RAILWAYS—1955-56"— POPULAR HANDBOOK

A popular handbook entitled "Indian Railways—1955-56" has just been published by the Ministry of Railways, presenting in a readable style the different aspects of the working of the Indian Railways during the financial year 1955-56.

The publication, which is available from the Manager of Government Publications, Delhi, presents in simple, non-technical language a brief account of the operations of India's largest nationalised undertaking. Besides comparative figures relating to the year's performance, as against that of a few preceding years, there are a number of useful appendices. There are 27 charts and 21 statistical tables giving statistics from 1938-39 onwards.

DR. RADHAKRISHNAN'S INAUGURAL SPEECH AT RAILWAYS PHOTOGRAPHIC EXHIBITION

The following is the full text of the speech delivered by Dr. S. Radhakrishnan, Vice-President of India, at the inauguration of the photographic exhibition on 16th April.

I am delighted to be here and inaugurate the Indian Railways Photographic Exhibition. It is the first event of the Railway Week which will mark the 104th anniversary of the commencement of the railways in India. The first railway train in India ran from Victoria Terminus, Bombay to Thana, a distance of 21 miles on April 16, 1853.

This is the first exhibition of its kind organised by the Indian Railways and it is unique because almost all the major railway systems of the world participate in it. It is truly international in character and States adopting different political and economic systems are represented in this exhibition. From the nature of the exhibition, you will see how successful the exhibition has been. It has stimulated competition among the amateur and professional photographers of the country. Many of our photographers may learn from the work of other countries.

This exhibition recalls the two urgent needs of our time, national consolidation and international understanding. Railways have played a notable part in breaking down distances,

physical and psychological. In our country they have helped to overcome caste barriers and foster a sense of unity. Unfortunately after ten years of independence we see all around divisions and bitterness. Communal rivalries and caste spirit were exploited in some parts during the recent elections. Reaction seems to be in the ascendant. While our Government has tried to raise material standards, moral and spiritual values seem to be on the decline. We seem to have grown indifferent to the true values of Life and are attracted only by power and wealth. The new society which we hope to build is a democratic one, a structure that is based on the conviction of the infinite worth of the individual. If we do not have this conviction, democracy becomes a short-cut to the tyranny of the baser elements in man. We have suffered in the past on account of corruption and dishonesty in high places and our national incoherence. Unless we remove these defects from our body politic, our future will not be bright. Moral ideals cannot be constructed like dams. They spread like trees, their roots in the soil and their branches in the sky. It is time we turn to the re-making of man for a very thin line separates order from chaos.

Every attempt to bring nations together on a non-political basis is a step in the right direction. The need of the world is mutual understanding. Conditions of the world have so changed that we have to establish an international society if we are not to cease to be human. Still we see in different parts of the world spectacles of military machines crushing people with a cynical display of sheer force. The advanced nations of the world are running a neck to neck race for the production of nuclear bombs which will destroy each other and themselves. Though they know that this disastrous folly will have injurious effects on the human race and animal life, they are not prepared to stop these tests. For they seem to think that they will attain security through the building up of these nuclear armaments. If in spite of the warnings of scientists regarding the dangers of radioactive poisoning we persist in our madness, our behaviour can no longer be regarded as that of sane men. Man has become a menace to man. Human beings are making life difficult for one another. We seem to have become mental patients. There are many roads to

May 1957

NOTES ON CURRENT RAILWAY TOPICS

7

mass suicide but only one to human survival. We are faced by a moral crisis. We need an act of faith. If the nuclear powers wait for each other to give the lead, the race will not end. The future of humanity demands the stoppage of all nuclear explosions. Cannot one of these nations rise to the occasion and unconditionally abandon these tests and thus help to produce a similar attitude in others? Are these nations incapable of it? We have to live by the light of conscience and start a process of rebirth if we are to build a human society in this nuclear age. We need not yet despair.

Railways, apart from their utility and convenience, make for goodwill which is the only instrument for national unity and international peace. I have great pleasure in opening this exhibition.

RAILWAY MINISTER'S SPEECH

Speaking at the inauguration of the Indian Railways Photographic Exhibition at New Delhi, the Railway Minister, Sri Jagjivan Ram, said that considering the standard of education in India, imaginative photography offered perhaps better scope than the written word for reaching the masses of this country.

Through this unique medium, he said, the photographer could convey far more and much more easily to the common man than the printed word which called for an effort to read and understand.

Continuing, the Minister said :

I am glad that the Exhibition Committee has been able to enlist the co-operation of so many foreign countries in this Exhibition. Here we will see a cross section of visual impressions pertaining to the railway systems of a majority of the larger railway systems of the world. The foreign participants have, indeed, gone to considerable trouble and expense in providing their exhibits.

The exhibition will be open to the public from tomorrow which marks the beginning of the Railway Week being celebrated by the railways throughout the country. The Railway Week was celebrated for the first time last year, and it is hoped to make this an annual feature. This particular period of the year has been chosen for celebrating the

Railway Week because it was on April 16, a century and four years ago, that the first railway train in India ran from Bombay to Thana, a distance of 21 miles. Incidentally, this was also the first railway train in Asia.

OBJECT OF RAILWAY WEEK

The object of organising the Railway Week is, firstly, to stimulate the friendly interest and co-operation of the general public in the day to day working of the Indian railways and, secondly, to provide an occasion when railwaymen of all ranks can get together in a spirit of kinship and camaraderie. The celebrations take the form of instructional exhibitions, cultural shows, prize distribution ceremonies, children's sports and feats. This occasion is also utilised to better inform the general public through the press, radio and other mass media about the various activities and problems of the Indian railways.

It is now widely recognised that the success of our Second Five-Year Plan, on which the country has pinned its hopes for future progress, depends to a large extent on how the country's premier transport system is able to shoulder the heavy burdens that have been cast on it. The Indian railways continue to labour under many handicaps, which are not of their making, but they are determined not to let these deflect them from their resolve to give the country the best that their human and material resources are capable of.

RAILWAYS' DIFFICULT TASK

In the difficult task before them, the railways need, above anything else, a measure of public confidence, goodwill and understanding which will put heart into those who run this vast system, and draw the best out of them. Occasions like the Railway Week are intended to bring about this happy situation.

In organising this Exhibition, the Indian railways have, in a sense, cut new ground, for this is the first time that an all-India Railway Photographic Exhibition, preceded by an all-India Photographic Competition, has been organised. I understand that similar exhibitions have been organised with considerable success in certain foreign countries. I hope that we will be able to organise such exhibitions in future years on an even bigger scale.



A variety entertainment was part of the celebrations during Railway Week in New Delhi. Dances by Sri N. Balasubramaniam, Sub-head, CCS's Office, Madras, was one of the items, for which he won the Railway Week Medal. The photos show him as "the snake charmer" (above) and "Siva"



RAILWAY PHOTOGRAPHIC COMPETITION

Thirty-one competitors from all over India have won prizes in the Railway Photographic Exhibition organised by the Railway Board. The prizes have been awarded for photographs and transparencies of outstanding merit on railway subjects.

The competition was held in two sections open to railwaymen and non-railwaymen respectively. Prizes have also been awarded separately for the two sections.

All the prize-winning photographs and a selection of others received for the competition were exhibited at the Indian Railways Photographic Exhibition held at New Delhi. Five competitors from our Railway were awarded consolation prizes.

A WAGON EVERY 20 SECONDS

India's largest railway marshalling yard at Moghalsarai, near Banaras, set up in March a record of operating performance which has never before been achieved in its long history.

Daily during March, an average of 2,082 wagons were despatched to a multitude of destinations on the Northern, Central and Western Railway, marking a 17 per cent increase over the performance in March last year, and a 24 per cent increase over March 1955.

In the opposite direction, to the Eastern Railway an average of 2,101 wagons left Moghalsarai daily during March, an increase of nearly 20 per cent over the daily average for March last year.

During the last 11 days of March, an average of one wagon left Moghalsarai every 20 seconds. This process continued all round the clock.

RAILWAYS INVITE PUBLIC CO-OPERATION

At scores of railway stations throughout the Indian Union hundreds of banners with specially-coined slogans printed on them were hoisted on Wednesday (April 10) calling for public co-operation with the railways in their

day to day working. April 10 marked the commencement of the Railway Week celebrations.

Some of the slogans called for public co-operation in keeping the stations and trains clean, developing the queue habit, travelling with the minimum luggage, eliminating ticketless travel, avoiding foot-board travel, etc.

These banners were displayed at a large number of stations throughout the country till April 16, the concluding day of the Railway Week.

"INDIAN RAILWAYS" ANNUAL

Distinguished writers in the railway world in India and several foreign countries are among the contributors to a 250-page annual number of *Indian Railways*, the official magazine of the Ministry of Railways, published to synchronize with the Railway Week celebrations.

The annual has been planned to provide a large fund of authoritative information about the Indian railways in a compact form. It contains about 150,000 words of original contributions from nearly 50 authors in 9 different countries, including many serving or retired top railway executives.

Some articles also relate to foreign railway systems. The articles are profusely illustrated with photographs and specially-designed charts and pictographs.

Prominent amongst the contributors are the Chairman and members of the Railway Board, a former Financial Commissioner for Indian Railways, retired General Managers, and the heads of the railway systems of U.S.A., France, Switzerland, Austria, Belgium, Japan, etc.

The annual also contains articles from the heads of a number of railway equipment manufacturers in India and abroad, dealing with their links with the Indian railways and with various new developments in the railway world.





Marshal Zhukov, Defence Minister of U.S.S.R. with Sri K. Sadagopan, Chief Administrative Officer, ICF. The Minister was taken round the Factory during his recent visit to Madras

Certificates of Outstanding Merit were awarded to 15 employees of Indian Railways during Railway Week, by the Railway Minister, Sri Jagjivan Ram. Photo shows some of the recipients of the award with Railway Minister Sri A. B. Krishnaswamy, SLWI/Sports, Southern Railway (back row—third from left) and Sri H. A. Vigil, Driver, Southern Railway (front row—second from right)



RAILWAYS FULLY GEARED TO THE SECOND PLAN TASK

P. C. MUKERJEE

Chairman, Railway Board



Perhaps it would not be out of place here to say a word about the first Railway Plan. Actually this Plan was not out till towards the end of the first five years and a substantial quantity of overage rolling-stock had to be retained in service, inspite of an expenditure of Rs. 240.81 crores on purchase of new rolling-stock. The reason was that very much more traffic had to be carried in 1956 than in 1951, and this was possible only by the retention of extra overage stock in service.

SECOND PLAN OBJECTIVES

Our objectives are: (a) to carry the increased production of heavy industries like coal, steel, cement and other commodities as far as possible; (b) to rehabilitate track, bridges and rolling-stock in order to maintain these satisfactorily to carry without restrictions the load that would be offering; and (c) to try to become self-sufficient in railways' own equipment through greater manufacture in the country.

In order to achieve these objectives as far as possible, and yet be within the bounds of the total possible Plan outlay, the railways were given a reduced allotment of Rs. 1,125 crores and this covers:

- (a) the construction of about 842 miles of new railway lines mainly to serve the requirements of the coal and steel industries;
- (b) the renewal of about 8,000 miles of existing track which has fallen into arrears due to shortage of rails and sleepers;
- (c) the doubling of about 1,607 miles of track where the existing single line is already working to capacity and cannot possibly carry any more traffic which will be generated;
- (d) the conversion of about 265 miles of metre gauge lines into broad gauge; and
- (e) the electrification of about 1,343 route miles of existing railway lines where density of traffic is such that steam traction cannot possibly move all the traffic offering.

We have now completed the first of the five years of our Second Plan and it would perhaps be appropriate to take stock of the position. I will here try to give some idea of the picture as it appears to emerge, though of course it is difficult to say whether the same trend will continue in the future.

We should, I feel, have no doubts in our minds that our objective is to go firmly ahead, with unflinching determination that we shall execute the task we have before us. It will not do if we either keep doubting our ability or waver over our difficulties. There is also another danger we should avoid, and that is to keep changing and chopping, unless this is absolutely imperative.

Our task is to set the railways in a position to carry all the traffic for quite some years to come. In the past we have not been completely successful. Although there may have been free and easy movement in some areas, this has not been the general rule everywhere. We, railwaymen, have been the first to appreciate that our carrying capacity must increase, if the expansion of the country's economy—increased industrial and agricultural production—is to be facilitated.

For this allotment of Rs. 1,125 crores, funds will be provided from the following source : Rs. 750 crores from the general revenues, Rs. 225 crores from railway revenues by way of current appropriations to the depreciation reserve fund at the rate of Rs. 45 crores per year ; plus a further sum of Rs. 150 crores from railway revenues.

As the electrification programme may take a little longer to be completed, we have gone in for 100 diesel locomotives, the idea being that these will be used in the areas where the traffic is heavy and later on, as electrification is introduced, they will be shifted to other areas where meanwhile the traffic density increases and where there would be no option but to dieselise.

The rolling-stock we propose to purchase in the Second Plan is : locomotives 2,364 ; coaching stock (in units) 11,575 ; and wagons (in 4 wheelers) 107,247.

There will be a large number of line capacity works such as major remodelling of important marshalling yards, improvement of goods facilities, opening of new crossing stations, provision of additional loops and extension of the length of existing loops, etc., and of course a great expansion in the railway workshops, sheds and sick lines to help to get the most out of the rolling-stock.

I will now give some idea of the position at the end of 1956-57, the first year of the Second Plan.

FIRST YEAR'S RECORD

In the annual works programme for 1956-57, provision for an expenditure of Rs. 318 crores was made for the following items :

Item	Anticipated cost (in crores of Rs.)
Rolling-stock	142
Workshop plant and machinery	36
Track renewals	19
Bridges	7
Line capacity works	38
Electrification	31
New lines	19
Staff quarters and staff welfare	12
Railway users' amenities	2
Other works	12
Total	318

Budget provision for the Plan works, both in progress and the new works, for 1956-57 amounted to Rs. 193 crores—Rs. 88 crores for rolling-stock and Rs. 105 crores for other works. In spite of severe handicaps of shortage of steel and cement, further aggravated by the Suez crisis, the railways expect to spend a total of Rs. 178 crores during the First Plan year.

Actual deliveries of rolling-stock up to end of January 1957 and the anticipated deliveries during the full year are indicated below :

	Actual deliveries to end of January 1957	Anticipated total deliveries to end of March 1957
Locomotives	516	624
Coaching stock (in units)	1,167	1,406
Wagons (in units)	27,132	31,759

NEW LINES, SURVEYS, DOUBLINGS

A total of 2,800 miles of surveys was approved during the year, and the work in the field is actually in progress on about 2,000 miles.

Work on three new lines was completed during the course of the year and they were opened to traffic. These are the 37-mile metre gauge Ernakulam-Kottayam line on the Southern Railway, the 24-mile Champa-Korba broad gauge line on the South-Eastern Railway, and the 26-mile Fatehpur-Churu metre gauge line on the Western Railway.

In addition, the seven-mile line from Ghandhidham to the new Kandla Port was opened for goods traffic only.

Work is in progress on about 556 miles of new railway lines, the important ones being Rourkela-Dumaro, Bhilai-Dhalli Rajhara, Etah-Burhan, Indore-Dewas-Ujjain, Phusro-Muri, etc.

Work is also in progress on the Rohtak-Gohana section of Northern Railway (20 miles), and will be started shortly on the Akbarpur-Tanda section (11 miles) of the same Railway.

Also in hand is the conversion of the Renigunta-Gudur metre gauge section of the Southern Railway into broad gauge, a total of 52 miles, at an estimated cost of Rs. 2 crores. It is expected that the work will be completed

and opened to broad gauge traffic during the course of the year.

Work is in progress on 677 miles of doubling, of which about 350 miles lie on the South-Eastern Railway alone. A few of the important sections where doubling work is in progress are : Delhi-Mathura, Saharanpur-Moradabad, Kanpur-Allahabad, Delhi-Rewari, Arkonam-Jalarpet, Bezwada-Gudur, Mancharpur-Rourkela, Rajkarswan-Barajamda, and Rourkela-Durg.

ELECTRIFICATION IN FULL SWING

Work is in full swing on the Howrah-Bandel main line and Sherophuli-Tarakeswar sections of the Eastern Railway. It is planned that the first electric train will run in this area this year.

Tenders to cover all the sections proposed for electrification during the Second Five-Year Plan for AC/DC electric traction have been received and are under consideration. The works will be let out on a priority basis after a final decision is taken—as this is a matter of considerable importance these may first be settled before arriving at a decision.

A large number of workshops and loco sheds on the Indian railways are being expanded and modernised to meet the maintenance requirements of the increased holdings of rolling-stock.

As many as 67 goods yards are being remodelled including major remodelling of marshalling yards at Moghalsarai, Ondal, Tatanagar, etc. Work on providing modern marshalling yards at Bhilai and Rourkela is in progress. As many as 52 new crossing stations are being opened to increase the line capacity. At about 100 stations the length of existing loops is being increased and additional loops are also being provided, depending upon the requirements of individual stations.

USERS' AMENITIES

Railway users' amenities are also receiving close attention. A large number of works are in progress at various stations. About Rs. 3 crores were earmarked for such works during 1956-57. It is proposed to spend about the same amount during 1957-58.

Some of the amenities with approximate proposed expenditure during 1957-58 are : improved facilities in existing carriages, Rs. 60.91 lakhs ; improved facilities on platforms, Rs. 75.66 lakhs ; improved waiting and other facilities at stations, Rs. 39.09 lakhs ; and better and improved water supply facilities at stations, Rs. 21.86 lakhs.

STAFF QUARTERS AND AMENITIES

During 1956-57, the railways provided a total Rs. 8.6 crores for staff quarters and amenities. Of this, about Rs. 97.84 lakhs was for providing new hospitals, health centres, maternity centres, and improving the facilities in existing ones and Rs. 6.85 crores for the construction of new quarters and improving existing ones, providing electric lighting in quarters and streets, etc.

During 1957-58, a total of Rs. 10.42 crores has been earmarked for such works, of which about Rs. 114.4 lakhs would be spent on providing new hospitals, health centres, etc., and improving the facilities in existing ones, while Rs. 8.09 crores would be spent on providing quarters, improving the existing ones, providing electric lighting, etc.

GOODS TRAFFIC UP

It is significant that even upto November 1956 goods traffic had already recorded an increase of about 10.1 per cent over the figures for the corresponding period of 1955-56 as the following figures will bear out :

	1955-56	1956-57
Broad gauge	52,654,893 tons.	58,354,755 tons.
Metre gauge	14,305,130 ..	15,388,063 ..
Total	66,960,023 ..	73,742,818 ..

During 1955-56, the total tonnage of goods moved on the Indian Railways was about 114 million tons which figure will increase to about 125 million tons during 1956-57 or an increase of about 9.65 per cent.

The Second Five-Year Plan proposals provide for the lifting of a total of at least 161 million tons of goods at the end of 1960-61.

The line capacity and other works proposed take a long time to develop. In the meantime, we are resorting to improved operational methods leading to better utilisation of wagons

by running block trains and express goods services, running goods trains to a time table, reducing the time allowed for loading and unloading of wagons, round the clock working in important transshipment yards, reducing the number of disabled rolling-stock, etc., to keep pace with the increase in traffic.

MARCH TO SELF-SUFFICIENCY

The railways are fully alive to the importance of achieving self-sufficiency in the matter of stores, equipment and the personnel, and are actively working for this.

Early in 1956-57, the Railway Equipment Committee submitted its report to the Government. As a result of one of the recommendations, a nucleus Development Cell has been established in the Railway Board office, and for the first time the development of exclusively railway items has been taken over by the Ministry of Railways.

One of the first steps taken by the cell was to augment the wagon-building and underframe manufacturing capacity in the country from about 20,000 wagons and 300 underframes per annum to an ultimate of about 36,000 wagons and 1,700 underframes per annum respectively.

Issue of licences has been recommended in favour of some of the prospective firms capable of doing the work. A number of development orders for rolling-stock components as well as electrical signalling items have also been placed during the year.

LOCO AND COACH PRODUCTION

At the Chittaranjan Locomotive Works the rate of production has been increased to 14 WG locomotives per month. The total number of steam locomotives manufactured during the year was 156, making a total of 504 WG locomotives since the workshop went into operation.

The monthly outturn of unfurnished coaches at the Integral Coach Factory at Perambur has been stepped up to 10 per month. During the year a total of about 85 shells will be manufactured, making a total of 97 shells since the Factory went into operation on October 2, 1955.

The question of opening a similar factory for the metre gauge coaches is being considered.

SOUTHERN RAILWAY

TENDER NOTICE

Provision of a new hospital in lieu of the existing one at Berwada

1. The Chief Engineer, Southern Railway, Madras-3, invites Percentage Sealed Tenders for the above work upto 12-00 hours on Wednesday the 22nd May 1957.
2. The tenders should be submitted in the prescribed form obtainable from the Chief Engineer's Office on production of a receipt for the amount of Rs. 10 paid to the Chief Cashier, Southern Railway, Madras-3 or the Divisional Accounts Officer, Mysore or any Station Master on the Southern Railway towards the cost of the tender form. In no circumstances will the amount paid for the tender form be refunded.
3. The tender form is not transferable.
4. Tender forms will not be issued after 15-00 hours on Wednesday the 15th May 1957.
5. The total approximate value of contract is Rs. 3,54,500.
6. The earnest money of Rs. 17,700 for this tender should be paid in advance to the Chief Cashier, Southern Railway, Madras-3, or the Divisional Accounts Officer, Mysore, and the receipt issued by him should be attached to the tender.
7. The earnest money will not be accepted after 15-00 hours on Thursday the 16th May 1957.
8. The tenderer should submit along with the tender the Income-tax Clearance Certificate in original or an authorised copy, or if he has no taxable income, a sworn affidavit duly countersigned by the Income-tax Officer to that effect.
9. The tenders will be opened at 12-00 hours on Thursday the 23rd May 1957 in the Chief Engineer's Office at Madras.
10. The Chief Engineer reserves to himself the right to reject, without assigning reasons any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

A workshop to manufacture spare parts for locomotives and to carry out major reconditioning of machine tools is being set up. Funds have been allotted for these two units in the Second Five-Year Plan.

TRAINING OF STAFF

The railways will require a large number of technical personnel to handle the increased traffic and maintenance requirements of rolling-stock, etc. It is proposed to spend over Rs. 3 crores in the Second Plan period to increase the training facilities on the railways. It is also proposed to recruit untrained raw hands from the market and train them on the railways for the work they will be required to perform.

The requirements of the railways are of a specialised and technical nature which can only be imparted at the moment by the railways themselves as there are no outside facilities available. The staff are being trained in the railway workshops, loco sheds and special training schools run by the railways.

Facilities are being expanded to train over 7,000 people of different categories at a time.

GANGA BRIDGE PROJECT

Before the commencement of the second working season, all works in connection with the training of the river Ganga, 8 of the 15 main piers and all the four shore piers had already been completed. During the second season which commenced from October 1956 work had been in progress on the remaining 7 piers (all water piers), earth work in the transshipment yard on the north bank and on the raising of the formation in the river area to its final rail-road level.

