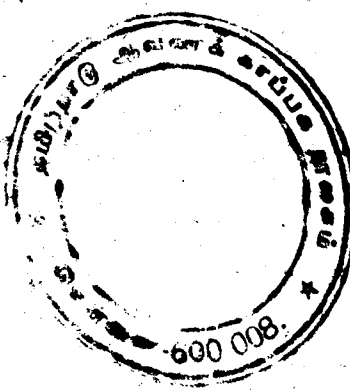




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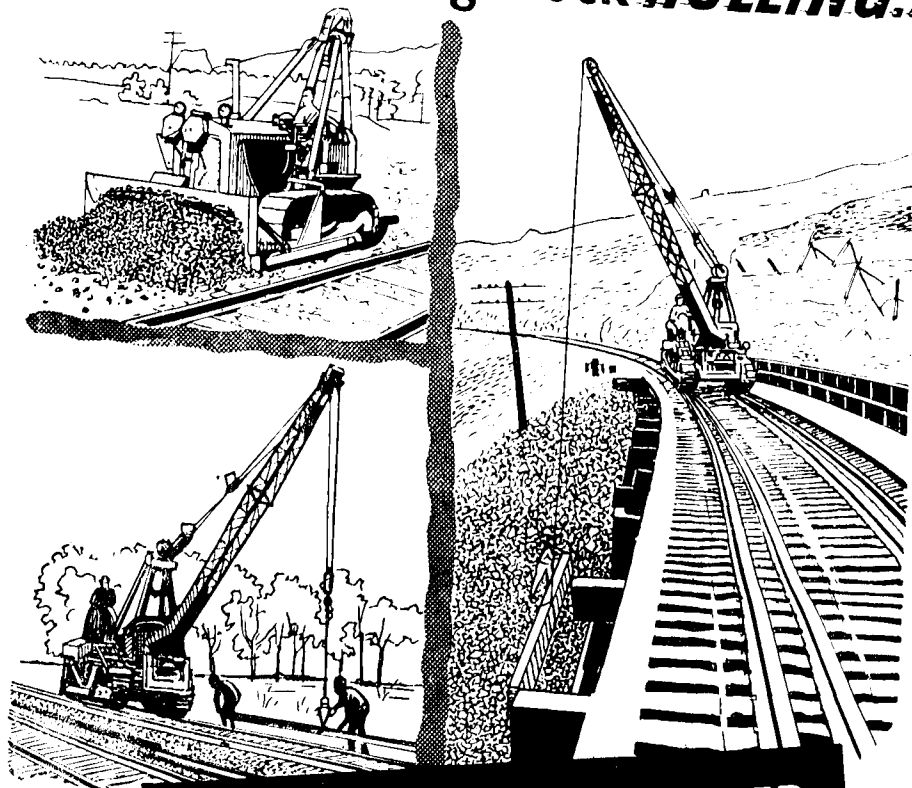


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