Linking of track in the transshipment yard and earthwork on the south bank have been taken in hand. It has been planned that by the end of June 1957 all piers will be completed.

The fabrication of steel girders has suffered a setback due to the non-receipt of steel from U.K. It is expected that during the course of the next four or five months most of the steel outstanding will be received and it will be possible to start erection of girders at the

site during the next working season from November 1957.

FULLY GEARED FOR THE TASK

I have referred to developments during the current year in some detail merely to show that the railways are getting fully geared to the task of executing the large number of works necessary for the Second Plan.

Arrangements have been made for training the necessary personnel, but the greatest difficulty appears to be the question of foreign exchange and the shortage of steel.

In order to help with the foreign exchange the World Bank was approached for a loan and earlier this year the Bank sent over a team of experts from a firm of consulting engineers to study the working of the Indian Railways' development schemes and to examine whether we are in a position to handle the task. These consultants are to report to the World Bank. It is not known at the moment whether they have done so.

FOREIGN EXCHANGE AND STEEL

We are waiting for the World Bank decision as to the extent to which the foreign exchange required for the Railway Plan can be loaned to us.

Meanwhile, arrangements are being made for the procurement of steel that is essential for railways, such as track and track fittings. Procurement is to be handled by this Ministry, and we will try and get whatever is possible from the world market.

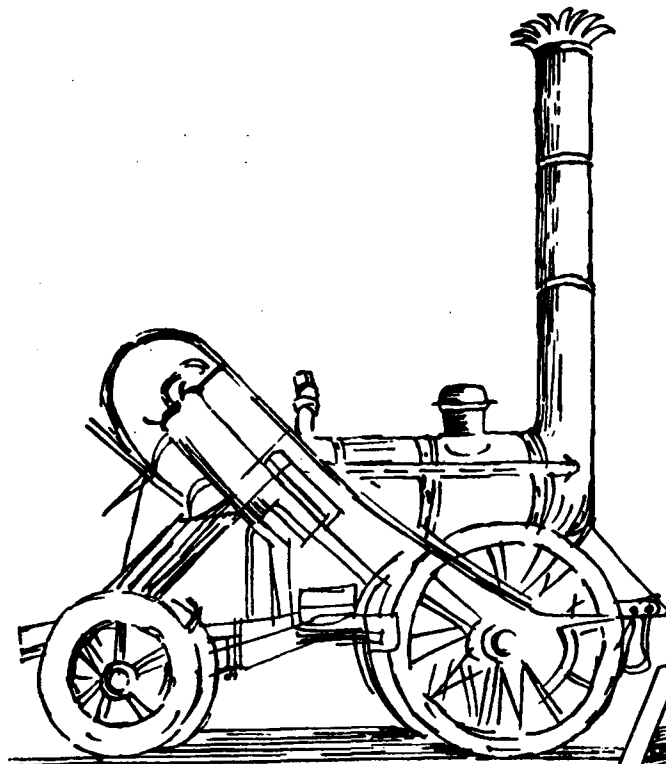
It is not known at what price level such procurement can be arranged, but at present we are aiming at completing the physical targets of the Rs. 1,125 crore Plan and to do this as early as possible.

As it is, we feel that this will not meet all the requirements of transport, but we are firmly resolved that there must be no delay in the execution of our Plan.

Everyone on the railways should be aware of the great responsibility that we are carrying and we are proud that we have been called upon to shoulder such a heavy task for our country.

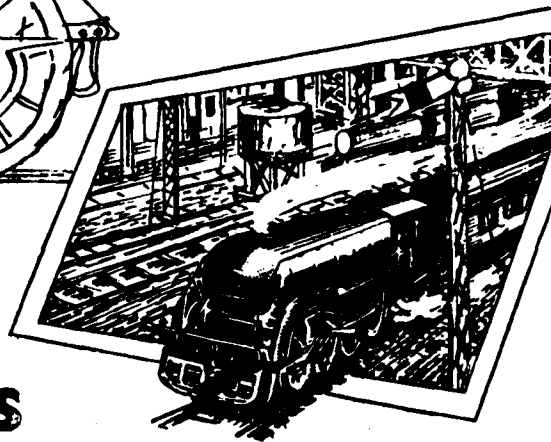


The Rocket



The principal features of the 'Rocket', the locomotive steam engine built by George Stevenson, were an improved steam blast for urging the combustion of coal and a boiler in which a large heating surface was given by the use of many small tubes through which the hot gases passed.

In all essentials and particularly in the use of steel tubes the locomotives of today follow the same principles.



STEEL TUBES

AND INDIA'S RAILWAYS

The Indian Railways are among the biggest consumers of steel tubes in India. This year, for the first time in our country's history, Locomotive Boiler Tubes will be made in India at the Jamshedpur works of the Indian Tube Company (1953) Limited. By 1958 they will be meeting the whole national demand.

Indian Tube

The Indian Tube Company (1953) Limited
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Bulawayo station and yard of the Rhodesia Railways as seen from the air

WORLD OF RAILWAYS

ARTHUR L. STEAD

Our London Correspondent

TRAVEL where you may, in no corner of the globe has the railway effected a more striking transformation than in the vast land mass known as Africa. Great stretches of the African Continent still remain untapped by rail, but over a considerable proportion of the land the "Iron Way" has been pushed forward from the seacoast to the interior, with the most beneficial results for all concerned.

There are many extremely efficient transportation undertakings serving Africa. One of the most interesting and progressive of these concerns is the Rhodesia Railways, born just 67 years ago, and now forming a strategic link between the South African Railways and the far-flung rail networks of East Africa and the Congo Region.

Operating 2,436 miles of line, plus 2,720 miles of railway-worked passenger and goods road services, the Rhodesia Railways have a track gauge of 3 ft. 6 in.—a dimension favoured by the majority of African systems around

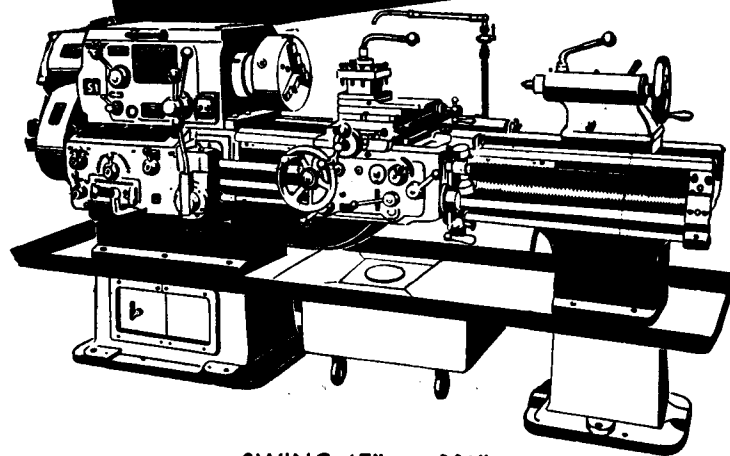
and South of the Equator. From its connection with the South African Railways at Vryburg, the Rhodesian system stretches North through Bechuanaland to the capital and railway headquarters City of Bulawayo. From Bulawayo, the Rhodesia Railways run forward to the Congo border in Northern Rhodesia, and on to Umtali, near the frontier with Mozambique. Included in the system's lines are routes serving the world-famous Victoria Falls scenic region.

Engineers from Britain were the enthusiastic original builders of the Rhodesia Railways. The main-lines—mostly single-track—are laid with 60-pound steel, now being generally replaced by 80-pound rails. Maximum axle load is 13½ tons, but this is shortly to be increased following the completion of an ambitious bridge strengthening programme. Gradients vary from a very severe section of 1 in 50 between Umtali and Vila Machado, to lesser gradients such as 1 in 80. An enormously heavy coal and ore traffic, hauled

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over long distances to the Port of Beira, makes tremendous demands on track, locomotives, and crews.

Main centres on the Rhodesia Railways are Bulawayo, Umtali, Salisbury and Livingstone (happily named to perpetuate the memory of Africa's greatest explorer). At Bulawayo and Umtali there are extensive locomotive and carriage and wagon shops. Bulawayo and other main centres have commodious passenger stations and marshalling yards, and at Bulawayo there was recently installed a new locomotive roundhouse complete with mechanical coaling equipment and all modern facilities.

The Rhodesia Railways have a very fine safety record to which efficient signalling has largely contributed. Train signalling mostly is by semaphore, but considerable portions of the main-lines have the latest type of colour-light signals, and this modernisation is being steadily extended. Centralised train control is another refinement now being introduced to develop track capacity.

In a single year, the Rhodesia Railways handle about 3,000,000 passengers and 6,000,000 tons of freight of all kinds. Steam is exclusively employed as motive power, and locomotives total 300. At the present moment, plans are under review for the introduction of lightweight diesel railcars on certain Rhodesian routes, but—like so many other railway undertakings—the Rhodesian system has been faced with grave financial and other peculiar problems since World War II and capital expenditure has had to be limited to essentials.

At the outset, primitive steam locomotive types were used in Rhodesia. An example was the Class "7" engines of 1900, with their tractive effort of 18,660 pounds, and weight in full working order of 83 tons. These early locomotives performed heroic service, but in 1926 the Rhodesian motive power picture was revolutionised by the putting into traffic of twelve Beyer-Garratt articulated engines. Since that time, Beyer-Garratts have come to form the backbone of the system's motive power.

The first of the new machines worked on the Vila Machado to Umtali route, a gruelling 143 miles of 1 in 50 uncompensated gradient with numerous reverse curves. After two years' experience, the Rhodesia Railways acquired an additional six of the 2-6-2+2-6-2



The commodious Wheel Shop in the Central Carriage and Wagon Works of the Rhodesia Railways at Bulawayo

type engines of improved design, these later being followed by another ten. In 1929, eight-coupled Beyer-Garratts appeared on the scene, a further twelve being ordered in 1937. Next came a 4-6-4+4-6-4 type and a 2-8-2+2-8-2 design, delivered during World War II. Today, the Rhodesia Railways are the proud owners of no fewer than 150 articulated locomotives handling the bulk of the system's heavy tonnage.

Modern Beyer-Garratts in use in Rhodesia, of 4-6-4+4-6-4 wheel arrangement, have bar frames and 4 ft. 9 in. coupled wheels. An interesting feature is the streamlining of the front tank which greatly improves the appearance of the locomotive. Principal dimensions are as follows: Cylinders (4), 17½ in. by 26 in.; wheelbase of each unit, 31 ft. 4½ in.; rigid wheelbase, 10 ft. 6 in.; total wheelbase, 84 ft. 3 in.; boiler pressure, 180 pounds; total heating surface (including 494 sq. ft. superheater), 2,830 sq. ft.; grate area, 49.5 sq. ft.; fuel capacity, coal, 10 tons; water, 7,000 gallons; tractive effort at 85 per cent boiler pressure, 42,750 pounds; and total weight in working order, 179.5 tons.

Bulawayo-Salisbury Express leaving Bulawayo Station headed by powerful Beyer-Garratt articulated steam locomotive



Average speed of passenger trains in Rhodesia is 30 m.p.h., with a maximum of 50 m.p.h. Goods trains average 20 m.p.h. The loading gauge of the Rhodesia Railways is slightly larger than that of the neighbouring South African Railways, having actually a maximum height of 13 ft. 6 in. and a width of 10 ft. 6 in.—pretty good figures for a 3 ft. 6 in. system.

There are approximately 450 passenger carriages in service on the Rhodesia Railways, catering for all races. In the early days, the "tramway" type of vehicle predominated, but the principal trains today are formed of saloon-type coaches for day use, capable of adaptation for sleeping purposes in a matter of minutes.

The Rhodesia Railways have four classes of passenger accommodation. Dining cars are included in the principal trains, serving about 150,000 meals per annum. The railway catering branch also operates many station refreshment rooms and a fine hotel at Victoria Falls. About 23,000 visitors stay at the Victoria Falls Hotel, in the very heart of Africa, each year.

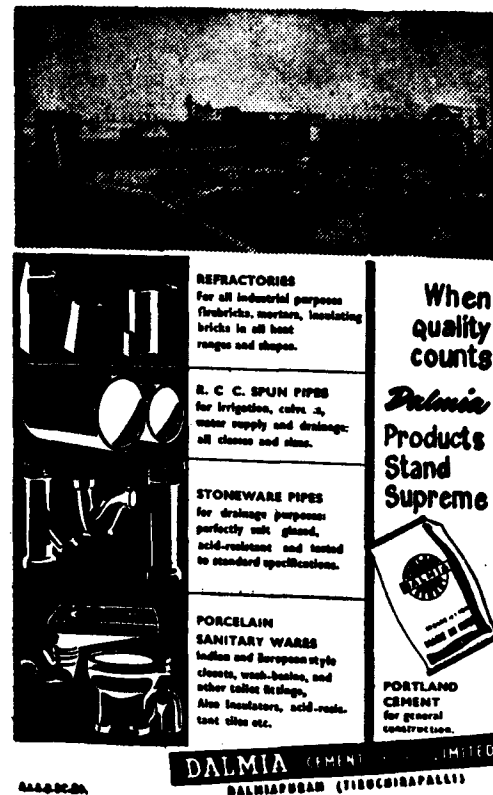
Goods wagons on the Rhodesia Railways total 6,600, and many of these are metal high-capacity vehicles of most modern design. Approximately one-quarter of the freight handled consists of export mineral products required in the world's markets, including copper, chrome ore, asbestos, lead, zinc and vanadium. Coal and coke traffic totals about 2,000,000 tons annually, and export tobacco 40,000 tons.

The road transport branch of the Rhodesia Railways is a very busy concern. Most of the railway-owned buses and trucks are diesel-engined, and in a single year about 185,000 passengers and 195,000 tons of goods are handled. There is the closest co-operation between rail and road services, and in a great many instances the road vehicles serve as valuable feeders for main-line trains.

There are about 4,400 European and 12,000 non-European employees on the Rhodesia Railways, most of the non-Europeans being Africans who soon make efficient and painstaking workers in most branches. Great attention is paid to employee welfare. African workers are in many cases housed and fed by the Government, and for both Europeans

and non-Europeans the railways have built 2,000 homes, as well as hospital, church, club, and other amenities. A fine railway school operates in Bulawayo, catering for all grades, while mobile instructional units serve out-stations.

Africa, of course, is a continent with a romantic history and a tremendous future. In the opening up and development of the continent, railways and railwaymen have played a truly prodigious part, and in the years to come the Rhodesia Railways and their employees of many races will cheerfully and amicably continue the good work which has been in progress since that historic day in 1890 when this outstanding African rail network first commenced public service.



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Kodaikanal—Landscape

K O D A I K A N A L

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N. RAMAKRISHNA

OOTACAMUND is known throughout the country as the ideal Summer Resort of the South. There undoubtedly is another place in South India which in the opinion of many is in no way inferior to Ooty. As a matter of fact the climate is ideal. This is Kodaikanal Hill in the Madurai District. There is no mountain railway but access to the top is very easy by car and bus as there is a beautiful Ghat Road. Each train halts at Kodaikanal Road Railway Station and from the station itself conveyances ply to

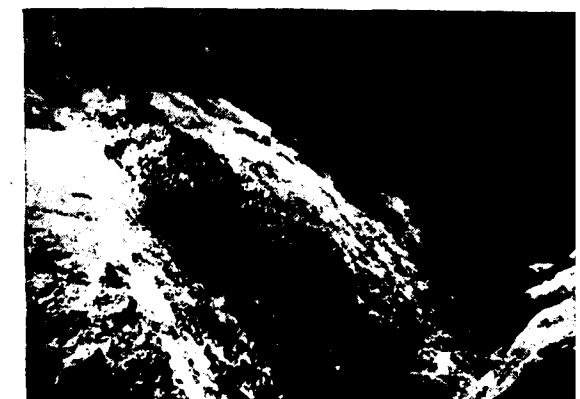
the hill station. The distance to be covered is fifty miles, of which the Ghat Road covers nearly thirty miles, and the height to which one is taken is about seven thousand feet.

The town is in the most important spur of the ghat which is known as Palni Hills. They project across the Madurai District for over fifty miles and odd. Their highest peaks are above eight thousand feet above sea-level, and they enclose a plateau of about hundred square miles. Kodaikanal is a sanatorium on this plateau. The climate is pleasant

On the banks of the Lake Kodaikanal

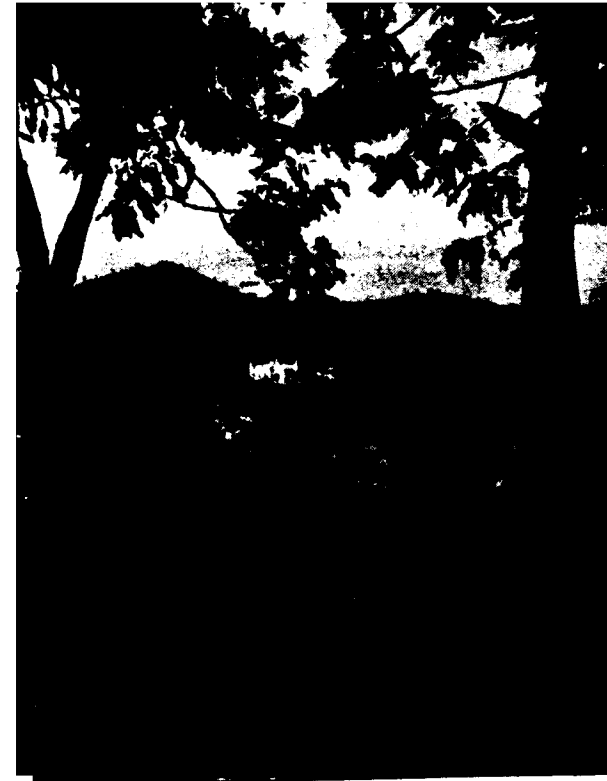


Bear Shola Falls—Kodaikanal





Comprehensive view of the lake and Perumal Peak, Kodaikanal



Kodaikanal—Town

during April, May and June, but people come down by about the middle of June when rains begin to fall. September will again have fine weather there.

The most beautiful spot that attracts the attention of the visitors is the Lake. A beautiful road with trees planted at very short distances takes one round for nearly three miles. Boating is the ideal sport and pastime in the hills and hundreds of boats can be seen rowed in the lake during day time. Surrounding the lake in the slopes can be seen many buildings small in stature but attractively built. During summer the Sun will be shining very brightly, but the coolness will always be there.

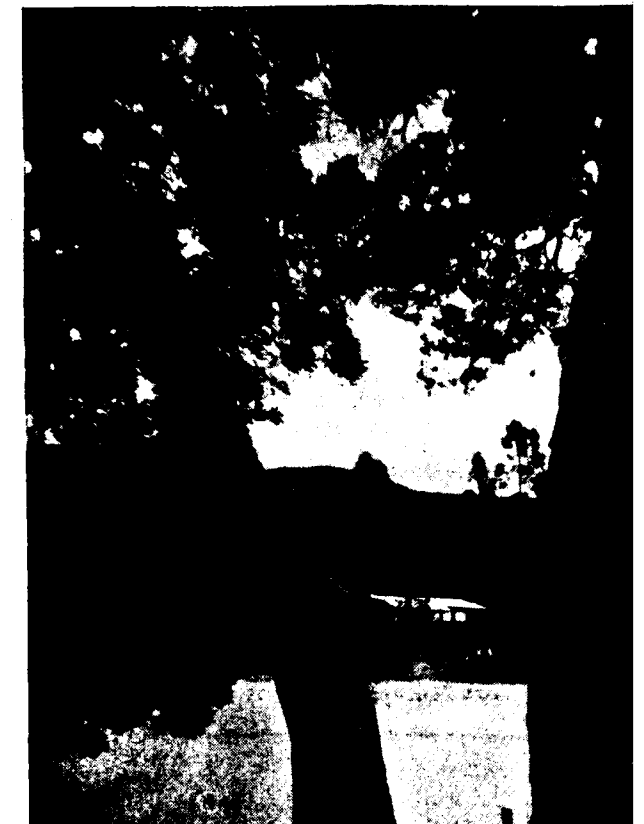
There are a number of waterfalls. The noted ones are the Bear Shola Falls, Fairy Falls, and the Silver Cascade. The last is five miles down the road from the town and is the most beautiful of all. The Bear Shola Falls is right in the centre and heart of the

town and though the drop is only fifty feet, the sight is attractive.

From the Coaker's Walk can be seen the country all around. The colourful rocks and the floating clouds add beauty to the spot. The River Vaigai that flows through Madurai, and the temple towers can be seen with difficulty with the naked eye, but with the help of field glasses the city of Madurai can be seen well. The chasm below Coaker's Walk is a thousand feet deep and the view is breath-taking.

By going up a steep road the traveller is taken to the Solar Physics Observatory. Situated at a height of nearly eight thousand feet, it commands the best view of the sky and observations made here are very valuable. Visitors are allowed to go round and see all the instruments during Fridays. From there we go to a tank where water is crystal clear and kept free from animals by means of a fence all around. This water is brought to the town for use through pipes. It is near the Fairy Falls. The other places of interest

Boat-house and club, Kodaikanal



May 1957

are the Golf Links, the Pillar Rocks, and the Perumal Malai.

Kodaikanal is noted for vegetation. English Vegetables are grown in plenty. Botanical Specimens are found here and many botanists visit the place for research. The Berijam Lake, an ideal spot for picnics, can be reached by road from Kodaikanal, passing through dense forests.

Kodaikanal is famous for its flowers and their crossing and grafts are made here. Roses of different colours are a speciality here and Bryant Park is the best that can be enjoyed.

Visitors after their breakfast start on a walk and visit places of interest and will return for their midday meal. Again they will go round and return by five o'clock, when mist will begin to fall and it will be very cold and chill. There will not be snow falls and frozen streams at Kodaikanal, but there will be misty mornings and biting chillness. There are many hotels catering to the needs of the visitors, but still they are far away from the reach of an ordinary middle class man. Accommodation is quite costly. The Holiday Home caters to the needs of many visitors and it is ideally situated.

ON PASSENGER AMENITIES

Radio Talk by Sri T. A. Joseph, General Manager, Southern Railway, broadcast from All-India Radio, Madras, on 10th April 1957.

1953 was a memorable year for Indian Railways as its centenary was celebrated during that year all over the country. But centenaries are far apart and it was felt that Indian Railways should have celebrations more often. It was therefore decided last year that there should be a Railway Week every year, like Navy Day or Police Week, ending on 16th of April, the Anniversary Day of Indian Railways. Accordingly the first Railway Week was celebrated in 1956. The object in observing the Railway Week is not only for rejoicing but for all Railwaymen to dedicate themselves again to the service of the public. We are today commencing the celebrations connected with the Second Railway Week which will be observed by Railwaymen all over India. The celebrations will end on the 16th of April, the 104th anniversary day of Indian Railways; and during the week I am sure all Railwaymen would have pledged themselves to work harder during the coming year for the service of the country and the Nation.

Indian Railways have passed through a difficult period as a result of the last war and the considerable increase in traffic thereafter. The economic depression of the thirties caused reduction in replacement of rolling stock and therefore during the Second World War Indian Railways had to meet the increased demands for transport with denuded assets. The intensive use to which the equipment of the Railways was put to during these years caused further strain. Therefore, the main task after Independence was to rehabilitate the assets of the Railways. The rehabilitation undertaken during the first few years was however not perceptible as the Railways had to cope with ever increasing traffic simultaneously. The percentage of overaged passenger coaches on the Southern Railway at the beginning of the First Five-Year Plan period was as high as about 28. New coaches received during the period were sufficient to replace the stock going out of use but almost an equal number became overaged during the period. With the setting up of the Integral Coach Factory and increase in production of coaches in Railway Workshops, it is expected that during the Second Plan period more new coaches will become available.

The Southern Railway was formed in 1951 by the integration of three Railways. Prior to the second world war, these Railways, especially the ex-South Indian Railway, catered mainly for passenger traffic. With the general increase in agricultural and industrial activities in the country, the demand for transport of goods increased. To enable the Railway to carry this additional traffic, a number of line capacity works were undertaken during the First Five-Year Plan period. The increase in capacity thus obtained had to be apportioned between goods and passenger traffic. There was a set-back in the passenger traffic on the Southern Railway during the First Plan period due to economic recession mainly as a result of failure of monsoons in successive years. As against 234 million passengers carried by the Southern Railway during the first year of the Plan, 1951-52, the figure dropped to 207 million in 1953-54 but rose again to 223 million in 1955-56. Therefore, the increased line capacity that was made available as a result of various works undertaken during First Plan period was utilised more for transporting additional goods traffic which registered an increase of about 25% in Net Ton Miles during 1955-56 as compared with 1951-52. Efforts were however constantly made to reduce the extent of overcrowding already prevailing in passenger trains. With the introduction of heavier types of engines, a number of trains were strengthened by attaching more coaches. More passenger trains were introduced. On the Southern Railway alone, during the First Plan period, 127 additional passenger trains were introduced either by way of new trains or by extending the runs of existing trains.

Soon after Independence, the Railway Ministry began to lay great stress on providing passenger amenities and impressed on Railways the necessity for providing certain minimum passenger amenities, particularly for Third Class passengers. As a first step, the Railway Board decided that minimum passenger amenities should be provided at all stations irrespective of their status. Amenities laid down as essential are:

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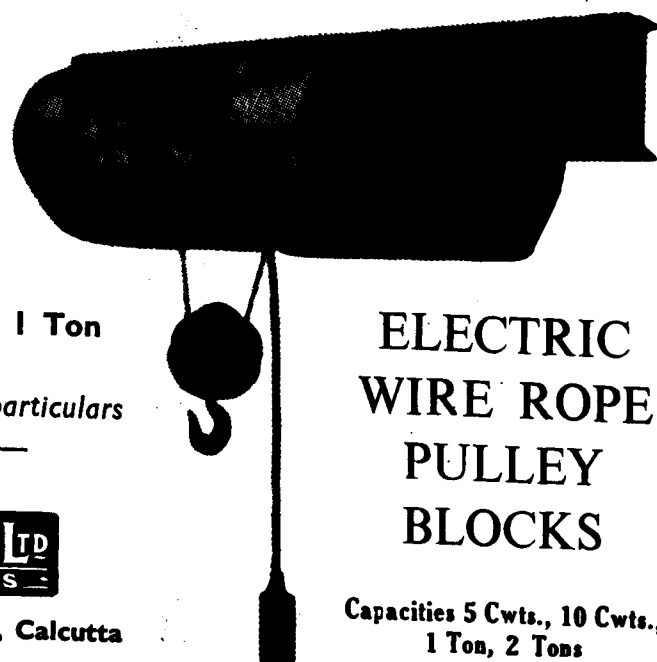
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The Railway Board also decided that at more important stations, additional amenities should be provided, like high-level passenger platforms, improved lighting arrangements, covering over passenger platforms and improved arrangements for dealing with luggage.

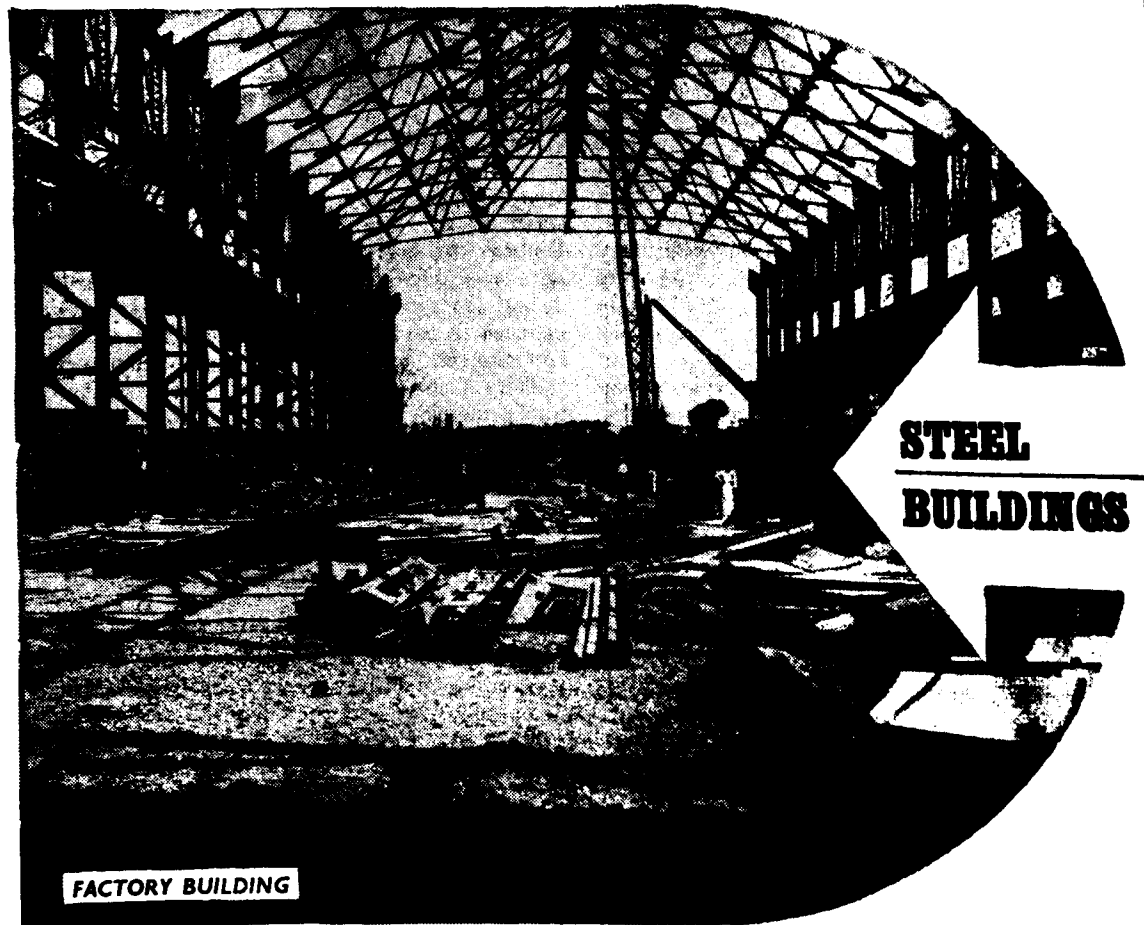
Irrespective of the total amount of funds available, a fixed provision is being made in the Railway Budget every year for passenger amenities. During the First Five-Year Plan period, a sum of Rs. 3 crores was earmarked each year on Indian Railways. The Southern Railway received a total grant of Rs. 232 lakhs during this period for expenditure on passenger amenity works. Out of this grant, nearly Rs. 214 lakhs has been spent. 24 stations were remodelled or work in connection with remodelling is in progress. 120 additional stations were electrified. Improvements such as electric water coolers, water trollies, water taps, public announcement equipment, telephones, additional booking windows, extended waiting halls, foot-overbridges, covering over platforms, fans in waiting halls and platforms, better Refreshment Rooms and more Retiring Rooms, were some of the amenities provided. 27 additional stations or Train Halts were opened during this period.

In order to associate public opinion with the provision of passenger amenities on Railways, the Railway Board decided that Railways, while framing their amenities programmes, should consult the Railway Users' Consultative Committees. All suggestions—whether originating from the Members of these Committees or from the Railway Administration or other sources—are placed before the concerned Regional Railway Users' Consultative Committees who are requested to make their recommendations and allot priorities to Works within their jurisdiction. The recommendations so made by these Committees (four in number on the Southern Railway) are considered by the Passenger Amenities Committee constituted at the Headquarters. This Committee, in consultation with the General Manager, decide which items of works should

be taken up and prescribe the order of priority for them on an all-Railway basis.

I have so far referred to the amenities provided for the comfort of the passenger before the commencement or at the termination of his journey. The next question will be as to what has been done for making his actual travel comfortable. About a decade ago fans in Intermediate Class compartments (the present Second Class) were rare; but today a large number of Third Class compartments and all Second Class compartments have been provided with fans. The policy in regard to provision of fans in Third Class compartments is to provide them in all coaches which were less than 20 years old on 1st April 1949. On the Southern Railway, fans that have so far been provided is over 90% and 75% of such coaches on the Broad Gauge and Metre Gauge respectively. Fans are provided in all new coaches manufactured in India as well as imported from abroad. Third Class coaches with better seating arrangements increasing comfort and leg room and with better lighting are being manufactured in India for the last few years at the Hindustan Air Craft Factory. The new type of coach manufactured by the Integral Coach Factory is being provided with all amenities. These coaches which are being received in increasing numbers have been introduced on many trains. For the Metre Gauge, a number of new coaches called shell type were imported and put on important trains. With a view to improve third class travel and to relieve overcrowding, trains known as Janata Expresses were introduced exclusively for third class passengers on certain important routes, mostly on the Broad Gauge. Sleeping accommodation for third class passengers was provided for the first time in the history of Indian Railways in 1954 as an experimental measure. Third class sleeping cars have been provided on certain selected Janata Express trains and a small surcharge is levied for the use of sleeping accommodation in these coaches. Another step taken to make long distance travel comfortable is the introduction of arrangements for reserving sitting accommodation in third class for long distance passengers and setting apart of third class carriages on certain trains for long distance passengers only.

Vestibuled Janata trains were introduced in 1955 to run during certain days in the week between Delhi and Madras, Delhi and Howrah,



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Delhi and Bombay and Madras and Bombay. The advantages of vestibuling are that passengers are able to move from one compartment to another while the train is in motion. This helps to even out congestion, if any, in a particular coach. The Dining Car is also a part of the vestibuled coaches and this enables passengers to have their meals as and when they desire. Limited sleeping accommodation is also provided in these vestibuled Janata Express trains. As a further improvement to the vestibuled trains, Deluxe trains with air-conditioned accommodation were introduced a few months ago on some routes. The service between Delhi and Madras was introduced on 9th February 1957. Deluxe trains consist of air-conditioned vestibuled chair cars, a sleeping car and a dining car. A small surcharge of 4 pies per mile is levied for travel in the chair car in addition to the third class Express fare for the additional comfort of noiseless and dust-free travel.

Another important requirement of travellers is catering. Provision of cheaper, better and wholesome food during rail travel is a matter which is receiving continued attention. A high-level committee appointed by Government suggested ways and means of improving catering service on Railways and their recommendations are being implemented. Departmental catering is being extended so as to set the standard and service as a model for the catering contractors to follow. The Railway Administration is paying sustained attention to ensure that the quality of food and service are of a high standard. A Catering Supervisory Committee consisting of representatives of the Zonal Consultative Committee and

representatives of Social Service Organisations has been formed to suggest improvements to catering arrangements.

With the provision of these amenities, an important matter arises—co-operation of the passengers to make use of the amenities in a proper manner. There are instances where arrangements made by the Railway authorities for the convenience of passengers failed due to lack of co-operation from the users. It is no doubt the responsibility of the Railway to keep railway premises and compartments clean, but this is not always possible without the co-operation of the users. At certain selected stations Passenger Guides have been provided to assist passengers generally and in particular Third Class passengers. Their main duties are to help and guide passengers. The services of these Guides are also available to help passengers in the proper use of amenities provided. Social education campaign has also been started at stations and in trains to make the passengers more civic minded. It is hoped that much can be achieved soon by these measures to maintain properly the amenities provided.

The endeavours made to introduce more trains, to provide more amenities and better conditions of travel for the travelling public especially in the lowest class will be continued as vigorously as in the past and it is hoped that within as short a period as possible, Indian Railways would have made up the leeway in regard to the provision of passenger amenities and make them compare favourably with the passenger amenities provided by Railways in other countries.

JAPAN—HER BASIC QUALITIES

K. SREENIVASAN

Dr. Electrical Engineer (Special Duty)

AFTER World War II, Japan ended up as a beaten and devastated country with all her industries and activities silenced to a standstill. Her morale was at an extremely low ebb with the after-effects of the atom bomb. Nevertheless, her recovery and rebuilding have been so amazingly quick that she has gradually regained her place among the leading industrial nations of the world. She has made such large strides that she has started delivering goods like electric locomotives and cars, electric generating plant, cotton and synthetic textiles, diesel buses, railway equipment and rolling-stock, etc., at highly competitive prices to nations in the East and to America too. Their Railway system is now operating at more than pre-war efficiency, carrying all the additional burden of passenger and freight traffic. Heavy industries have quickly recovered to build medium and heavy cargo liners for export. Radio and tele-communication equipments are being designed and developed for every conceivable purpose. The entire nation is covered by television networks.

After all the man-power available for turning out products from factories is limited, with a population of 80 million. How then has this remarkable change been possible? Even a hurrying tourist cannot help realising the basic qualities in every Japanese national that have contributed to the remarkable achievements of this great little nation. Here lies her greatest secret.

Essentially every Japanese is scrupulously honest. Rich or poor, young or old, honesty is inborn in them. Even the poorest school-boy will not utter a falsehood or attempt to steal. This remarkable quality envelopes the entire nation, and it is difficult—almost impossible—to discover a dishonest person. Consequently, talking about her railways, ticketless travel is unknown. A passenger considers it an act of shame to go without a ticket and his conscience does not permit him to do so even though a travelling ticket inspector is not there to check. At the station wicket, every passenger leaves his used ticket on the counter whether a ticket collector is looking on or not. In suburban services, a passenger in a frantic hurry who has had no time to purchase a ticket before entraining, can

buy one at his destination at a "fare adjustment window" at no extra charge! Every passenger is politely reminded at each station (through the P. A. equipment) not to forget any of his belongings in the train and in case something is left behind, it is difficult not to get it back. It will be awaiting collection at the nearest "lost and found office" in less than half-a-day.

This inherent virtue renders every walk of life in that country pleasant and enjoyable. At no stage in one's relations with others does a feeling of suspicion of having been outwitted or deceived ever creep in. Houses are seldom locked and windows have no bars.

Coupled with this quality is the sense of patriotism and love every Japanese has for his country. The nation has reconciled to her present status of military unimportance and has realised the great mistake done by their leaders in entering the War. In the present context, everyone realises that only hard work and industry can help their country to survive. This awareness is keeping the entire nation geared to ceaseless activity in her various industries and factories.

Ever since the "Meiji Restoration" in 1860, the Government has been following a progressive policy calculated to improve the conditions and economy of the country. One of the first problems tackled, and rightly too, was literacy which is 99% today, only the invalid and the infirm constituting the remaining 1%. One language is spoken and written in the country and this considerably helps propagation of knowledge. The importance of English is now being realised and more people in the technical field are learning it.

The country's needs demand very hard and conscientious work from every one and you can never find an average Japanese workman wasting any time. During work they do not talk with each other unless it is absolutely unavoidable. This however does not prevent him from thoroughly relaxing and enjoying himself during legitimate rest intervals. Even in a 15 minutes' recess you will find them playing table tennis or practising baseball, their National Sports. But precisely at the end of it, each is back at his work on time. For instance a railwayman—whatever his

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status—cannot bring himself to either neglect or shirk his work. Because each knows his task and the responsibility entrusted to him, he discharges his duties fully and the entire railway system works like a clock. All railwaymen would go out of the way to help any passenger and there is absolutely no room for complaints. In fact there is a constant flow of letters of appreciation for the National Railway and rarely any complaints arise. Punctuality of trains is 99% and fares are refunded if an express train is late by more than twenty minutes. It is obvious that punishments are unnecessary and seldom inflicted.

The natural corollary to this is a very highly dignified outlook on every type of labour. No one considers it beneath himself to perform any job arising out of his normal duties. An extreme example of this is a station master in Tokyo suburban areas sweeping or watering the station platform between trains just before peak traffic hours. And as soon as a train is seen approaching, you will find him picking up his flags and attending to his duties as a traffic official. In big offices no peons adorn the verandahs as there are none. Each person has to "look after himself." Most of the work is done over the scores of telephones generously provided everywhere. Man to man, each

respects the other and is on equal terms. No invisible barriers stand between the different persons administering any undertaking. Each is very courteous to the other, but at the same time knows his bounds and never exceeds the limits of propriety.

A realisation of one's duty and responsibility thus embraces the entire nation reflecting ultimately in the disciplined manner in which every one conducts himself at all times. The importance of discipline is infused into every school-going child from the tender age of 3. A foreigner cannot but perceive an element of regimentation in their daily life, the type, and manner of their dress, their conversational methods, their customs, their holidaying spirit and perhaps in their drinking habit too.

It is these basic qualities that constitute the asset of the Japanese nation. It is these doctrines that have imposed a rigid school of life on the country and have enabled her to positively progress. Strange as it may seem, religion and politics have little or no deterrent influence on her industrial progress. A country like ours should at least emulate a part of this wonderful heritage if we also mean to march ahead and not fritter away our energies in fruitless mutual squabbles and recrimination.

Sri T. A. Joseph, G.M., Sri Ratan Lall, COPS and Sri S. L. Meharwade, General Secretary, Karnatak Travellers and Transport Relief Association, Ranebennur, photographed at Ranebennur during G.M.'s Inspection Tour



THE SIGNIFICANCE OF TRANSPORTATION

(II)

OPRAIL

WHAT is transportation? In simple terms, transportation is the movement of persons and/or materials from one place to another. Another question we may ask is, why has man from the time when history has been recording his biography wanted to move either himself or his goods and chattels from place to place?

Perhaps man moved himself primarily because of necessity. He had to hunt for food and shelter for himself and his family. Another reason may have been convenience, when nature in the form of the elements, wild beasts or a human enemy, forced him to shift himself and his family to a more suitable place in which to make his new habitation.

Or, it may have been for pleasure. Born with curiosity man was not content to stay put in one place and move around within a restricted orbit. He wanted to roam further afield so that he could find out and see things for himself.

Another reason can be taken as economic advantage. This objective probably came later in the life of man, when he had acquired some type of property which was surplus to his requirements, and which his fellowmen of another tribe or community might need and barter for what he needed, but did not have available in his own land. This was how trade started.

Thus, it can be said that the function of carriage or conveyance of persons and goods for the reasons stated is vital both to primitive and civilised man.

Primitive man when he was compelled to move for necessity did so mainly to find better means of food and shelter. This has continued throughout history. In modern times, too, man is often compelled to move from one place to another for the same reasons, individually, or in small and even large groups. When man has to move in large groups it is due to the ravages of war or famine or prolonged drought, or some natural disaster on a large-scale like an earthquake, flood or tornado. In the face of such adverse circumstances man must move under compulsion and his little choice.

When man desired to move because of convenience, he was not under compulsion, but used his privilege of choice. He wanted to shift himself, his family and his possessions to another town, another city or another country, because he had concluded that living conditions were far more comfortable and opportunities for lucrative employment or private enterprise, better. For this reason, man rarely moved collectively, but more or less individually as families.

When man's faculty of curiosity and exploration prompted him to move, he did so because it gave him pleasure. Other towns, cities, countries and people were the object of his quest, so he left his home-town and used whatever means of transportation were available to him. This type of exploration served a double purpose. The explorer, or traveller, journeying to other lands took his own manners, customs and mode of thought to the lands visited, and at the same time became acquainted with the ideas, manners and customs of the inhabitants of those foreign countries. When he returned to his home-land he would pass on the knowledge gained to his fellow nationals. It is the men and women who have travelled for pleasure and adventure throughout the ages who have been responsible for the interchange of the non-commercial factors of cultures—that of religious and political ideologies and other cultural forms.

At a certain stage in the history of transportation, and throughout the centuries right up to the present time, man has resorted to transportation more for economic advantage rather than for any of the other reasons.

With the development of man's political and economic consciousness, where man has found that he possesses something surplus to his requirements, or which his fellowmen are without, he has sought to move these possessions to a place where he can sell them at an advantage to himself.

As man advanced, he realised that with improved methods of transportation being devised by him, he could move his goods in larger and larger quantities and with progressively increasing speed. The objective he has

always been aiming at, from the time he slung his goods on his back and walked, up to the present day, when he has a wide choice of powerful and swift mechanisms of transportation, is to accomplish movement from one place to another with the least possible expenditure of time and cost.

In economics, transportation is considered as a part of production because it creates place utility. Goods must be brought from the place where nature provides them in the form of raw material, or from where they are manufactured, to the place where there is a demand for them by the consumer. In modern commerce the prices of certain commodities, raw materials or manufactured products often rise or fall depending on the means of transportation available for shifting them to the place where they are wanted in the required quantities and as swiftly as possible. In such cases time is of more significance than distance, as the value of the goods to be moved is enhanced if they are available at the consuming point at the time wanted.

The means of transportation available has also influenced the location of towns and cities and in the general distribution of population. In ancient and medieval periods of history some cities have sprung up in certain locations owing to the fact that they were or are religious centres. Others owed their location to military or strategic factors, and were built around or near what was once a strong fortified position of some early feudal state.

But as man extended his reach of travel with the development of trade, towns and cities sprung up along valleys, near wide rivers, and other natural commercial routes. In those regions of the world where nature's resources are rich and extensive, people have gathered, and where there are people there must be houses and other social and civic amenities necessary for a human community. Thus man also built his towns and cities where natural resources were plentiful and accessible. From these places also trade routes pushed out, using the modes of transportation available at each stage of the growth of these places.

Towns and cities also appeared and developed at points where new industries were opened up, or new sources of trade came into being.

Natural harbours along a country's sea-coast were a favourable location for man's increasing habitations. Inland cities also sprang up at inland river or lake ports, or at other points which were convenient centres of land transportation.

Transportation is also a vital factor in the extent and solidarity of social institutions. Improved methods of transportation constitute a major factor that often leads to the break-up of small States, and at the same time provide conditions favourable for the formation of larger and more effective political units.

Transportation is also a vital factor from the viewpoint of military strategy. When the mechanisms of transportation were primitive and slow, when man was his own means of moving from place to place, or when he had just pressed certain animals into serving him as a means of transportation, space and distance gave his tribe or nation a sense of security, and was a means of protection against a potential attack from a neighbouring enemy tribe or nation. But as methods of transportation improved and extended the distance which could be covered, this sense of security was gradually eliminated. Efficient means of transportation thus provided for the rapid movement of troops and equipment essential not only for defence but for attack as well.

At the present time the mechanisms of transportation have reached a stage of efficiency that when nations are at war with each other, their problem is not primarily one of devising ways and means of moving large masses of troops and enormous quantities of military equipment, but how to paralyse the enemy's lines of communication so as to reduce his transport capacity and thus gain a strategic advantage.

From prehistoric times right up to the present day man has used all the ingenuity and enterprise at his command to improve the mechanics of transportation. On land, on the water and in the air, with all that science and technology can provide, man is ever seeking to move himself and his goods more efficiently and speedily. His need for transportation would appear to be timeless and all-inclusive, and is equally essential in all spheres of his activities, be they economic, political, strategic, educational, cultural or religious.

CLAIMS PREVENTION ON RAILWAYS

Radio Talk by Sri S. K. Mukerji, Chief Commercial Superintendent, Southern Railway, broadcast from All-India Radio Madras on 15th April, 1957



Sri S. K. Mukerji

ONE of the ills affecting the Railways, and indeed all big transport undertakings, is the incidence of loss or damage to articles entrusted to them for carriage. This is a malady, symptomatic not only of the economic and moral climate of the age, but also of certain functional disorders within the system.

The Railways, as the arteries of trade and commerce, carrying the vital blood stream of the economic life of a country, are essentially like a complex body organism in which the different organs are required to work in perfect unison to complete the processes allotted to them, as the body organism is prone to disease not only from extraneous sources of infection but also from a disturbed metabolism within itself, so the incidence of loss or damage on the Railways results from external as well as internal factors.

The immediate curative treatment, almost like the administration of a drug in physical illness, is the payment of compensation for the claims arising out of the loss, destruction or deterioration of the articles. If the number and costliness of the medicines administered be any index of the seriousness of a malady, there can be no doubt that the disease on the Indian Railways is still a very acute one. In 1938-39, on all the Indian Railways put together, only about 57,000 claims were made and an amount of nearly Rs. 4.28 lakhs was paid by

way of compensation. The subsequent years marked a steady deterioration and in respect of quantum of payments, the peak was reached in 1949-50 when about 4 lakhs claims were received by the Railway Administrations and a total sum of nearly Rs. 4.26 crores—almost 100 times the pre-war amount—was paid out as compensations. Even in 1955-56, for which published figures are available, the number of claims stood at nearly Rs. 4.5 lakhs and the amount of compensation paid was approximately Rs. 2.56 crores. The reasons for the abnormal increase in the number of claims and the amount of compensation paid, though well-known, can in this context bear useful repetition. The amount of traffic that the Railways were called upon to carry increased almost suddenly after the outbreak of the war and the Railways had to rise to the occasion as best as possible without any substantial increase of their equipment of every description. It naturally resulted in many improvisations having to be made, particularly with regard to the storage and conveyance of parcels traffic. For want of accommodation, parcels had to be stored on open platforms before despatch or after arrival and this improvisation resulted, in a large measure, in thefts and pilferages. Scarcity conditions, restrictions, controls and high prices of essential commodities, coupled with the activities of the black-marketeers also resulted, in a large scale, in thefts and pilferages from the goods in transit. Handling and conveyance of traffic postulates the co-operation and co-ordination of a large number of different categories of staff, with considerable specialised experience. When called upon suddenly to handle an appreciably large quantity of traffic, the Railways had to recruit staff in very large numbers and put them to work after short periods of training. The training facilities could not also be adequately increased immediately to the extent necessary. These naturally resulted in the quality of work suffering and mistakes multiplying in numbers. Similarly, in regard to goods wagons, the periodical attention and overhaul had to be spread over long periods of time so as to ensure that the maximum number of wagons was available for service, with the result that defective wagons or wagons with body holes had to be pressed into use. In the aggregate, these factors

created a diseased condition of the body organism and the illness, once contracted, still lingers, calling for repeated administration of powerful drugs in the shape of heavy compensation payments to relieve the pain and discomfort associated with the disease. Potent drugs are known, however, to produce sometimes toxic effects which cause no less concern than the original disease itself. The same is also true with the heavy compensation payments made by the Railways. Besides being a dead loss to the Railways and a colossal waste of hard-earned revenue which no properly managed business can afford to perpetuate, they affect the reputation of the Railways to carry goods safely and without loss; they do not benefit the claimants either for, whilst they may have been compensated for the value of their goods lost or damaged, the goodwill of their customers is lost and the articles in most cases have to be replaced or repaired. From a national stand point, there is also a direct loss to productive industry because valuable time is spent on producing replacements and effecting repairs, to the detriment of the total production effort in the country. In the context of these after effects, there is a growing realisation

that in the matter of claims, prevention is better than cure and that preventive measures pursued with patience and tenacity can secure conditions in which possibilities of loss and damage to goods entrusted to the Railways for transport can be considerably minimised, if not eliminated, altogether.

Any scheme of claims prevention must take cognisance of the fact that speed of operation is essential in rail transport and adoption of any processes that may seriously affect the speed of transactions and movements will neither be feasible from the Railways' point of view nor will be welcomed by the Trading community. Though from the hypothetical standpoint a rigid insistence on absolutely damage-proof packing and constant individual attention to each article at all stages of booking, loading and unloading may be a very plausible solution of the problem, it must be remembered that when such attention is to be paid to 115 million tons of goods carried by a very involved process to an average distance of over 300 miles, the turn-round is bound to be seriously affected. If every wagon utilised for loading is to be carefully picked out from the

yard and meticulous checks are made at various stages of acceptance and despatch of goods, the availability of wagons for clearance of traffic and the out-turn of work in the goods and parcels depots will be so seriously curtailed that there will be a general economic disturbance all over the country, apart from the fact that cost of the measures thus adopted will hardly be commensurate with the results sought to be achieved. Against this background, it will be easy to appreciate why the Indian Railways, discarding the obvious course of very elaborate safeguards, have kept their Claims Prevention activities within reasonable bounds, so that they neither constitute an unduly heavy burden on the Exchequer nor reduce the total movement capacity of goods by a material slowing down of the speed of operation.

On each Railway, a Claims Prevention Organisation has now been set up to tackle the 'indoor' and 'outdoor' aspects of the problem. This organisation makes a detailed analysis, of the causes that generally lead to claims of commodities that are mostly susceptible to claims and of areas in which the incidence of claims is high. From a careful study of the results of this analysis, claims preventive measures are formulated and enforced, based primarily on eradicating bad methods of working that can lead to claims for loss or damage, on evolving better means of packing, handling and warehousing of traffic where the claims incidence is unsatisfactory and on devising improved measures of security for traffic, particularly vulnerable to thefts and pilferages, making it more difficult for a thief to steal or pilfer without detection.

As the bulk of claims arise from three main causes, viz., total and partial loss, damage by wet and breakage, claims prevention measures are specially focussed on these aspects of the problem. Total and partial losses arise mainly from theft and pilferage and also from failure to detect shortages at the time of acceptance of goods and in case of total loss, also sometimes to misdespatch and wrong delivery of goods. While the security arrangements have, in recent years, been considerably tightened up not only on running trains but also in yards, sheds and platforms, by provision of armed escorts and patrols over vulnerable areas and at strategic spots, intensive attention is at the same time

being paid to proper marking of packages, labelling, sealing and rivetting of wagons, their locking by a special kind of lock which can only be opened by a special gadget. To prevent damage by wet to consignments in transit, wagons are more carefully examined and repaired for leaks and tarpaulins are used to greater extents to afford further protection to consignments inside the wagons. A vigorous drive has also been started to avoid rough and careless handling of goods by the staff, careless loading of wagons and rough shunting. The Railways have also, during recent years, launched a campaign, popularly known as 'P.L.M.' Campaign, where 'P' stands for proper packing, 'L' for labelling and 'M' for marking. These measures are beginning to have a wholesome effect.

While on the side of the Railways the cause of heavy claims lies in badly carried out operations and lack of professional skill on the part of the staff, negligence and also reluctance to adopt better marking, packing or loading methods are contributory causes on the side of Traders. Consignments are frequently damaged or lost in transit because the individual packages are not well packed or are not properly marked by senders. The Railways have framed and specified, after careful study, certain minimum conditions regarding packing for the different varieties of traffic. These mostly relate to the nature of outward packing to be adopted. But these alone will not help in minimising damage or breakage unless the interior packing of the articles in the consignment is also adequate. Lack of effective inside packing is in fact the answer to many cases of concealed damage where the cause is not apparent. The importance of proper marking and addressing of goods can hardly be over-estimated and it is in the interest of the Traders, as much as of the Railway Administrations, that to prevent misdespatch or wrong delivery, maximum assistance is given to the handling staff by marking the packages legibly and adequately and it would certainly be a great help if all Traders adopted the excellent practice of placing an additional addressed label inside each package whenever practicable.

Thus their co-operation, added to Railwaymen's sustained efforts, must succeed in the long run in realising the objectives of Claims Prevention on Railways.

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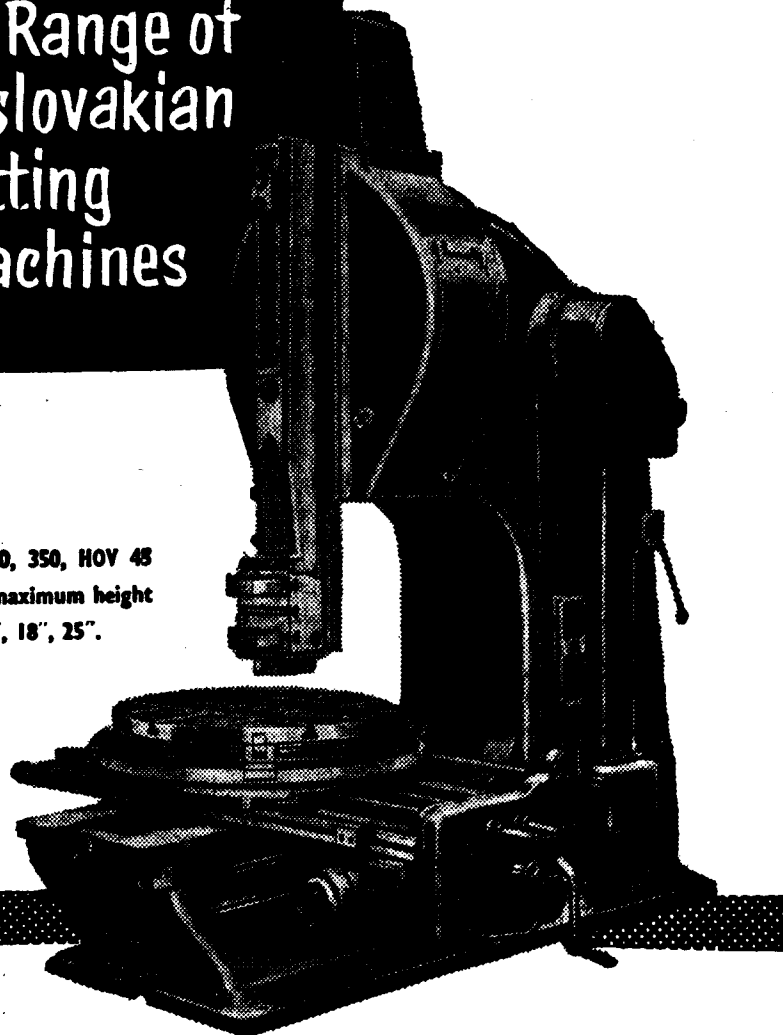
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ORE TRAFFIC ON THE SOUTHERN RAILWAY

RATAN LALL

Chief Operating Superintendent, S. Rly.

PRIOR to the second world war, traffic in Manganese, Iron and other ores on the ex-M. & S.M., ex-S.I. and ex-Mysore State Railways (which were integrated as the Southern Railway in April 1951) was negligible and did not figure prominently among the major items of goods traffic carried in bulk. So far as the ex-M. & S.M. Railway was concerned, what may be described as major mining operations was being done only by the General Sandur Mining Company Ltd., at Samehalli, a Belgian firm registered in London for the exploitation of the vast and valuable manganese ore deposits in the Sandur State near Bellary. This firm had considerable resources at its command and had even constructed, with the help of German engineers, an aerial rope-way six miles long from Deogiri, where the mines are situated, to Samehalli railway station, where they had bunkers for ore. This aerial rope-way, which is worked without any motive power but on the gravity principle, is being worked even to-day by The Sandur Manganese and Iron Ores (Private) Limited, who are the successors to the General Sandur Mining Company. The Belgian firm contributed a part of the cost of construction of the Hospet-Samehalli branch, which the ex-M. & S.M. Railway completed in the year 1928. As Mormugao Harbour was the nearest port for the Sandur mining area, this firm always exported its ore through this port.

Mining operations in the other areas served by the three railway systems were sporadic although quite a lot of prospecting was being done in different areas. The prospecting was invariably for manganese ore, as iron ore, which was then a low-priced commodity, was not very much in demand. Rich deposits of manganese ore were discovered in the vicinity of Sanvordem in Goa even before the second world war, but the necessary capital and enterprise was not forthcoming among the Goans to exploit the resources.

It was not until 1950, when the countries involved in the war settled down to peace

and their economic conditions took a turn for the better, that enquiries for Indian ore were being made not only by European countries like Belgium, Holland, Denmark, but also by Japan, which, by then, had commenced stock-piling iron ore to resuscitate its iron and steel industry. By 1951 the demand for iron ore, mainly for export to Japan, was so heavy and the prices so attractive that extensive mining operations were started in practically every area on the Southern Railway where this ore could be found. The emphasis was now on iron ore and even low grade iron ore was able to find a market as only limited quantities of high grade ore was available. The two important areas in which very extensive and profitable mining operations were undertaken from 1951 onwards were the areas around Collem, Kalay, and Sanvordem in Goa and the Bellary-Hospet area near Guntakal. Another area which yielded considerable quantities of high grade manganese ore was the Londa area, which includes Dandeli. Deposits of manganese ore were also found in the Mysore State in the areas served by Nittur, Banasandra and other railway stations. The last of the areas to be tapped was the Jaggayapetta area near Bezwada where large quantities of fairly high grade iron ore were found on the surface in the hitherto unexplored village of Gandrayi.

An important outcome of these unprecedented mining operations was that ports like Madras, Mormugao and Vizagapatam, originally designed to handle specified quantities of traffic, soon became congested and their capacity became totally inadequate to deal with the sudden increase in ore traffic. The traffic, however, being a profitable one, soon started finding its way to any port where shipping facilities were available and this resulted in even small ports like Cocanada and Masulipatam becoming prominent for the transport of ore. The following figures of ore traffic moved from the different sectors of the Southern Railway to the various ports

during the years 1951 to 1957 will show the steady increase.

ALL ORES

	To Mormugao Port	To Other Ports	Total
<i>In Lakhs Tons.</i>			
1951-52 ..	2.94	0.67	3.61
1952-53 ..	3.14	2.15	5.29
1953-54 ..	3.74	5.21	8.95
1954-55 ..	1.64	5.08	6.72
1955-56 ..	1.21	6.91	8.12
1956-57 ..	..	8.85	8.85

The rail route to Mormugao Harbour was however closed in July 1955 and the ore traffic, which was formerly being routed to this port for export is now being routed to Bombay Harbour via Ghorpuri or Guntakal.

LIMITING FACTORS ON RAIL MOVEMENT

The unprecedented increase in the movement of ore traffic on several sectors of the Southern Railway resulted in many of them being worked to saturation point and acting as limiting factors to the free and unrestricted movement of ore. The following are the important sections and stations where the inadequacy of line and handling capacities is acting as a limiting factor on the clearance of ore traffic :—

- The line capacity of the Hospet-Bellary section.
- The transshipment capacity at Guntakal.
- The line capacity of the Guntakal-Arkonam section.
- The clearance capacity on the Guntakal-Bezawada section.
- The clearance capacity on the Bezawada-Masulipatam section.

Until the middle of 1956, an average of 28 wagons of ore was being transhipped from the Metre Gauge to the Broad Gauge at Guntakal. Since then, however, capacity has been developed for the transshipment of 50 Metre Gauge wagons per day and further

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works are in progress to step this up by another 25 wagons. These facilities are expected to be completed in about 4 or 5 months time. The present transshipment capacity available at Guntakal is for 2.56 lakhs tons per annum and with the additional facilities becoming available, this will be increased to 3.83 lakhs tons per annum.

The average movement from the Hospet-Bellary area to the Andhra ports, viz., Vizagapatam, Cocanada and Masulipatam, is limited to about 30 wagons a day, out of which 8 wagons go through to Masulipatam Port by the all Metre Gauge route. In terms of tonnage, this capacity works out to 1.12 lakhs tons to Cocanada and Vizagapatam Ports and 63,000 tons to Masulipatam Port. The present capacity for the movement from the Metre Gauge portion of the Bellary area to all the four ports is at present 4.31 lakhs tons, arrived at as follows :—

	Lakhs tons
Via Guntakal to Madras Port ..	2.56
Cocanada and Vizagapatam Ports via Tadepalli ..	1.12
Masulipatam Port by the all Metre Gauge route ..	0.63
Total ..	4.31

When the increase in the capacity for via Guntakal traffic materialises, this capacity is expected to increase to 5.58 lakhs tons.

As the volume of traffic from the Bellary-Hospet area (Metre Gauge) is at present in excess of the capacity to clear, the traffic gets diverted to Broad Gauge stations like Guntakal, Timmenacherla and Gooty and the capacity available for clearance from these Broad Gauge stations is for 4.02 lakhs tons per annum. The combined Metre Gauge and Broad Gauge capacities for ore movement from the Bellary-Hospet area is as follows :—

From Metre Gauge ..	4.31 lakhs tons.
From Broad Gauge ..	4.02 ..

or a total of 8.33 lakhs tons per annum. After the provision of the facilities already planned, this capacity is likely to increase to 9.60 lakhs tons per annum.

The rail capacities available at present for the movement of ore from the different sectors

of the Southern Railway are summarised below :—

	Lakhs tons
(i) Hospet-Bellary area via Guntakal ..	2.56
(ii) Hospet-Bellary area to Cocanada and Vizagapatam Ports ..	1.12
(iii) Hospet-Bellary area to Masulipatam Port ..	0.63
(iv) Guntakal (Broad Gauge) to Madras and Bombay Harbours ..	4.02
(v) Bangalore Sector (Metre Gauge) to Madras Harbour ..	1.79
(vi) Bangalore Sector (Broad Gauge) to Madras Harbour ..	1.20
(vii) Londa area to Bombay ..	1.79
(viii) Jaggayyapeta area (Bezawada) to Cocanada and Vizagapatam Ports ..	1.61
Total ..	14.72

PORT CAPACITIES

The ports to which ore traffic moves at present from stations on the Southern Railway are Madras, Bombay, Vizagapatam, Masulipatam and Cocanada.

The capacity of Vizagapatam port is estimated to be one million tons per annum and no difficulty is experienced so far as movements to this port are concerned. The capacities of the Masulipatam and Cocanada Ports do not also present any difficulty, as a considerable volume of traffic to these ports moves by canal from the Jaggayyapeta area and only traffic from the Bellary-Hospet area has to move by rail.

The capacity of the Bombay Port for handling ore at present has been estimated as six lakhs tons per annum. The entire ore traffic from the Londa area on the Hubli Division of the Southern Railway moves to Bombay Port and this aggregates to 1.79 lakhs tons per annum. In addition, about 1.28 lakhs tons of ore moves to Bombay Port from the Bellary-Hospet area via Guntakal. The quantity that can be moved to Bombay from the Broad Gauge stations near Guntakal will be about 2 lakhs tons per annum and the total movement capacity to the Bombay Port from the Southern Railway alone works out to slightly over 5 lakhs tons per annum.

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May 1957

ORE TRAFFIC ON THE SOUTHERN RAILWAY

41

The estimated capacity of the Madras Port at present is for 4 lakhs tons per annum. As against this capacity, facilities for moving over six lakhs tons by rail are available on the Southern Railway, as indicated below :—

	Lakhs tons
From Bangalore area (Metre Gauge)	1.79
From Bangalore Cantonment (Broad Gauge)	1.20
From Bellary-Hospet area (via Guntakal)	1.28
From Guntakal Division (Broad Gauge)	2.01
Total	6.28

As the Port is able to handle about four lakhs tons per annum, movement of ore traffic has to be regulated within the handling capacity of the Port. The authorities of the Madras Port Trust have, however, a scheme for handling ore by mechanical equipment. For this purpose they are building two separate Quays, one for the export of ore and the other for the import of coal which is received from Calcutta on Railway account and for industrial purposes in South India. To facilitate the working of these mechanical berths, a separate yard has already been laid out on the foreshore South-East of the present Harbour. The work of constructing the Quays is in progress and is likely to be completed by the middle of 1958 or so. A separate marshalling yard to receive wagons from the mining areas is also being laid out on the foreshore opposite to Fort St. George. When these berths are ready, the Madras Port expects to handle between eight and ten lakhs tons of ore annually.

QUOTA SLIP SYSTEM

Formerly, registration of wagons for ore was free and unrestricted and this was creating many difficulties for the railways like mass registration for wagons by consignors which very often amounted to tons of thousands of wagons. A rational allotment of wagons and the differentiation of bona fide despatchers from others were manifestly impossible during this period. At the instance of the Ministry of Commerce, a quota slip system for the registration and allotment of wagons for the movement of ore traffic to ports was introduced in August 1956 with the object of rationalising the movement of ore, achieving an intensive

use of the rail capacities available and correlating them with exports on the basis of licences granted by that Ministry.

FUTURE PLANS

As mentioned already, the Madras Port have plans to augment their handling capacity for ore to a million tons per annum and the rail capacity for moving ore into the harbour from the various sectors is only for 6.28 lakhs tons. The Southern Railway have therefore drawn up a detailed plan for adequately increasing the line capacity on the Hospet-Guntakal and Guntakal-Madras sections to move one million tons of ore per annum to Madras Port. This scheme, which is expected to cost slightly over two crores of rupees, includes the following important works :—

(i) The provision of four additional crossing stations on the Hospet-Guntakal section for bifurcating long block sections and thereby increasing the line capacity.

(ii) The opening of four additional crossing stations on the Guntakal-Arkonam section for a similar purpose.

(iii) The lengthening of loops on the Guntakal-Arkonam section to hold 60 vehicles with a view to running double-headed goods trains with ore from Guntakal to Madras Harbour.

(iv) Provision of second loops at a number of stations on the Hospet-Guntakal and Guntakal-Arkonam sections to facilitate crossings.

(v) Construction of a separate Tranship Shed at Guntakal with mechanical handling arrangements to tranship about 200 Metre Gauge wagons of iron ore into 140 Broad Gauge wagons.

(vi) Provision of additional yard facilities at Hospet, Papinayakanahalli, Bellary, Guntakal, Timmanacherla and Gooty which are the main ore loading stations.

When these works are sanctioned and completed, it will be possible to move a million tons of ore from the Bellary-Hospet area alone to Madras Harbour, in addition to existing movements to other ports from this area.

In addition to the exploitation of the vast ore potential from the natural resources in the areas served by the Southern Railway, the export of this commodity has the additional

(continued on page 60)

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RAILWAY SIGNALLING PRACTICES

(V)

AUTOMATIC TRAIN CONTROL

T. S. PARTHASARATHY

Deputy Chief Operating Supdt. (Coaching)

AUTOMATIC Train Control, commonly known as 'A.T.C.', is a device which enables us to stop a train or reduce its speed automatically at a signal at danger if the Driver does not stop his train promptly due to his not observing the danger aspect of the signal or due to his inability to pull up his train before passing the signal. As soon as the invention was perfected, Britain took to it immediately and introduced it on the Great Western Railway and the London, Midland and Scottish Railway. In October 1952, one of the worst accidents in the history of the British Railways occurred at Harrow when a heavy death-roll resulted from a collision between three trains and after this tragedy, Britain went all out for A.T.C. This device is most useful on sections where automatic block systems operate and headway between trains is small. As the term A.T.C. may not be properly understood by many railwaymen in India, a description is given below:—

How It Works:

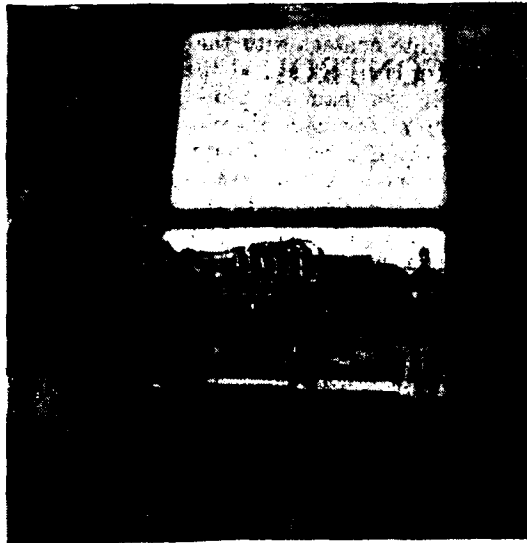
A.T.C. is a system of appliances working in conjunction with fixed signals located alongside the railway line so that, in the event of a Driver failing to observe a danger or caution signal, a warning is given on the engine cab and the brakes are applied. As railway signalling has now advanced sufficiently, the possibility of signals exhibiting an imperfect indication has been considerably reduced but accidents still happen as a result of Drivers not observing signal indications due to distraction, poor visibility and other causes. In modern steam engines, the boiler, by reason of its huge size, contributes to the Driver's difficulties by narrowing his view of the line ahead while, in the case of electric or diesel locomotives, a perfect view of the track ahead is obtained.

Certain railway experts even suggested that if an infallible system of Automatic Train Control could be devised and installed at the locations where fixed signals are provided, signals could be completely dispensed with.

This view was not, however, favoured as Drivers should always be on the alert and if signals were scrapped, their vigilance would tend to be diminished. Again, some indication is necessary to mark entrances to block sections while signals are also required for shunt movements and to provide the necessary interlocking with points and crossovers. The ideal system would, therefore, be one which combines fixed signals with a warning on the engine and if possible, with an automatic brake application.

The idea of giving a warning to Drivers that they are passing adverse signals is not a new one. Even in the last century, when railway operation was by no means in an advanced stage, inventors experimented with apparatuses which would stop trains if they passed signals at danger. The first invention was an arrangement by which a pointman working a lever caused an arm to strike a moving member of the engine which operated both the steam regulator and the whistle. Mr. Gooch, who was the first Locomotive Superintendent of the G. W. Railway (England) patented what was virtually a three-aspect signalling system in the engine cab. A ramp was placed alongside the track which was worked by a signal wire in conjunction with the signal and a vertical rod was attached to the tender axle box which had a roller at the bottom end to minimise friction when engaging with the ramp, while the rod was connected to a ramp to operate red, white and green glasses. In a later invention, a steam whistle was controlled by an electro-magnet energised from a brush on the engine. In the event of the engine passing a danger signal, the brush collected current and operated the electro-magnet.

The chief disadvantage in all these systems and even in those of the present time, is the large number of moving parts. Under the strenuous conditions obtaining on the foot-plate of an engine, a highly delicate apparatus would be unsuitable. This is one of the chief reasons for A.T.C. not being used extensively in many



Train stop mechanism

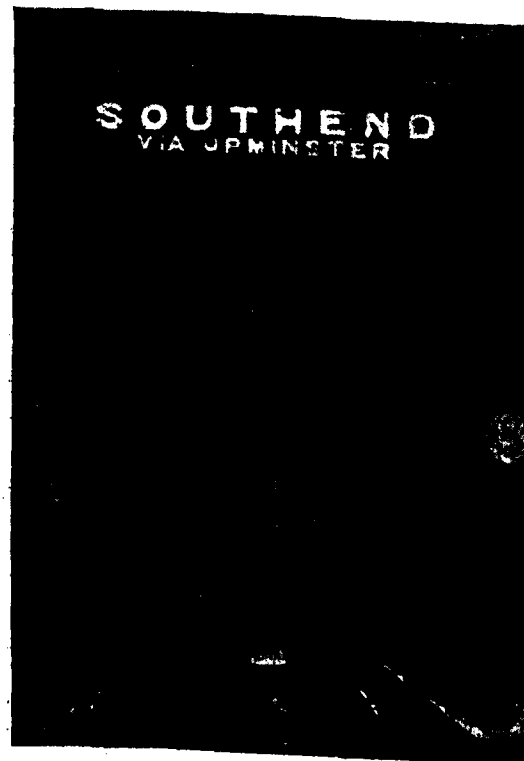
countries. But an installation devised by three engineers of the G.W.R. of Britain was a remarkable success. This system used a metal ramp of 40 to 60 feet length fixed in the middle of the track. This ramp is electrically connected to the distant signal lever in the signal cabin and is energised when the signal is "off." On the engine is a contact shoe which controls normally-made contacts, while a local circuit governs a relay working the steam whistle and vacuum brake. If the engine passes over a ramp which is not energised (when the first signal is at 'caution' or 'danger') the contact shoe, through coming into contact with the ramp, is raised thereby braking its contacts and dropping the controlling relay. The whistle is sounded and brakes are applied. If, however, the ramp is energised, on the shoe making contact the circuit goes through a polarized relay which rings an electric bell on the engine and also prevents the controlling relay from dropping, though the contact shoe has been raised. At present many thousand of miles of the British Railways are equipped with this system.

The Hudd system of A.T.C. does not use any moving apparatus on the locomotive but operates on the inductive principle. Two inductors are placed between the running rails about twenty yards apart and about 200 yards outside the Distant signal. The first inductor is a permanent magnet with the south pole

directed towards oncoming traffic. The other inductor is an electric magnet which, when, energised at 12 volts, produces a powerful magnetic field. In this case, the North pole is directed towards oncoming traffic, the reverse of that presented by the permanent magnet. The second inductor is energised through a circuit controlled by the Distant signal in the 'off' position.

The equipment on the Engines comprises a receiving unit consisting of an iron collecting plate with pole pieces, a plate passing over the inductors with a clearance of about 4 inches. Between the pole pieces, a special permanent armature is fixed, mounted on ball-bearings. The armature is connected to the vacuum apparatus on the engine and on passing over the permanent magnet inductor is partially rotated and the vacuum horn on the engine sounded. If the second inductor is energised, through the Distant signal being at 'clear', the armature is restored to its original position and the horn closed. If the second inductor is de-energised,

Receiver mounted on Tank Engine



the horn will continue to sound and the brakes will be applied.

The British Railways are in favour of a general extension of A.T.C. and have given attention to the advantages of the ramp system and the magnetic inductive systems. They have carried out various tests and obtained the opinions of representative Drivers regarding the positioning of track apparatus and indications in the engine cab.

A.T.C. ON UNDERGROUND RAILWAYS:

The underground railways in London possess the most perfect system of A.T.C. which they installed at the time of their inception in 1906. These railways are, however, completely track-circuited and where there are no points to be operated, all signals work automatically. Every signal, whether manipulated from a signal cabin or worked automatically, is provided with a train stop. This takes the shape of a Tee shaped arm, pivoted at the base and operated electro-pneumatically. When the signal is at danger, the arm is in the vertical position. All trains are fitted with the Westinghouse air brake system and a trip cock is placed on the outside of the leading motor truck. This hangs down vertically and in such a

position that when passing a signal at danger, it comes into contact with the train stop arm and the trip arm is knocked open. This opens a valve in the main air pipe allowing air to escape to atmosphere thereby applying the brakes with full force. When the signal shows 'proceed', the train stop arm is moved out of the engaging position with a trip cock by a small electro-pneumatic motor. The arm moves in a forward position to an angle of about 80° with respect to the vertical. The admission of compressed air to the train stop motor is controlled by an electro-pneumatic valve operated from the same relay controlling the signal aspects. If a train overruns a danger signal and is tripped, the motorman has to get down from his cab and reset the trip cock on his motor truck. The train cannot be restarted until normal air pressure in the main line pipe has been restored.

Cases of motormen overrunning danger signals on these railways are extremely rare but owing to the intensity of the service (1½ minutes headway during rush hours) every precaution against collision is taken.

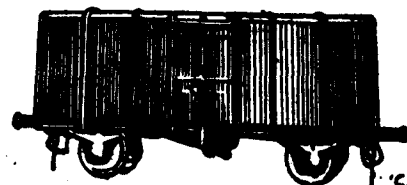
I shall now give a brief description of how the Automatic Train Control is worked in other countries.

Track inductor





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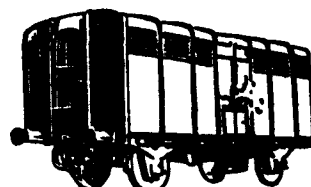
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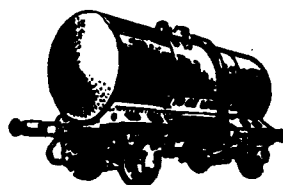
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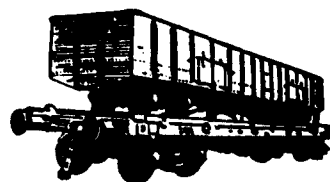
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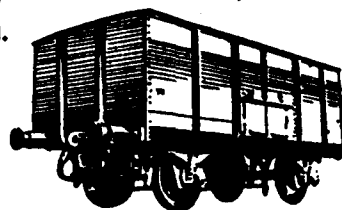
'C.M.R.' TYPE WAGON



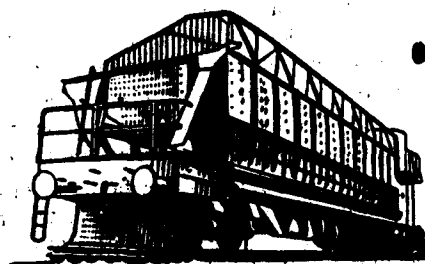
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ADDITIONAL TRANSPORT CAPACITY AND TRANSPORT CO-ORDINATION

K. SRINIVASAN

It was soon realized that an additional 30% over the existing transport capacity would be required to meet the needs of the First Five-Year Plan. While the Railways carried 91.4 million tons of goods in 1950-51, the goods which they had to carry in 1955-56 rose to 115 million tons. Even this quantity fell short of the demand for the carriage of goods in the country.

Particulars of the goods carried by different forms of transport : —

- (a) Railway carried in 1955-56 about 115 million tons of goods.
- (b) Roads carried in 1955-56 about 16.10 million tons of goods.
- (c) Coastal shipping steamers in 1955 about 25.55 lakhs tons of goods.
Sailing vessels in 1954-55—15.00 lakhs tons of goods.
Tankers of foreign flags carried in 1955 refined petroleum products round the coast—8.00 lakhs tons of goods.
Indian vessels carried cargo in adjacent trades in 1954-55—7.00 lakhs tons of goods.
Total cargo which was carried by vessels in the Coastal trade came to 55.55 lakhs of tons.
- (d) Inland transport carried in 1954-55—8.10 lakhs of tons.

* Figures have been taken from Sri M. A. Master's article in 'Transport' May 1957 issue.

(d) Inland transport carried in 1954-55—8.10 lakhs of tons.

The A.I.C.C. at their June 1956 Session in Bombay remarked that "the programme of development envisaged in the Second Five-Year Plan will cast a heavy burden on all transport services and more especially the Railways. It is necessary, therefore, to explore and utilize all possible methods of transports such as waterways and road to reduce this burden on the Railways. It is estimated by the Planning Commission that the additional cargo to be carried would be about 60.8 million tons. Since the publication of the Report, targets for the production of cement and foodgrains have been raised. Some of the items have, it seems, not been included in the calculations made by the Planning Commission.

Sri K. B. Mathur, Member, Transportation Railway Board, had referred in an article to the original target of 60.8 million tons of addi-

tional transport being increased to 80 million tons by the end of the Plan period.

Transport capacity must be provided in advance of the expansion of production. Experience has shown that the rate of increase has always to be greater under transportation as compared with that under production. Co-ordinated development and harmonious expansion of all forms of transport have to be promoted efficiently having regard to larger interests of the country.

It is stated in the Resolution appointing the Rail-Sea Co-ordination Committee that "the Government have already accepted as a matter of policy, that there should be an adequate and efficient coastal fleet which will cater to the needs of the country." The significance is that coastal shipping has to be built up after weighing fully national requirements, international obligations and strategic needs.

It is pointed out by portagonists of shipping industry that co-ordination between the Railways and coastal shipping can only be effectively promoted if the needs and the progressive expansion of coastal shipping on a permanent basis are clearly recognised. Without the recognition of this fundamental principle governing the co-ordination of different forms of transport, it will neither be possible to solve the immediate difficulties nor will it be practicable to attain the long-term objective.

The Union Government's Rail-Sea Co-ordination Committee has recommended an increase in freight rates to assist coastal shipping industry to operate satisfactorily on a sound financial basis. This far-reaching recommendation has been made, it is understood, to enable the industry to serve the country's needs for additional transport, expected to materialise during the Second Five-Year Plan period.

The Committee examined extensively the reasonableness of freight charged by coastal shipping with reference to its cost of operation, the existing pattern of trade movements within the country of commodities, which could suitably move by sea, and suggested measures for rail-shipping co-ordination of

allocation of traffic between the two forms of transport.

As a long term measure, the commodities should move by the mode of transport best suited for the purpose. So long as transport shortage continues, the maximum use should be made of the different modes of transport. As this would involve naturally a certain amount of diversion of commodities, the Committee has recommended a machinery to co-ordinate the movements because of the different portfolios under two different Ministries—the Railway Ministry and the Transport Ministry.

The Committee has also urged the need to promote the development of coastal shipping on sound lines, the need for avoiding overlapping between the two forms of transport and for developing adequate coastal shipping in the larger and long term interests of the country and has recommended expansion of through booking arrangements between railways and shipping for movements by combined rail-sea route, wherever possible. There are about six important shipping companies on the coast which, at present, carry about 80 to 90 per cent coastal traffic. Expansion of both railways and coastal shipping simultaneously would have to be carried out, to be of any help to any one mode of transport in view of the gigantic trade movement expected during the Second Plan period.

According to the Study Group, even if Road vehicles are on the road for 240 days

in the year and they operate over a distance of 150 miles and each vehicle is able to complete a round trip in three days carrying a total load of 5 tons per such round trip, the total quantity carried would amount to 40 million tons. It is, however, to be recognised that the average load for goods traffic is carried by the Railways is about 300 miles per ton. As the road traffic will be carried only for about 150 miles we may say that for the purpose of correct comparison, the roads would be able to bridge a gap of about 20 million tons only.

As for Road Transport, it is not suited to the carriage of heavy minerals, bulky goods such as coal, steel, etc. Since Steel and Coal account for 28 million tons, road transport has to confine itself to 22.8 million tons out of the 60.8 million tons originally estimated as additional traffic during Second Plan period. While the cost of carriage per ton mile of cement is 23.6 pies per ton mile, aluminium 38.2 pies per ton mile, limestone 20.6 pies, cotton 38.2 pies, it would cost 72 pies per ton mile for each of the commodity by road.

Considering that there is such wide disparity between the road and rail charges, it is doubtful if the public would at all prefer road transport.

On Economic considerations it is argued that Road Transport can cater for short distance traffic within a range of 40 to 50 miles and that too for the high-rated traffic. Commodities should move by the mode of transport best suited for the purpose.



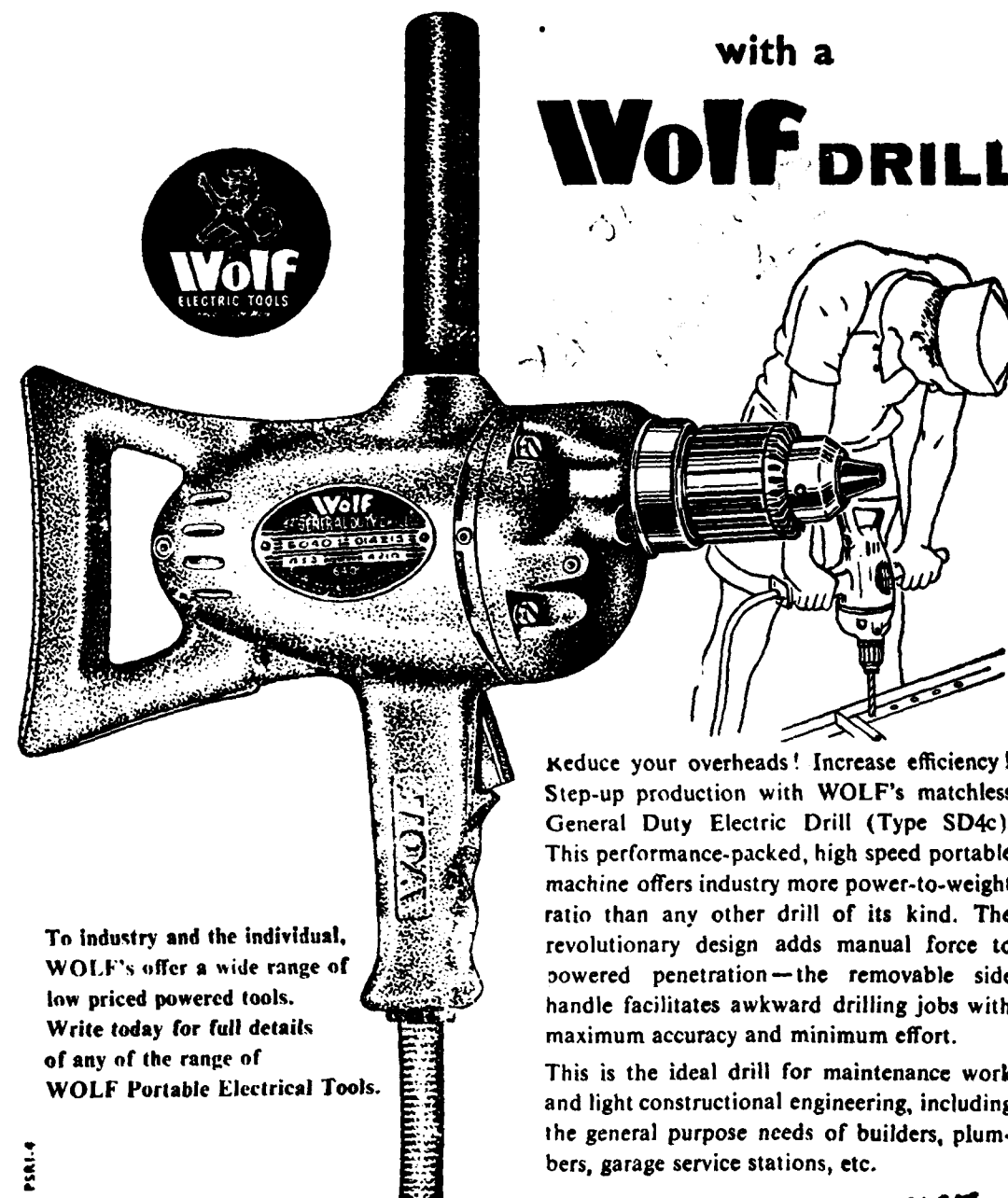
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Shri Mahaboob Hussain, staff-car driver at Headquarters, died on 10th March 1957.

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INDIAN RAILWAYS ON THE MARCH

C. V. B. MENON

Divisional Commercial Superintendent

(Text of a paper read at the Seminar of the United Nations Railway Training Centre, Lahore)

THE Indian Railways are today the largest in Asia, the fourth largest in the world, and the world's second largest nationalised railway system. In India, the railways constitute the largest single commercial undertaking. The gross receipts of Indian Railways are estimated at Rs. 345 crores for 1956-57, which is about 63 per cent of the total anticipated revenues of the Government of India as a whole, excluding the Ministry of Railways. The railways are also the biggest employers of labour in our country, employing more than a million men. The Indian Railways provide a service which is safe, economical and efficient.

In spite of the comparatively enormous size of the railway system in India, it will be of interest to know that we have at present only 9 route miles for every lakh of population, compared to 272 in Canada, 138 in U.S.A., 60 in France, 37 in U.K. and 14 in Japan. Similarly, for every 1,000 square miles of territory, India has only 27 route miles, as against 204 in U.K., 120 in France, 87 in Japan and 74 in U.S.A. This will give an indication of the vast scope that still exists for the further expansion and development of the Indian Railways.

India became Independent on 15th August 1947. The Federal Financial Integration of the Indian States took place in 1950. This brought with it the merger of the railways of these States with the Indian Government Railways. The necessity for the reorganisation of these several railway systems into a smaller number of larger and more resourceful units became soon apparent, in the interests of standards of working and efficiency of operation. A reorganisation of the railways was therefore carried out during 1951-52 and all the different lines were regrouped on a geographical pattern into different zones. The Indian Railways at present consist of seven zones, the Northern, Western, Central, Southern, South-Eastern, Eastern and North-Eastern.

Our country embarked on its First Five-Year Plan on 1st April 1951. The outlook

before the Indian Railways on the eve of the First Five-Year Plan was none too bright. The railways were then groaning under the accumulated ills of the two previous decades—the crippling effects of the economic depression of the thirties and the crushing burden of the Second World War, which subjected the assets of the railways to a very heavy and unprecedented strain. There were miles and miles of track requiring renewal and a very large proportion of over-age stock requiring replacement,—the accumulated arrears of renewals and replacements of the past. Besides, several of the marshalling yards, transshipment sheds and terminal goods yards were too old, antiquated and ill-equipped to meet the traffic requirements of the day. Another serious handicap was the severe limitations of line capacity on several important sections.

In the First Five-Year Plan, the principal task in the field of railway transport was to rehabilitate and modernise, to the extent possible, the assets which had been subjected to severe wear and tear during the years of war. This task by itself was particularly heavy. Side by side with this, we had also to plan the development of rail transport capacity to cope with the increased traffic demands expected to be generated during the Plan period. This was another colossal task, especially as the provision in the Plan for handling additional goods was limited to two per cent per annum or a total of only ten per cent for the five-year period ending March 31, 1956. Even though they were placed in such unfavourable circumstances, the Indian Railways rose to the occasion and came out with flying colours at the end of the First Five-Year Plan, as you will presently see.

During 1950-51, the year immediately preceding the commencement of the First Five-Year Plan, the total originating traffic handled by Indian Railways was 91.4 million tons and the total ton miles 26,963 millions. In 1953-54, at the end of the first three years of the Plan, the traffic carried rose to 98.1 million tons and the ton miles to 29,510

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INDIAN RAILWAYS ON THE MARCH

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millions, representing roughly an increase of 7.3 per cent in tonnage and 10 per cent in ton miles. At the end of 1953-54, however, a very heavy number of demands was awaiting clearance and several bottlenecks had gradually developed which restricted movement considerably. A special and vigorous drive was therefore launched by the Railway Board in 1954-55 to enhance the operational efficiency of the Indian Railways. This strong drive, which was continued in 1955-56 also, proved very effective and resulted in the considerable stepping up of the transport of goods during the last two years of the First Five-Year Plan. In 1955-56, the Indian Railways actually lifted 114.05 million tons of goods, representing an increase of as much as 25 per cent over their 1950-51 figure!

In India, the broad gauge railway system accounts for about 80 per cent of the total amount of goods traffic. The following figures pertaining to broad gauge will give a measure of the rapid strides made recently by the Indian Railways in improving their operational efficiency:

- (a) The net ton miles per wagon day, a reliable composite index showing the intensity of wagon usage and recognised the world over as the best single index of a railway system's operational efficiency, touched the figure of 541 during 1955-56, the last of the First Plan years, against 351 in 1947-48,—an improvement by 54 per cent;
- (b) The wagon miles per wagon day, another index of wagon usage, recorded the figure of 46.3 in 1955-56, against 33.1 in 1948-49, or an improvement of 41 per cent;
- (c) The engine miles per engine day on line rose from 71 in 1948-49 to 85 in 1954-55,—an improvement by 19.7 per cent;
- (d) The percentage of "sick" wagons dropped from 8.2 in 1948-49 to 4.7 in 1955-56; and
- (e) The percentage of engines under repairs to the total on the line dropped from 21.2 in 1948-49 to 16.9 in 1955-56.

The considerable easing up of the various traditional bottlenecks of the Indian Railways

was another special feature of the achievements of the First Five-Year Plan. One example of this is Moghalsarai, the largest marshalling yard in India and the nerve centre of rail communication in the eastern part of the country. During the pre-Independence days, it was considered impossible to deal with more than 1,500 wagons of east to west traffic a day in this yard, whereas today this same yard is dealing with more than 2,000 wagons every day. With the provision of a few additional facilities, it is hoped to step up this figure to 2,300 from 1st April this year and to 2,500 wagons per day by the end of the year.

Another example of an outstanding achievement of the First Five-Year Plan is that of Manduadhi, near Banares, the largest B.G. to M.G. transshipment point on the Indian Railway System. This transshipment yard set up a new record by stepping up its daily transshipment from 30 B.G. wagons per day in June 1951 to over 200 wagons in March 1955. On 31st March 1956, the last day of our First Plan period, they actually transhipped as many as 219 B.G. wagons.

Soon after the achievement of Independence, steps were taken by the Government of India to make the country's railway system self-sufficient as speedily as possible. Under the First Five-Year Plan, schemes were implemented to manufacture locomotives as well as other railway equipment to cope with the increasing passenger and goods traffic. We have established a Locomotive Factory at Chittaranjan which has for its target a production of 300 locomotives per year. We have also established an Integral Coach Factory at Perambur which is expected to manufacture 350 unfurnished coaches, when production attains its full swing. Very recently, we have started construction of a Locomotive Components Workshop near Banares. Extending over an area of about 300 acres of land, this modern workshop, estimated to cost more than Rs. 4½ crores, will be built entirely by Indian Engineers. Employing about 2,500 men when in full production, this workshop will be engaged wholly in the manufacture of locomotive components, both B.G. and M.G., to keep pace with the growing requirements of our railways and to reduce dependence on foreign countries for the supply of locomotive spare parts.

Our country has at present a total route mileage of nearly 35,000. (Of this, about 1,200

miles were added after Independence, consisting of about 700 miles of new lines and 500 miles of restorations of old branch lines which were dismantled during the Second World War for the supply of permanent-way materials to the Middle East and South East Asian theatres of operations. The most notable new constructions of the post-war period are the 143-mile long Assam Rail Link, connecting the State of Assam with the rest of India by an All-India route, and the 170-mile long metre gauge link from Deesa to Gandhidham, serving the newly established port of Kandla. The Quilon-Ernakulam Link, connecting the metre gauge system of South India with the Port of Cochin, and the Khandwa-Hingoli line, providing a connection between the vast northern and southern metre gauge networks of the Indian Railways, are two other important new constructions now nearing completion.

Another big scheme on which preliminary work was started in 1953-54, and which is expected to be completed early in 1960, is our famous Ganga Bridge Project, near

Mokame-ghat in Bihar, estimated to cost us about Rs. 16 crores. This rail-cum-road Project, which is one of the largest of its kind at present under construction anywhere in the world, is also one of the largest single railway projects ever to be undertaken in our country. It consists of a bridge 6,074 feet long, with a wide modern roadway above and a modern transshipment yard on the north bank to handle about 350 to 400 broad gauge wagons daily.

Our Second Five-Year Plan has commenced its operation from 1st April 1956. This Plan provides for the construction of another 842 miles of new lines to meet certain urgent operational needs and to meet the requirements of our rapidly expanding Steel, Coal and Cement Industries. It also provides for the doubling of 1,607 miles of track and the conversion of 265 miles of metre gauge into broad gauge. Besides, there is provision for the renewal of 1,600 miles of track every year, or a total of 8,000 miles over the entire Plan period. It will also be necessary, if resources

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permit, to open up the several parts of the country which are at present without adequate railway communications.

Our country's Second Five-Year Plan envisages a total developmental outlay of Rs. 4,800 crores in the public sector, of which the railways get Rs. 900 crores or nearly 20 per cent. In addition, the railways are also permitted to utilise an amount of Rs. 225 crores from their Depreciation Reserve Fund, thus making a total of Rs. 1,125 crores.

The rehabilitation and modernisation of railway assets has to be continued during the Second Plan so as to further reduce the proportion of over-age stock retained in service and to facilitate the removal of speed restrictions which have been in force over obsolete portions of track. At the same time, increases in line capacity and rolling stock have been planned to meet the very heavy demand for rail transport that will naturally arise from increased production in the various sectors. The railway's expansion programme is closely integrated with the programmes of industrial development, particularly in the major industries.

During the last year of the First Five-Year Plan, the railways were called upon to carry about 120 million tons of originating traffic, of which all but 6 million tons were lifted. In the light of the production targets of the Second Plan, the additional goods traffic requiring to be handled is estimated at about 60.8 million tons, the major portion of which will consist of coal, steel, raw-materials for steel plants and cement. Taking into account this additional traffic which is expected to rise by the end of the Second Plan, the Railways will be called upon to carry roughly 180.8 million tons of originating goods traffic by 1960-61. This shows the extent to which the rail transport capacity of our country has to be augmented during the Second Plan and the immensity of the task lying ahead of us.

Side by side with the recent increases in goods traffic, there have also been vast increases in the passenger traffic carried by Indian Railways. We are at present handling as much as 250 per cent of the passenger traffic handled by undivided India during the year 1938-39. In India, today, 34.6 lakhs of people, or roughly one per cent of the country's

total population, undertake a journey by rail every 24 hours, all through the year. During 1954-55, nearly 1,260 million persons travelled by train in India. We are expecting our passenger traffic to expand further by 30 per cent of its present dimensions by 1960-61. The Second Plan has made provision to meet this anticipated increase in traffic to the extent possible. An amount of Rs. 15 crores has also been ear-marked for the provision of additional passenger amenities and improvements to existing ones, both at stations and on trains.

The Indian Railways have standardised their rolling stock and components to a very large extent. The B.G. and M.G. coach underframes and general service wagons, as well as some of the special service stock such as tank wagons, are of standard designs. Improved amenity standards for passenger stock, especially third class, have been prescribed and new standard layouts for general types of stock are being evolved.

Our Second Plan has made provision for the procurement of 2,258 new locomotives, 1,07,247 new wagons and 11,364 new coaches. The Tata Locomotive and Engineering Company at Jamshedpur expects to increase their production of locomotives to 100 per year. This, together with the expansion programme of the locomotive works at Chittaranjan, should provide 400 locomotives every year, 300 broad gauge and 100 metre gauge. The production of coaches in our country is similarly expected to increase from 1,260 to about 1,800 per year and of wagons from 13,526 to about 25,000 per year by the end of the Second Plan.

To cope with this increase in rolling stock, it will be necessary to expand or remodel several of our existing workshops and establish new ones. The Plan provides for two new workshops for spare parts, a new metre gauge coach-building factory, a furnishing unit for the Integral Coach Factory at Perambur and the expansion of the Locomotive Works at Chittaranjan. Along with these programmes for the expansion and remodelling of workshops, special measures are also being instituted to ensure their maximum utilisation. Every effort will be made during the Second Plan to attain as large a measure of self-sufficiency as possible in respect of rolling stock and railway stores,

In their operation, the Indian Railways have always kept themselves abreast of modern scientific and technological developments. Diesel and electric motive power, improved types of steam locomotives, improved designs of wagons and coaches and improved signalling and tele-communication equipment are all proposed to be employed to an increasing extent with a view to secure greater economy and efficiency.

The Second Plan provides for the electrification of 826 miles of railway lines on certain sections where the sectional capacity is nearing saturation with existing steam traction or where it is found substantially economical to work by electric traction. We have already at present about 240 route miles of electrified track on our railways.

It is also proposed to dieselise 1,020 miles of broad gauge and 273 miles of metre gauge sections. Diesels will also be introduced for shunting at important yards. The idea is to build up a nucleus of diesel locomotives which can be utilised to augment the sectional capacity on certain strategic and busy sections where steam traction is likely to prove a handicap. This will also enable the railways to keep pace with the progress of diesel traction elsewhere. It is not however proposed to venture any large-scale extension of dieselisation at present because of the necessity of importing diesel oil from abroad and because of the likelihood of electric traction in our country proving in the long run to be more economical than diesel traction.

Numerous signalling improvements are also proposed to be made to meet the requirements of increased density of traffic and higher speeds. Colour light signals and power frames already exist on our railways at important stations around Bombay, Calcutta and Madras. Automatic signalling is also provided on certain suburban sections. The programme of installation of improved signalling equipment envisaged in the Second Plan includes track circuiting, raising of interlocking standards, modern power signalling in busy yards and areas and the automatic signalling, including automatic operation of points and retarders, in the hump yard at Moghalsarai. The possibility of introducing Centralised Traffic Control on certain single line sections is also being investigated. Similarly, an examination is being made to instal electric instruments for controlling the

movement of trains on single line sections under the token-less system of block working. Increased tele-communication facilities will be provided by way of more long and short-distance wireless links, high-frequency equipment for marshalling yards and additional section control circuits. Improvements on these lines should enable us to operate longer, heavier and faster trains in the near future and thus secure fuller use of our line capacity and rolling stock.

As the largest single employer of labour in our country, the Indian Railways have naturally allotted a high priority for the welfare of their one million employees. During the Second Plan, about 66,000 new quarters are proposed to be constructed for railway staff at a cost of nearly Rs. 35 crores. About 13 hospitals and 75 dispensaries, with about 1,600 beds, will also be provided as part of the staff welfare programme. A total amount of Rs. 15 crores has been earmarked in the Second Plan for the various amenities to staff.

The Indian Railways have every reason to be proud of the improvements in operating efficiency achieved by them so far. The Second Plan has made specific provision for a further 10 per cent increase in operating efficiency. But this target does not by any means set the limit of improvement which the Indian Railways will aim at. Nor is the provision made in the Plan entirely adequate to meet all the increased demands that are bound to arise. Special efforts will therefore have to be made by the railways to absorb these demands by even greater improvements in operational efficiency. Recently, a campaign has been started to "work the wagons harder" and a series of measures have been adopted to make unremitting use of the available rolling stock. For instance, the "free" unloading time for railway coal has been cut by 50 per cent, from six hours to three hours. For all other traffic, the free loading and unloading time has been reduced from six hours to five hours. Some of the other steps that are proposed to be taken in this direction are:

- (a) Scientific loading of wagons to obtain the maximum possible load for each wagon;
- (b) Loading and unloading of wagons round the clock or at least upto

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RAILWAYS' RESPONSIBILITY AND CONSIGNORS' OBLIGATION

K. S.

Under the Owners' Risk Terms the Railway only accepts liability upon proof that the loss or damage to the goods arose from wilful misconduct on the part of Railway servants and wilful misconduct was defined as "Misconduct to which the will is party as contradistinguished from accident; it is far beyond any negligence, even gross or culpable negligence, and involves that a person wilfully misconducts himself who knows and appreciates that it is wrong conduct on his part in the existing circumstances to do, or to fail or to omit to do (as the case may be) a particular thing, and yet intentionally does, or fails or omits to do it, or persists in the act, failure or omission regardless of consequences, or acts with reckless carelessness, not caring what the results of his carelessness may be."

DUTIES OF THE CONSIGNOR:

By making a contract of carriage whether at Railway risk, owner's risk or made specially for the particular consignment the consignor has certain obligations to fulfil.

In the first place he must provide proper packing for his goods. It is the consignor who knows best what packing if any, is necessary and it is therefore his duty to provide it, and if by reason of his failure damage ensues the railway will not be held liable. If goods are tendered for carriage with obviously improper packing the Railway may refuse to carry them, but there is some conflict of opinion among the judges as to the legal position if a railway accepts goods which are obviously insufficiently packed and through such bad packing the goods are damaged; the better opinion seems to be that the carrier's knowledge will prevent him from setting up as a defence that the damage was due to the insufficient packing.

The consignment must be properly labelled and addressed in such a manner that the consignee can easily be found and if this is not done the Railway is not liable for any loss or delay which may arise therefrom.

He must deliver with the goods on exact account in writing signed by him with the full

name and address of the consignee and such particulars of the nature, weight and number of parcels or articles of merchandise as may be necessary to enable the Railway to calculate the charges. If the consignor fails to do so or if he gives a false account he is liable to a penalty or the Railway may refuse to carry the goods. He must prepay the proper charges if the railway require it, and even if the Railway accepts the goods carriage forward he will still be responsible to the railway if after reasonable demand the consignee fails to pay.

THE STATION PREMISES:

A railway owes to its passengers the same duty which all owners of property owe to persons whom they invite upon their premises. They must take reasonable care that the premises are reasonably safe for persons using them with reasonable care in the ordinary way and they owe this duty not only to passengers but also to all other persons lawfully upon their premises such as friends of the passengers who come on to the platform to see him off and persons who come to a station to make inquiries about trains. A railway must keep its station properly lighted by night and free from any dangers not readily visible to the ordinary eye such as a trap-door with defective catches; but where a railway maintained a portable weighing machine in the same place on a platform for some time and a passenger in broad daylight stumbled over the machine while in its normal position it was held that the accident was caused by the negligence of the passenger himself or if the same thing had happened at night and the machine had not been properly lighted that would have been some evidence of negligence on the part of the railway.

If the passenger escapes the perils of the platform he will next incur the risk of getting his fingers slammed in the door. Some times the porter is to blame for such an accident and some times the passenger himself; it depends generally on whether the passenger is still in the act of entering the

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ASIDE TO THE BRIDE

V. S. SHANTHALAKSHMI

LOLLING in an easy-chair after dinner in your verandah, with the cool sea-breeze playing on your forehead, you hear an elaborate alapana of 'Bairavi' on the nathaswara emanating from your street corner. And then slowly a glorious procession with rows of lights, ladies in bright, gay sarees, lilting laughter of children, the intoxicating smell of 'pannir', 'chandhanam', 'athar', and all kinds of flowers, and the coy bridal couple in a beautifully decorated car in the centre meets you. Yes, the marriage season has again started. This lovely pageantry whips up happy memories in you, and conjures up before you the days when you were a bride, a newly-married, all your experiences, your opinions and ideas, etc.. etc.

Yes, everyone has a lot to say by way of advice to a bride. Before she has taken away her 'muhurtham' garland, they begin to overwhelm her with 'wise words', on every subject conceivable, jumping from one topic to another, in a desperate attempt to tell her everything they profess to know. Then for reasons that may or may not be clear to psychologists the stream of advice seems to dry up before the day is up!

But when the bride actually leaves her house for the in-laws place, the parade of people with axioms to grind begins in right earnest. It is important to realise when culling counsel that the best of it may come from the unlikely sources and that the most trifling bit may be of the greatest value.

At a wedding which I had the pleasure of attending recently, a quick polling of several seasoned, intelligent wives, each of whom was asked what piece of advice she treasured most from her term as a bride, produced a wild and wonderful variety of answers. All those given below have been tested in home conditions and found excellent.

'Learn to accept advice gracefully,' says an old wife. It is almost as easy to take as it is to give; if you don't want to use it yourself you can always pass it on to someone else. You need not even bother to remember from whom it came. If you happen to give it back to the donor, it will not be an offence

but a compliment and you will be considered wise beyond your years.

'Never by any chance fail to learn to make strong and good coffee in the mornings and take it to your husband in bed'. Yes, this is an extravagant manifestation of affection which any husband can't fail to appreciate. The lady who has been treasuring this little gem swears that it has taken five years from her apparent age and added them to her life expectancy—the praise you receive this way is a sort of capsule for beautiful living!

'Always remember to take off all hair pins, big ear-rings and jumkas with sharp edges, necklaces and bangles that stick out!' hurt even your ownself, before you retire to bed, puts in a jewel-conscious lady. Really no male can feel tender towards a handful of quills—unless you happen to have married a male porcupine, in which case you are probably not a regular subscriber to this periodical.

'Comb your hair and wash your face before breakfast. It is most disconcerting for a man not to be able to tell at a glance whether he is face to face with his wife or his rumpled pillow. And try to be smart and dressed up in the evenings when your man comes home. A clean, and cheerful face goes a long way by way of welcoming a tired person home than even a cup of steaming coffee or a plate of appetising badam halwa'.

'Never touch your husband's razor or tidy his desk' are the sage words of another wife. A man's razor seems to be a sacred aboriginal symbol to him. He instinctively considers it defiled—not to mention dulled—by any contact with a female, even if she uses it only to snip a thread with which she has sewn on his overcoat button or to sharpen a pencil for his very own use. His desk is something else again. He may keep his bills, papers and letters in the wildest possible confusion and lose them regularly, but he will never lose his conviction that men are methodical and women 'have no system'.

'Never sleep on a quarrel, or a biscuit crumb!' Both seem to grow to monstrous size before morning and to create an area of



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irritation out of all proportion to the cause. This maxim is always easy to follow in respect to the crumb, but it has its limits when applied to the quarrel: if your husband persists in dozing off, it is unwise to keep nudging him with an olive branch. In this circumstance turn to the auxiliary proposition: let sleeping husbands lie.

'The first time your baby and husband call you at the same time, go to your husband, assuming that the infant is not hanging over a cliff at that moment!'

'Be generous with your time and money, not with his'. Many a bride has left a meeting for some deserving cause with the feeling of satisfaction that comes from promising a generous donation. This feeling seldom endures long after the discovery that she has given away her husband's week-end trip to a nearby place of beauty. Similarly, a husband is not likely to duplicate the glow his wife felt when she offered his services for the repainting of the neighbours old meat-shelf. In one extreme case a wife heard that an acquaintance was very ill and in need of a transfusion. She offered a pint of her blood but it was not of the right type; she ran home, checked up on her husband's group and cheerfully offered his blood. He was not nearly so cheerful.

'Don't try to change your husband'. Whether you realise it or not the chances are that you married him for his faults, not in spite of them. If you considered his shyness appealing before marriage, it is scarcely reasonable to find it appalling afterwards. Strengths and virtues are admirable, but imagine having breakfast every day opposite a solid pile of them. Adults, like children, are basically lovable for their weaknesses, for the times when they need help and understanding. There is a good deal of talk about the advisability of treating people like children,

making allowances for the things they cannot help instead of carping. Who would reproach a child with being only three years old?

'Don't compete with your husband'. If you lose, you feel frustrated, and if you win instead of the fruits of victory, you have only the rancid certainty that everyone is saying 'What did she ever see in him?' On the other hand there are advantages to doing at least one thing better than he can and one thing worse, but keep the first secret and make the second public.

'Don't be annoyed if your husband urges you to make delicious stuffed brinjals like the ones his mother used to make'. The chances are that you are pressing him equally hard to make a luscious income like the one your father used to make. It may be true that a man is constantly trying to make his wife over in his mother's image, but it is equally true that she never stops attempting to fit him into her father's mould, even if it means lopping off a basic characteristic here and there. Generally the husband and wife only manage to irritate each other, but even if they both succeeded there is little reason to suppose that they would like what they had wrought. It seems a pity that our culture does not provide for a period of trial marriage between the grooms's mother and the bride's father; it would save such a lot of wasted effort.

'Remember that marriage is fun', so opines an ancient member of this great Association of Wives. If it weren't, it wouldn't be so popular. More people go in for it annually than for dance performances or even dramas. There is a widespread notion that it is more popular with women than with men, but statistics disprove this: there is no year on record during which more women were married than men!

ORE TRAFFIC ON THE SOUTHERN RAILWAY

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significance of being a dollar-earning transaction and with the recent trade agreements entered into by India with ore-purchasing countries like Japan, the traffic is bound to assume greater importance in future. The Southern Railway hopes that its schemes for

augmenting rail facilities to cope with the future increase in the export of this commodity will lead to the free and unrestricted movement of this commodity to the various ports from which it will be shipped to the different countries of the world.

CHILDREN'S CORNER

Some Wonders of Nature

LET us take a short ramble into the world of nature and learn something about the wonderful and amazing ways in which the Creator of all living things has provided animals, birds and fish with the means of staying alive.

Take the eye which enables all human beings and other living creatures to see. The eye is an amazing thing, but there is a kind of fish found in tropical America called the anablep. This fish swims with the top half of each of its eyes above the water and the other half under water. This fish has two pupils to each eye. So with one pair of pupils it can see what is going on above the water, and with the other pair what is happening under water. Funny, isn't it? But yet so wonderful.

Nature has put many strange types of tongues into the heads of her creatures. The frog's tongue is rooted at the front of the mouth so that it can be shot out to trap insects, etc., which is the main food of frogs. Then there is a kind of lizard with a tongue so long that it can wash its eyes with this tongue. How far can your tongue reach? Not even up to the tip of your nose. The ant-eater has such a long tongue that it starts somewhere down inside its chest, and when it shoots out of its mouth, it can probe deep into ant hills.

Amongst some creatures tongue and teeth form a team. The penguin's tongue has small stiff bristles so that it can grip those tasty but slippery fish he eats. A flamingo—a long-legged bird—has a tongue which acts as a strainer, so that when it grabs a beakful of muddy water, the tongue strains out everything except the sea food. But the most amazing tongue-and-tooth combination is that of the common garden snail. This fellow's tongue has 135 rows of tiny teeth, with 105 in each row. Now if you do a multiplication sum, you will find that whenever the snail chews on anything, it uses 14,175 teeth. Phew, what a mouthful of teeth!

As you may know there are some kinds of birds whose food is found in streams or water ponds. If you have watched one of these you will find it suddenly fluttering above the water, making a sudden dive, and zooming

up into the air with its food in its mouth. But there is a bird that is quite at home in the air and under the water. This bird is known as the ouzel. He loves to eat water insects that one sees darting about under the water. Well, the ouzel does not dive for his insect food, but leaps into a stream, goes straight down to the bottom, and then walks about there under water, having a good feed. This bird's feathers are so thick that its body never gets wet. And the most amazing of all, this ouzel even flies under water, with wings spread out as if it were sailing up in the blue heavens above.

Now, let us see how fast some animals and birds can move. The fastest human sprinter can run nearly 25 miles an hour, but in short spurts only. The race horse has been known to move as fast as 50 miles an hour. But some of nature's other creatures can move very much faster than this. The deer species of animals can run as fast as 60 miles an hour, and the leopard, about the fastest living thing on land, touches 70 miles an hour. Perhaps the fastest living thing with wings is the Indian swift. This bird was timed over a two-mile course and reached the amazing speed of 200 miles an hour. Then, there is that strange and large bird, the ostrich. When nature deprived this bird of the means of flying, she gave it wonderful leg-power. Those long, powerful legs can make an ostrich run 15 miles and faster than the fastest racing greyhound. Not at all bad for this big, clumsy bird!

Nature's creatures do not only run, swim or fly, but also have other ways of moving. So some of them can jump amazing lengths. Man's record for the long jump is about 26 feet 8½ inches. Kangaroos can do an easy jump of 30 feet at a time, and gazelles—a type of deer—jump 40 feet easily. But the long jump record for animals goes to a little mouse-like creature called the jerboa. This little fellow is about four to five inches long, and each jump he takes is 15 feet. For a man to do as well as the little jerboa he would have to jump 200 feet.

What about nature's large creatures? Thousands of years ago there were some queer and very large animals with long necks, tiny heads and long tails. These are no more to be found. But we still have some monsters,

There is the blue Whale about 108 feet long and weighing about 294,000 pounds. Everything about the whale is big, including their dives. Some years back, one of these made a dive, and got tangled up with a cable on the ocean bed. To free this monster it was necessary to haul up the cable, whale and all, and then to cut him free. Imagine, this whale had been calmly swimming about at a depth of 3,200 feet in the ocean.

Before a man takes unto himself a wife and thinks of raising children, he must have a house already for his wife and family to come. But, there is a bird, which is found in New Guinea, called the gardener bower-bird. When a male and female bower bird decide to marry and raise a family of their own, they do not build a nest as most birds do. They build a little house. At the bottom of a tree, they build out of twigs a house about two feet high, complete with a roof lined with moss. Then in front of their little cottage, they make very carefully a soft

green lawn of moss. And in this little lawn they make it full of colour with petals of bright flowers and berries. Mind you, all this is not done once; but as soon as the little flower petals and berries fade, they collect and bring fresh ones so that their cottage garden will always look fresh and lovely. Quite a loving couple, aren't they? How many of us take such care of our own homes and gardens. Here is a lesson in beauty we can learn from the bower-birds.

We have now learned a little more about the wonders of nature, and we should not let it rest only as print in a book, but try and find out things for ourselves also. The best way to do this is whenever you have a holiday or so, go out into lovely gardens, the jungle or even on a soft green lawn. Now keep your eyes open and you will be amazed at what you will see of nature's wonder and loveliness.

UNCLE TELLATALE.

INDIAN RAILWAYS ON THE MARCH

(Continued from page 56)

- midnight in all important goods sheds and sidings;
- (c) Mechanical unloading of iron ore in the new steel plants;
- (d) Provision of bogie wagons instead of four-wheelers; and
- (e) Installation of mechanical loading plants in all big collieries.

The measure in which the railways can achieve their goal will depend ultimately on the efforts of over one million of our railway men. They are fully prepared to meet the growing challenge of the great industrial era that has set in in our country. Inspired by the success of their past, the Indian Railways are now on their onward march, with courage and confidence, to achieve better and much bigger results!

RAILWAYS' RESPONSIBILITY & CONSIGNORS' OBLIGATION

(Continued from page 57)

compartment or has already completely entered it, in which case he has no business to have his fingers in the door, and also upon whether the porter gave any warning that he was going to shut the door. Thus, in one case, the passenger was getting into a carriage from a low platform and he took hold of part of the door to help himself in, and before he was properly in the compartment the guard shut the door, squeezing the passenger's hand between the door and the frame. The injury awarded damages to the passenger and on appeal the court refused to disturb the verdict.

In the Law of Transport by Holderless there is a reference to a case in which the plaintiff was travelling in a compartment which was already full and when some other intending passengers opened the door and tried to get in, he rose from his seat to prevent them. The train started off and a porter after shouting to the other passengers to stand back, slammed the door, crushing the plaintiff's thumb. The House of Lords held on appeal that there was no evidence of negligence on the part of the railway or any of its servants.

BOOK-KEEPING (THEORY ONLY)

Author not stated.

Published by Kalpana Publishers, Trichy 3.

Price Rs. 1-50. Pages 64.

In any administration a great responsibility rests on the Accounts Department as it has to function as an independent judge subject to prescribed rules of the propriety of a scheme or expenditure before it is decided upon. It is therefore essential that the Accounts People must be conversant with rules and that is the reason why so much emphasis has been laid upon success in examinations requiring almost encyclopaedic knowledge in the railway codes to determine eligibility for promotion in Railways. The Accounts Department is considered to be the "Watch dog of the Administration". The compilation of accounts is the sole guide to judge the productivity of the Railway undertaking. It is therefore essential that the accounts must be accurate and promptly prepared. No arrears must be allowed to accumulate. Since the best academic talents of the country are available for recruitment in the Accounts Services—both in the rank and file—there is little room for improvement as regards the quality of the personnel. But after initial recruitment the staff generally specialise in the spheres in which they work and therefore the best method of selection in subsequent promotions will offer a scope for improvement and efficiency. In the Accounts Department, selection of able men for promotion is made through examinations which deal with both academic and practical sides of the Accounts work. Apart from the question of the candidate possessing adequate knowledge to answer the questions set for him on the particular occasion, it is also necessary to ascertain to what extent the candidate is really possessing sufficient allround knowledge of the subject. Examination, after all, can only touch the fringe of a topic and the answers given under limited conditions cannot be considered to be sufficiently indicative of the capacity of such candidates. There are various difficulties in this matter; he may have got nervous or he may not be capable of expressing himself suitably; or the particular portion may have escaped his study; or the particular type of question may not be one for which he has equipped himself with sufficient knowledge by looking at matters merely in the Codes,

but also in the Orders or other places wherefrom he could have collected the necessary material therefor.

Book-keeping is the most important subject for the Accounts Department. This Booklet under review has been compiled specially for candidates appearing for Appendix II-A and III-A Examinations prescribed in the Indian Railway Code for the Accounts Department.

Book-keeping is an art and a science of systematically recording in a set of Books, money transactions concisely and accurately with a view to ascertain the exact financial position at any future time. The object of the Book-keeping is that every person desires to know his true monetary or financial worth. The primary object of the Book-keeping is to enable a person to ascertain accurately and with as little trouble as possible:-

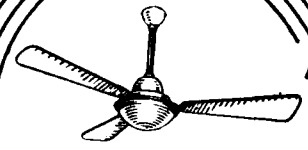
- (1) the amount he has gained or lost in his business during a particular period;
- (2) the amount of his assets or liabilities and the capital in the business on any particular date;
- (3) the amount his customers or debtors owe him;
- (4) the amount which he owes viz; to his creditors;
- (5) how the profit he has made or the loss he has incurred, is made up of.

A knowledge of Book-keeping is of use not only to traders and merchants but also to all who receive or pay money either for themselves or in trust for others as it enables them to exercise a complete control over their own affairs or the affairs of others entrusted to them. Recording the business transactions in a set of books in proper method, i.e., Book-keeping, helps the trader in giving full satisfaction to the Income-tax or Commercial-tax officials during the check of accounts for taxation. Evidence of sound account keeping is a good defence.

There are two terms more commonly known in Book-keeping, viz., Single Entry and Double Entry. The term single entry is applied to a style of Book-keeping under which only the Personal account of the debtors and creditors are kept. The usual subsidiary Books are



Kassels



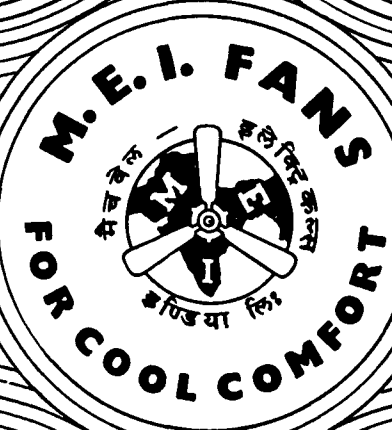
**KASSELS
AIRMASTER
LUCKY
AZAD**

Kassels Airmaster A.C.
capacitor type



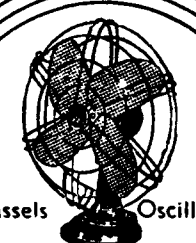
Kassels Tilting
Cabin Fan

**CEILING,
TABLE,
CABIN
AND
RAILWAY
FANS**



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FOR COOL COMFORT

**AIR
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May 1957

BOOK REVIEW

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sometimes kept in just the same way as in Double Entry but the postings are made therefrom of such entries as relate to Personal accounts. The entries from the Cash Book are posted only so far as they relate to monies received from debtors and payments made to creditors. Single Entry is not any particular system of Book-keeping but rather the Double Entry system in an incomplete and disjointed form. It may thus consist of either no entry, or single and partly double entry. The Double Entry system is a system in which every transaction receives a double record. The system is known as the Italian system as an Italian found out this system. Double Entry Book-keeping is a system of Book-keeping by means of both personal and impersonal accounts. The theory is that every business transaction involving a transfer of money or money's worth has a two-fold aspect giving and receiving taking place between accounts and in the same set of books. As the very term implies the system of Double Entry is one in which every transaction receives two entries as there cannot be a business transaction unless there are two parties to it. Further a transaction might either mean the receipt of a benefit in the shape of money, goods or service or the giving of a benefit. It has found necessary to divide each account into two sections left hand side Debit, and the right hand side Credit. One section, left hand side of each account is that utilised for the recording of transaction in respect of which benefit has been imparted by that account. In this way the total benefit received and imparted by each account may be readily perceived by looking at both the sides of that account and the ultimate position of that account as to whether the benefit it has received is in excess of the benefits it has parted with or *vice versa*, may be easily ascertained by adding up each side and striking a balance.

The receipt side of each account (the left hand side) is called debit and parting side (the right hand side) is called credit side. Thus

the Double Entry Book-keeping is operated on the principle that every debit has a corresponding credit and the rule to be applied in debiting and crediting is to debit the account that received and credit the account that gives. Thus the whole theory of Double Entry Book-keeping is based upon a credit entry for every corresponding debit entry and *vice versa*.

Another important term in Book-keeping is Ledger. Ledger is the chief book of Accounts in which all the business transactions which are initially recorded in the subsidiary books, find their ultimate place in shape of individual accounts in a duly classified form. The ledger serves to maintain a classified record of these transactions with individual or in any particular head of expenditure or source of gain, so as to facilitate reference when any information is needed in regard to any particular account. If the ledger is properly maintained, a trader can easily prepare a Trial Balance which helps the trade to prepare Final Accounts (Trading Account, Profit and Loss Account and Balance Sheet). His financial position on a particular date can be ascertained.

The Book under review is published in the form of questions and answers and in the opinion of the publisher, is intended to meet the needs of the candidates appearing for Appendix II-A and III-A Examinations on the theory portion of Book-keeping. Owing to the method adopted in dealing with the topics, a beginner is not likely to feel quite at home with the subject by a study of this Booklet only, as a continuous explanation would be required for him. It may, however, be used as a refresher. Further no book on Book-keeping could be treated as complete without the prescribed forms for the initial records. The Book will be very useful to the examinees cited as also trainees—the new recruits of the Accounts Department either Clerks Grade I or Grade II who has to pass an Examination.

S. VEDANTAM



TRAVEL MANNERS

- * **CLEANLINESS** is next to Godliness. Cultivate the habit of cleanliness. Avoid throwing scraps of food, skins and peel of fruit and water on platforms or in compartments. Use the dust-bins provided at stations or in passenger compartments.
- * **SPITTING** indiscriminately on platforms is unhygienic. It is also bad manners. Please use spittoons.
- * Cooled and filtered water at Railway stations is for drinking. Do not use it for other purposes.
- * You will annoy others by sitting in compartments with your feet on the seats. Please sit properly in trains.
- * Book your heavy luggage in the brake-van and give yourself and your fellow passengers more room in the compartments.
- * It is an offence to smoke in railway trains when requested by a fellow passenger not to smoke. Please avoid smoking when requested by a fellow-passenger, when the compartment is crowded or when doors and windows of the compartment are shut.

ISSUED BY THE CENTRAL RAILWAY

SOUTHERN RAILWAY INSTITUTE, BELLARY, CHILDREN'S TREAT 1956-57

The Southern Railway Institute, Bellary, celebrated the Annual Children's Treat on 10-3-1957. Nearly 1,000 children of Railway employees from Bantahal to Hospet, Bellary to Rayadurg, Hospet to Kottur and Samehalli branches participated in the treat. Useful and fancy articles made of stainless steel, porcelain, glass, brass and aluminium were presented to children. A number of items of sports for girls and boys were conducted and three prizes were given in each event.

Sri T. M. Srinivasan, Assistant Engineer, Bellary and Chairman of the Institute gave an introductory speech giving the details of the children participated in the treat and requested Sri C. R. Subba Raman, Divisional Superintendent, Transport: tion Branch, Guntakal, to preside over the function, and distribute the prizes to the children. Sri C. R. Subba Raman in his introductory speech said that he was really surprised to see the grand manner in which the treat was conducted in a small railway colony like Bellary. In the course of his speech, he said that every one should love children and such entertainments should be provided to them. He also

stressed that more and more children of Railway employees residing at out-station also participate in sports and entertainments conducted at the Institute. He then distributed the prizes to winners in the sports.

A variety entertainment consisting of Veena, Flute music, a series of Dance recitals by young girls aged between 6 and 12 years with the accompaniments of gramophone music and a Tamil drama "NEEDIPATHI" enacted by the Railway staff, was provided in the evening from 7 to 11 p.m. A large gathering of Railway staff, ladies and children was present and the variety entertainment was much appreciated by the audience.

After the variety entertainment, Sri T. S. Murugesan, Traffic Inspector and Chairman of the Children's Treat Committee, thanked all those assembled, the president of the day and those who took part in the function. With the singing of 'National Anthem' the function came to a close at 11 p.m.

STATISTICAL INSPECTOR RETIRES

Sri P. Chokkalingam was entertained in the ex-MSM Railway on 1st October 1923. From his early stage in the official career he worked as a statistical clerk and later worked

Sri P. Chokkalingam with his Colleagues



in various capacities in the Chief Mechanical Engineer's Office and rose to the position of Statistical Inspector solely by dint of merit and efficiency. He was promoted as a Statistical Inspector in 1953 and remained in this capacity till his superannuation on 1st April 1957. During his service, he won the confidence of all officers.

A party was arranged by the staff of the Chief Mechanical Engineer's Office to bid him farewell. Sri D. Ramakrishna Rao, Office Superintendent, spoke eulogising his services to the Railway. The party came to a close by vote of thanks by Sri P. Vaidyanathan.

NAVYA KALA NIKETAN, MADRAS

The first Anniversary of the above Association was celebrated on 16-4-1957 at New General Offices, Southern Railway, at 5-30 p.m. Light refreshments were served to the members.

Sri A. Seeta Rama Rao the outgoing President explained in detail the aims of the Association and relative activities done during the year. Afterwards the Secretary Sri B. Ramakrishna read the annual report and appealed to the members to stand united and run the Association to a prosperous level by their mutual help and trust. Afterwards Sri S. L. Narasimham (newly elected President) thanked the members for their confidence and promised his utmost service to the association. Sri R. Narayanaswami, Mr. Shaik Sulaiman, C. V. N. Murthy and Sri N. Lakshminarayana also appealed to the members for their solid support and co-operation for the uplift of the Association.

Then Sri T. Ramachandra Rao referred during his speech to the importance of the Railway Week and appealed to the members to follow the principles behind the helpfulness, courtesy and attentiveness which are hallmarks of the Railway service. In this connection, he quoted a great service done by a co-member Mr. Shaik Sulaiman for having written a drama by name "*Railupramadam*" depicting the story of a Railway Gateman who averted a great accident by his attentiveness and devotion to duty.

He stressed the importance of dramatic art to propagate such vital problems of the Railway, and appealed to the Railway authorities to give proper encouragement and support for such cultural work.

INTRODUCING TEA ICECREAM

The Tea Centre, Bombay, run by the Tea Board under the Union Ministry of Commerce and Consumer Industries, has introduced, for the first time in India, tea icecream which is becoming increasingly popular in the city. Both the tea icecream and iced tea—also served at the Tea Centre, Bombay not only show novel methods of preparation of tea but also prove the versatility of tea itself.

From the steadily mounting figures of iced tea sale during the summer season at the Tea Centre, Bombay, it is evident that people in this country are increasingly recognising the merits of iced tea as a relaxing cold drink.

The Tea Board will shortly launch for the third year in succession its iced tea campaign both in the Press and through other visual aids. As a result of the Tea Board's iced tea campaign, iced tea now figures on the menu of many leading tea rooms, restaurants and hotels in India and is also prepared and served in many homes.

Although iced tea is not widely known in this country, the drinking of iced tea has entrenched itself as a popular or rather a national habit in the United States of America. People in America prefer iced tea for its clean, cool taste and for its freshening properties.

If correctly prepared, iced tea retains the full flavour of tea and, at the same time, serves as a delightful and energising hot-weather drink.



Sri V. P. Ribeiro presenting the ring to Sri M. V. Paulraj

RAILWAY INSTITUTE, GUNTAKAL

On 16th March 1957, 3 brand new stage screens prepared by Sri M. V. Paulraj for the Railway Institute, Guntakal, were unveiled before a large audience by Sri V. P. Ribeiro, DS/GTL. After Sri Ribeiro cut the ribbon and declared the stage screens open, the artist was introduced by the Chairman who stated that the artist was one of the Railway staff of the Olavakkot Division.

Sri V. P. Ribeiro, who presided on the occasion, spoke in very appreciative terms of

A dance sequence from the Tamil play



A scene from the Telugu play

the excellent work done by the artist. He stated that although Sri Paulraj was not a professional artist and he was practising painting only as a hobby the paintings executed by him were of a very high order. With the three fine stage screens painted by him, Guntakal Railway Institute had the fundamental requisites for a stage. He exhorted the Dramatic Branch to take advantage of having such an excellent stage and asked them to go ahead with whatever further improvements that may be necessary and organise dramas frequently. He wished the artist all luck and hoped that the Dramatic Branch will put on as many shows as possible in future.

He next presented the artist with a ring on behalf of the Railway Institute. This ring was given in grateful appreciation of the work which Sri Paulraj had done for the Guntakal Railway Institute. Individual presents were also offered to the artist by the Secretary of the Institute and Secretary of the Dramatic Branch.

One of the three screens painted by the artist—
A Village scene



The Dramatic Branch then put on the stage a Tamil Drama entitled "THIMMALUM—TOLVIYUM" and a Telugu Drama entitled "DONGA" which were widely appreciated by the audience.

With the singing of the National Anthem, the function came to a close.

ANDHRA KALA MANDALI SOUTHERN RAILWAY

A Send-off function was got up in honour of some of the members of the Andhra Kala Mandali on the eve of their transfer to the Divisional Accounts Office, Bezwada on 16th March 1957. Sri A. Venugopala Reddy, President of the Mandali, presided over the function.

The President in his address said that he felt the separation of the members from the Kala Mandali but expressed his joy to bless them as they are going to better their future.

Sri R. Sreesailam, Secretary of the Mandali, presenting the Farewell address traced the

history of the Mandali ever since its origin and praised the outgoing members for the valuable service rendered by them for the growth of the Mandali in its various fields. He expressed the hope that they will continue to render the same held and co-operation and wished them a long, prosperous and happy life.

Sri S. Narasimha Rao, replying to the farewell address on behalf of the outgoing members thanked the Executive Committee and the Kala Mandali for having given them a warm send off said that their good wishes would always remain with the Mandali and they would render all possible service to the Mandali.

Sri K. Lakshmana Rao also replied in suitable terms to the farewell and said that their association with the Mandali could not be forgotten.

The function came to an end after adopting the revised Constitution of the Mandali and register the same. Then the Secretary proposed a vote of thanks.

THE PRESIDENT'S POLICE MEDAL FOR OUR CHIEF SECURITY OFFICER



The Governor of Madras, Sri A. J. John, pinning the Police Medal for meritorious service to Sri R. M. Mahadevan, our Chief Security Officer

REMODELLING OF GUDUR STATION INAUGURATED



Sri T. A. Joseph, G.M., inaugurating the remodelling (12th April)

A section of the guests who attended the Function



MYSORE SOUTH

The Railway Week Celebrations at Mysore South concluded with a Picnic Party consisting of 62 Children of Railway employees, boys and girls attending Summer Vacation Hindi Classes. The lady teacher Srimati Nagalakshamma in charge of these Hindi Classes, voluntarily organised by the Railway employees and their families residing in the Railway Colony took the boys and girls out to the Central Food Research Institute at Mysore on Tuesday the 16th instant. The Children spent an enjoyable evening seeing the various foodstuffs scientifically made at the Research Institute. Various Machinery and Gadgets employed in the Institute were explained to them. At the end of the evening the Children were entertained with sweets and snacks specially prepared and freely supplied by the Railway Works Canteen, Mysore South.

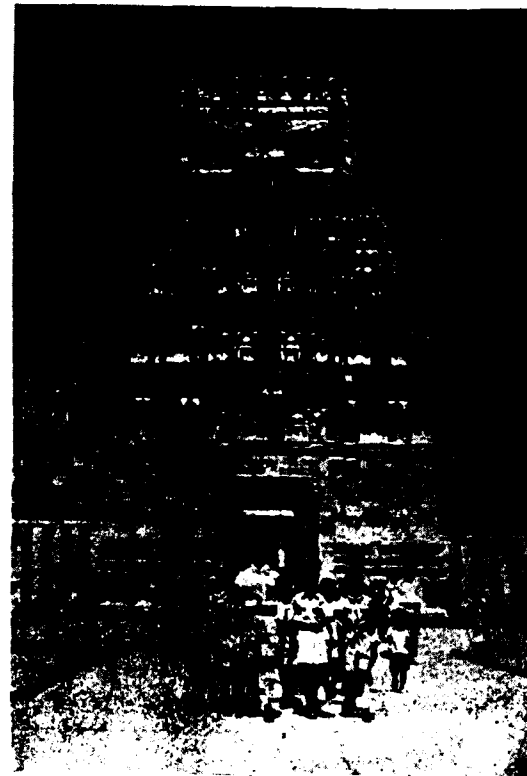
PUDUKKOTTAI RAILWAY COLONY

The Railway Week was celebrated on Tuesday the 16th April 1957 with Sri K. R. Nanjundan, in the chair. Sri Thiagarajan Assistant Station Master, Vellanur spoke about the significance of the Railway Week and Sri T. Govindaswami, F.A. & C.A.O's Office, Trichy Junction spoke on Railways and the Public. "Baby Phylis," daughter of Mr. V. J. Morris, Traffic Inspector, Pudukkottai, gave



recitals in "Baratha Natyam." The function was largely attended by the public of Pudukkottai and the surroundings as well as the Railway Staff with their families including Sri S. Maharajan, Sub-Judge, Pudukkottai. Sri T. Govindaswami proposed a vote of thanks with a singing of the National Anthem the function concluded.

MYSORE



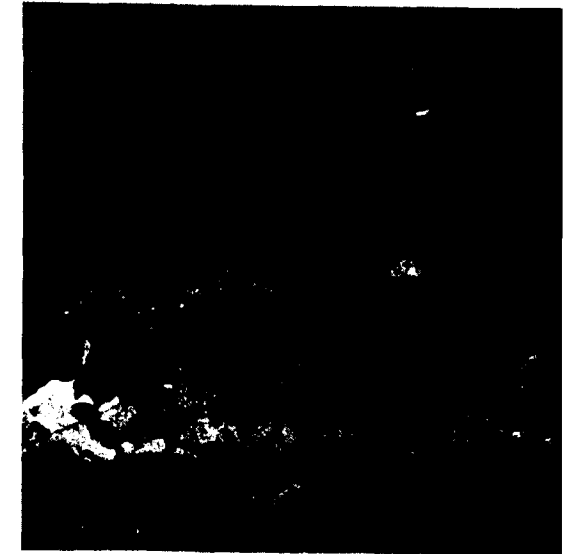
A Picnic was organised for children of Railway employees at Mysore during Railway Week. Photo shows the children at the Sriranganatha Temple at Srirangapatna



The party also visited "Daria Doulat" the palace of Tippu Sultan

KIMBER GARDENS

In connection with the Railway Week a Variety Entertainment was put up by the Trainees of the Railway Protection Force, Kimber Gardens, Trichinopoly on the 12th April 1957. Even though the Second Batch of the Trainees are scheduled to leave the school only during the first week of May 1957, to make the function attractive the Passing Out Parade was held during the Railway Week. Sri R. M. Mahadevan, M.A., B.Sc., I.P., Chief Security Officer, Southern Railway, lead by Sri Basheer Ahmed, Security Officer, inspected the ceremonial Parade and took the salute. The Chief Security Officer made a call to all the members of the Railway Protection Force to show "100 per cent honesty" in their work so that they could win the "battle against compensation claims". He added that the amount thus saved from the payment of compensation claims could be directed for nation building activities in the Second Five-Year Plan. In order to perform their functions satisfactorily, the members should keep their eyes and ears open and their dealings must be based on 100 per cent honesty and they should not hesitate to expose "those corrupt practices which still continue". This was followed by beating of the Retreat. Sri M. Buchandran, Commandant, welcoming the gathering gave a brief account of the activities of the Training Centre and stated that those who left the portals of this institution would stand the test and come up to the expectations of the Administration in every way. Later there was a Variety Entertainment Programme consisting of one act plays in Tamil, Telugu, Malayalam and English, and Kolattam, Dance, Asanams, Muscle Control and other items. The function was attended by a large gathering of Railway and Government Officials and distinguished members of the public.



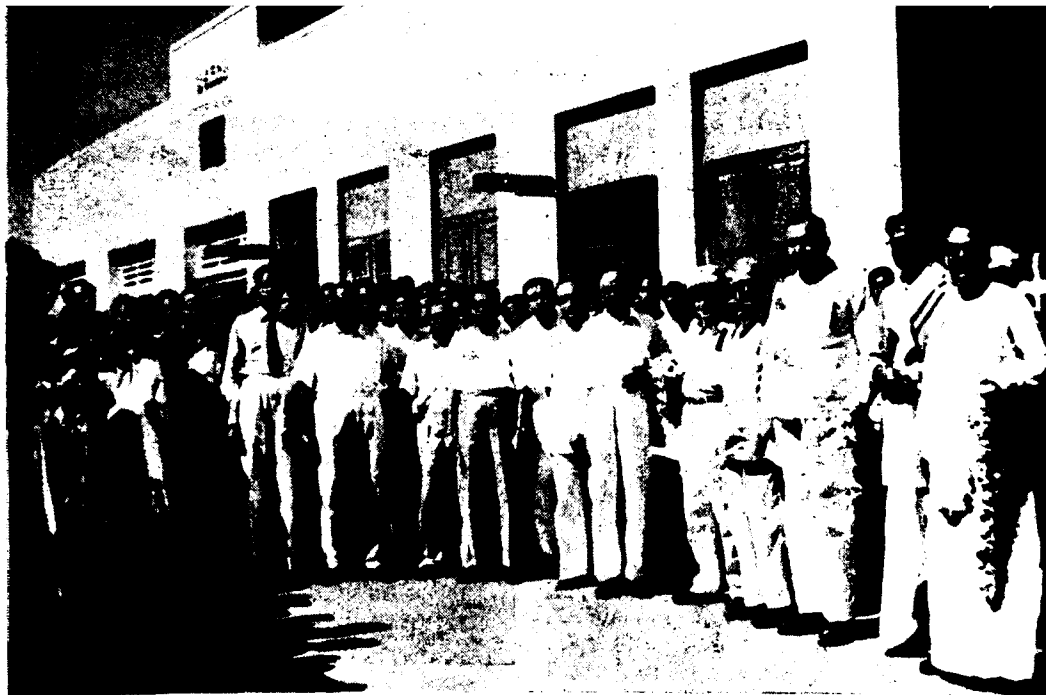
The R.P.F. Orchestra

Inspection of the parade



R.P.F. Band





Sri T. A. Joseph, G.M., with other heads of departments inspected Pasivedala station on 20-2-57

'INSTANT POWER' CAR BATTERIES

INDIA'S largest national battery manufacturers, Messrs. Standard Batteries, Limited, are taking another great step forward with the introduction of their Tudor patent 'Instant Power' batteries. These batteries are now being manufactured in India, and will be available throughout the country in the near future.

Available here for the first time, these new batteries are of the type commonly known as 'dry charged'. But there is an important difference between the usual dry charged batteries, and the 'Instant Power' batteries. The latter do not need to be sealed against the outside atmosphere. The Tudor patent process seals the plates absolutely, and keeps them fresh and active, ready for use the moment the correct specific gravity acid is filled in.

Usually, it takes 48 to 60 hours to charge a new battery for service, and the fact that the Standard 'Instant Power' battery can be made ready while the motorist waits is its most obvious advantage. But there are many others, too. Since the battery is fully charged merely by the addition of acid, no battery charging equipment or electricity is required

and small garages and petrol-filling stations can therefore store and handle these new batteries easily.

NO STORAGE LOSSES :

The life of a 'wet' battery starts as soon as it receives the first charge, and the battery that has been in stock for some time offers the motorist a shorter period a service unless the dealer has kept it 'trickle-charged'. But with the Standard 'Instant Power' batteries, the motorist receives a factory-fresh battery whose useful life starts from the moment it is put into service.

The most important advantages of the new Standard 'Instant Power' batteries can be summed up as : (a) you get a power-sealed, fully-charged battery every time ; (b) you only have to put the correct acid into the battery and you're ready to go ; and (c) petrol-filling stations, small garages and spare-part dealers even in out-of-the-way places can now stock Standard 'Instant Power' batteries and give a fully charged battery to their customers at a moment's notice.

The advantages to the defence services of the Standard 'Instant Power' battery are many and obvious.



UPANAYANAM OF T. P. SRINIVASAN

Sri T. S. Parthasarathy, Deputy Chief Operating Superintendent (Coaching), celebrated the Upanayanam of his son Chiranjeevi T. P. Srinivasan on 19-4-57 at No. 21, Maharaja Surya Rao Road, Alwarpet, Madras. Both the Muhurtham held in the morning and the dinner held at night were well attended by the elite of the City. A large number of Railway Officers, including the General Manager, Chief Administrative Officer (Integral Coach Factory), Senior Deputy General Manager, heads of departments and others attended the function, as also a large number of friends of Sri Parthasarathy.

[Photos : P. S. Vedhachalam

A section of the guests—Sri M. Ganapathi, Chief Engineer, extreme left and Sri D. B. Patel, SDGM, second from right





Sri S. K. Mukerji, CCS and Sri T. A. Joseph, G.M., with Sri P. M. Natarajan (standing) SO/G

Sri K. Sadagopan, CAO/ICF, Sri S. Chakravarti, CME, Sri T. A. Joseph and Sri W. C. Liebenhals, CSTE

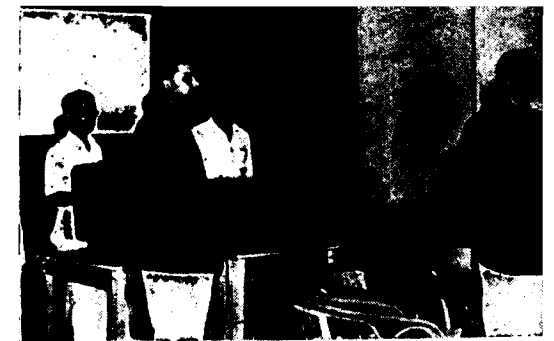


A section of the guests



OFFICERS CLUB ANNUAL

SOUTHERN RLY. DINNER



Sri Chakravarti addressing the guests



Sri Ratan Lall, COPS (facing Camera) and Sri Chakravarti on his left, with other Officers

Another view of the guests



SOUTHERN RAILWAY

TENDER NOTICE

1. THE CHIEF ENGINEER, SOUTHERN RAILWAY, MADRAS-3, invites SEPARATE SEALED LUMP SUM-CUM PERCENTAGE TENDERS FOR THE CONSTRUCTION OF STAFF QUARTERS as per particulars given below upto 12-00 hours on Thursday the 30th May 1957.

Serial No.	Station	Type of Quarters	No. of units	Total approximate value	Earnest Money
				Rs.	Rs.
1	Bezwada	III	8	1,23,350	6,200
		IV	4		
2	Olavakkot	IV A (Spl.)	8	1,22,700	6,100

2. The tenders should be submitted in the prescribed form obtainable from the Chief Engineer's Office on production of a receipt for the amount of Rs. 10 paid to the Chief Cashier, Southern Railway, Madras-3, or to the Divisional Accounts Officer, Mysore or to any Station Master on the Southern Railway towards the cost of each tender form (including cost of plans and drawings). In no circumstances will the amount paid for the tender form be refunded.

3. The tender form is not transferable.

4. The tenderer should submit along with the tender the Income-tax Clearance Certificate in original or an authorised copy or if he has no taxable income, a sworn affidavit duly countersigned by the Income-tax Officer to that effect.

5. Tender forms will not be issued after 15-00 hours on Thursday the 23rd May 1957.

6. The earnest money for the tenders mentioned above should be paid in advance to the Chief Cashier, Southern Railway, Madras-3, or to the Divisional Accounts Officer, Mysore, and the receipt issued by him should be attached to the tender.

7. The earnest money will not be accepted after 15-00 hours on Friday the 24th May 1957.

8. The tender will be opened at 12-00 hours on Friday the 31st May 1957 in the Chief Engineer's Office, at Madras.

9. The Chief Engineer reserves to himself the right to reject without assigning reason, any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

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- the right to a little extra attention in the case of a woman or a child, or an infirm or illiterate person.

INTEGRAL COACH FACTORY (PERAMBUR), MADRAS

FURNISHING UNIT

The Chief Administrative Officer, Integral Coach Factory (Perambur), Madras-23, invites sealed Global tenders for the fabrication and supply of structural steelwork for the workshops of the Furnishing Factory to be set up as an adjunct to the Integral Coach Factory (Perambur). Tender papers giving the detailed specifications, conditions of Contract, etc. and the official design drawings to which the fabricated steel is required to be supplied can be obtained from the above office from 10th May 1957 on payment of Rs. 50 per set either in cash or through Money Order. This amount will not be refunded. The approximate tonnage of steelwork for the various shops will be as follows :—

SHOP	Approximate Tonnage
Assembly Shop	741
Finishing Shop	392
Carpentry, Timber Mill and Timber Ward ..	544
Fitting & Millwright Shop	436
Painting & Trimming Shop	214
Train Lighting Shop	214
Stores	268

Competitive alternative designs in Welded Steelwork, either of the Rigid frame type or with conventional roof trusses, will be considered. Similar competitive alternative designs in Reinforced Cement Concrete, either ordinary or prestressed for such of the shops as will permit their use will also be considered. These designs must be in accordance with the current Indian Railway Standard Codes of Practice and full details of the design together with the drawings must be submitted along with the tender.

Tenders will be received upto 3 P.M. on 22nd July 1957 and will be opened the same day at 3-30 P.M. in the above office in the presence of such of those tenderers or their representatives who may wish to attend the opening.

SOUTHERN RAILWAY

TENDER NOTICE

The Divisional Superintendent, Southern Railway, Hubli, invites fresh sealed percentage tenders for the work of "Karimatti—Extension of loop lines, Hubli Division" upto 12-00 hours on Tuesday the 4th June, 1957.

2. The tender should be submitted on the prescribed form obtainable from the Divisional Engineer's Office, Southern Railway, Hubli, on production of a receipt for a sum of Rs. 10 paid to the Chief Cashier, Southern Railway, Madras, or Divisional Accounts Officer, Mysore, or any Station Master on the Southern Railway, towards the cost of the tender form. In no circumstances will the amount paid for the tender form be refunded.

3. The tender form is not transferable.

4. The tenderer, should submit along with the tender the Income-tax Clearance Certificate in original or an authorised copy of it, if he has no taxable income, a sworn affidavit duly countersigned by the Income-tax Officer to that effect.

5. The tender forms will not be issued after 15-00 hours on Monday the 27th May, 1957.

6. The total approximate value of this contract is Rs. 40,400.

7. Earnest money of Rs. 2,020 should be paid in advance to the Chief Cashier, Southern Railway, Madras, or Divisional Accounts Officer, Mysore and the receipt issued by him should be attached to the tender. No demand draft or cheque is to be attached to the tender.

8. The earnest money will not be accepted after 15-30 hours on Thursday the 30th May, 1957.

9. The tenders will be opened at 12-00 hours on Wednesday the 5th June, 1957 in the Divisional Engineer's Office at Hubli.

10. The Divisional Superintendent reserves to himself the right to reject without assigning reasons, any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

SOUTHERN RAILWAY

TENDER NOTICE

Tender No. S/236/V/EB6/L/127.

Sealed tenders are invited for the supply of 654 Nos. of wire spring mattresses and will be received by the Controller of Stores, Southern Railway, Ayanavaram P.O., Madras-23, before 3 P.M. on 6-6-57 and will be opened by him at 3 P.M. on 7-6-57.

The prescribed form of tender is obtainable on payment of Rs. 5 per copy in cash or by M.O. Remittance by any other means will not be accepted.

The last date for the receipt of Earnest Money, viz., Rs. 500 by the Chief Cashier, Southern Railway, Madras-3, is 5-6-57.

Tender forms will not be issued after 3 P.M. on 3-6-57.

Controller of Stores.

SOUTHERN RAILWAY

TENDER NOTICE

Tender No. S/236/I/EA1/365/UBL/1

Sealed tenders are invited for the supply of 900 Tubes boiler 11'-6½" length × 1½" OSD × 11 SWG thickness to IRS specification R 22/54 or for ERW steel tube to B.S. specification 1654/50 and will be received by the Controller of Stores, Southern Railway, Ayanavaram P.O., Madras-23, before 3 P.M. on 4-6-57 and will be opened by him at 3-00 P.M. on 5-6-57 (the following working day).

The prescribed form of tender is obtainable on payment of Rs. 5 per copy in cash or by M.O. Remittance by any other means will not be accepted.

The last date for the receipt of Earnest Money, viz., Rs. 500 by the Chief Cashier, Southern Railway, Madras-3, is 3-6-57.

Tender forms will not be issued after 3 P.M. on 30-5-57.

P. N. TALATI,
Controller of Stores.

SOUTHERN RAILWAY

TENDER NOTICE

THE CHIEF ENGINEER, SOUTHERN RAILWAY, MADRAS-3, invites SEALED PERCENTAGE TENDERS for the proposed DIVISIONAL OFFICE AT MADURA JUNCTION to reach him not later than 12-00 hours on Thursday the 13th June, 1957.

2. The tender should be submitted in the prescribed form obtainable from the Chief Engineer's Office on production of a receipt for the amount of Rs. 10 paid to the Chief Cashier, Southern Railway, Madras-3, or the Divisional Accounts Officer, Trichinopoly or any Station Master on the Southern Railway towards the cost of the tender form. In no circumstances will the amount paid for the tender forms be refunded.

3. The tender form is not transferable.

4. The tenderer should submit along with the tender, the Income-tax Clearance Certificate in original or an authorised copy or if he has no taxable income, a sworn affidavit duly countersigned by the Income-tax Officer to that effect.

5. Tender forms will not be issued after 15 hours on Thursday the 6th June, 1957.

6. The total approximate value of the contract is Rs. 3,75,000.

7. The Earnest money of Rs. 18,800 for this tender should be paid in advance to the Chief Cashier, Southern Railway, Madras-3 or to the Divisional Accounts Officer, Trichinopoly and the receipt issued by him should be attached to the tender. No demand draft or cheque, etc., should be attached to the tender.

8. The earnest money will not be accepted after 15-00 hours on Friday the 7th June, 1957.

9. The tenders will be opened at 12 hours on Friday, the 14th June, 1957, in the Chief Engineer's Office at Madras.

10. The Chief Engineer reserves to himself the right to reject, without assigning reasons, any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

SOUTHERN RAILWAY

TENDER NOTICE

The Divisional Superintendent, Southern Railway, Olavakkot, invites separate sealed LUMP-SUM CUM PERCENTAGE SCHEDULE TENDERS AND PERCENTAGE SCHEDULE tenders for the following works to reach him not later than 12 hours on Monday the 27th May 1957.

Serial No.	DESCRIPTION OF WORK	Total approximate cash value of the contract	Amount of earnest money to be deposited
		Rs.	Rs.
1	Bridge No. 832 at Mile B. 375.18 between Pallipuram and Kuttipuram 1 × 10' G.B. in lieu of existing 1—15' arch	12,000	600
2	Mettupalaiyam—Staff Quarters Type II—2 Units	10,300	500
3	Olavakkot—Construction of Staff Quarters Type III—1 Unit, Type II—6 Units and Type I—10 Units in connection with the Creosoting Plant	42,000	2,100
4	Ernakulam Goods and Ernakulam South—Construction of Staff Quarters Type I—1 Unit and Type II—4 Units	22,000	1,100
5	Olavakkot—Loading and unloading B.G., M.G. and N.G. Sleepers and supplies for Creosoting Plant	1,00,000	5,000
6	Chalakudi—Construction of a new modern Station Building at	28,000	1,400
7	Shoranur—Provision of a combined Office and Stores for the D.S.I. and I.T.P. at	11,000	550
8	Salem—Proposed additional sidings at	12,600	650
9	Mangalore—Staff Quarters Type I—7 Units at	18,000	900
10	Cannanore—Staff Quarters Type II—4 Units at	16,000	800
11	Mettupalaiyam—Staff Quarters Type I—7 Units	12,000	600
12	Satyamangalam Road Over-bridge—Extension of width from 24 ft. to 32 ft.	17,000	850

Tenders should be submitted in the prescribed form obtainable from the Office of the Divisional Superintendent (Works) Olavakkot, on production of a receipt for the sum of Rs. 10 (Rupees Ten only) paid to the Chief Cashier, Southern Railway, Madras-3, or the Divisional Accounts Officer, Trichinopoly, or to any Station Master, Southern Railway, towards the cost of each form. Extra copies can be had, if available, on payment of Rs. 2 (Rupees Two only). In no circumstances will the cost of the tender form be refunded. The tender form is not transferable.

Tender forms will be issued up to 14 hours on Wednesday the 22nd May 1957.

Earnest money as above said should be paid in advance to the Chief Cashier, Madras-3 or Divisional Accounts Officer, Trichinopoly, not later than 15 hours on Thursday the 23rd May 1957.

Tenderers are required to submit Income-tax Clearance Certificate along with the tender.

Earnest money is fixed at 5% of the value of the contract and the successful tenderer will be required to furnish 10% of the value as per his accepted tender towards the security deposit.

The tenders will be opened at 15 hours on Monday the 27th May 1957 at the Office of the Divisional Superintendent (Works), Olavakkot.

The Divisional Superintendent reserves to himself the right to reject without assigning reasons any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

SOUTHERN RAILWAY

TENDER NOTICE

The Engineer-in-Chief, Southern Railway, Egmore, Madras-8, invites SEALED TENDERS for the following works :—

Description of work	'Approximate' value of the work	Earnest Money	Cost of Tender Form
13718-7			
Renigunta—Gudur Railway conversion of Metre Gauge to Broad Gauge	Rs. 415,000	Rs. 5,000	Rs. 10
JUNCTION ARRANGEMENTS AT GUDUR			
Proposed Circulating Area and Approach Road to Station Building	17,100	855	10

The above tenders are to be sent to the Engineer-in-Chief, Southern Railway, Egmore, Madras-8 so as to reach him not later than 13-00 hours on Friday, the 31st May, 1957.

Tenders should be submitted in the prescribed form obtainable from the Office of the Engineer-in-Chief, Southern Railway, Egmore, Madras-8, on production of a receipt for the sum of Rs. 10 (Rupees ten only) towards the cost of each set of tender form, paid to the Chief Cashier, Southern Railway, Park Town, Madras-3, or any Station Master on the Southern Railway. In no circumstances will the cost of tender forms be refunded. Tender forms are not transferable.

Tender forms will be issued upto 12 hours on Tuesday, the 28th May, 1957.

Earnest money as detailed above should be paid in advance to the Chief Cashier, Southern Railway, Park Town, Madras-3, not later than 12 hours on Tuesday, the 28th May, 1957, and the receipt submitted along with the tender. No Cheque or Demand Draft should be attached to the tender.

Tenderers are required to submit Income-tax Clearance Certificate, in original along with the tender. If previously sent and is current, reference to the particular tender with which it was sent should be furnished without fail.

Earnest Money is fixed at 5% of the value of the Contract and the successful tenderer will be required to furnish 10% of the value as per his accepted tender towards the Security Deposit.

Tenders will be opened at 15-00 hours on Friday, the 31st May, 1957 at the Office of the Engineer-in-Chief, Southern Railway, Egmore, Madras-8.

The Engineer-in-Chief reserves to himself the right to reject without assigning reasons, any or every tender or part thereof and does not bind himself to accept the lowest or any tender or part thereof.

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WJ3-304

22/2/7

A VIADUCT ON THE NILGIRI MOUNTAIN RAILWAY



ADERS for

Cost of
Tender