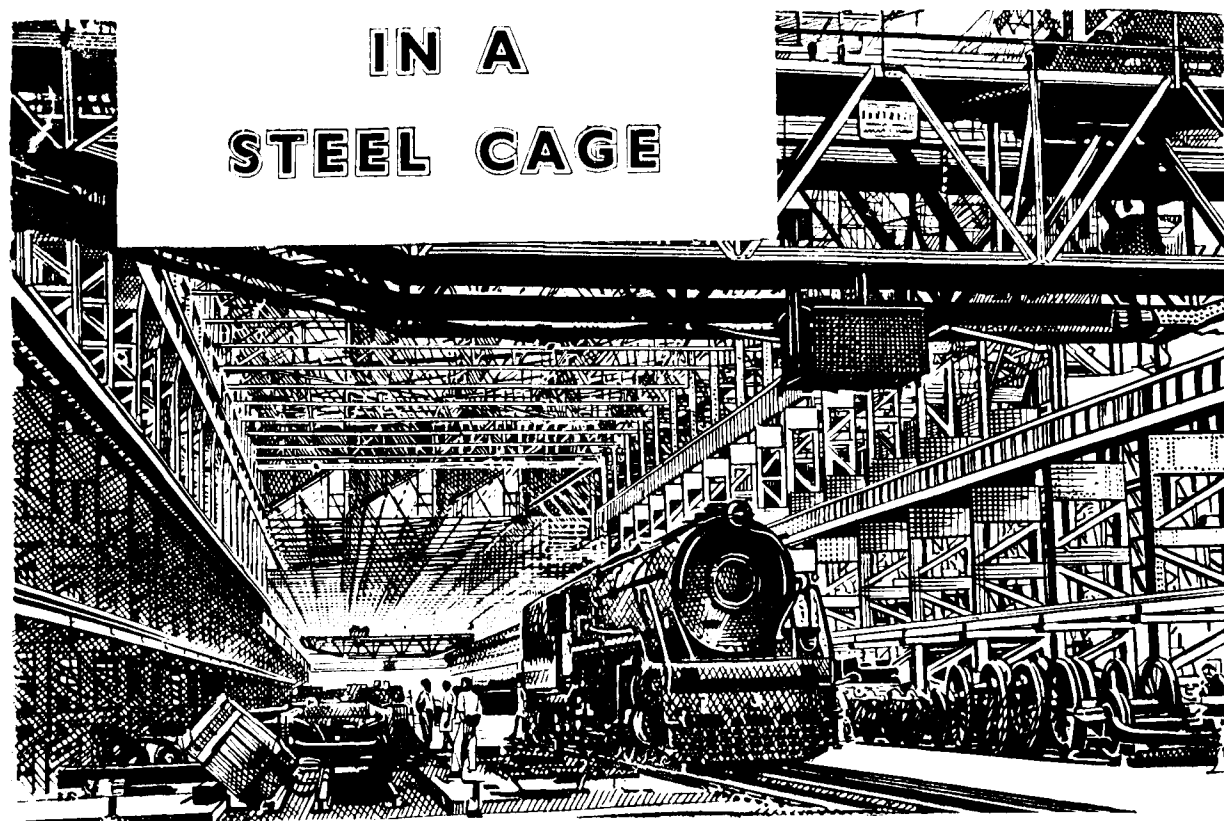
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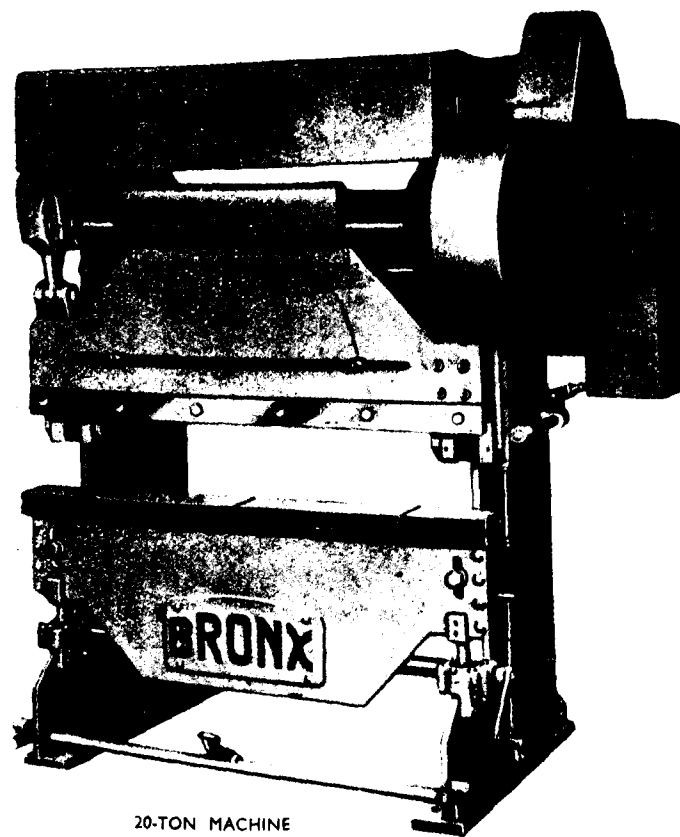
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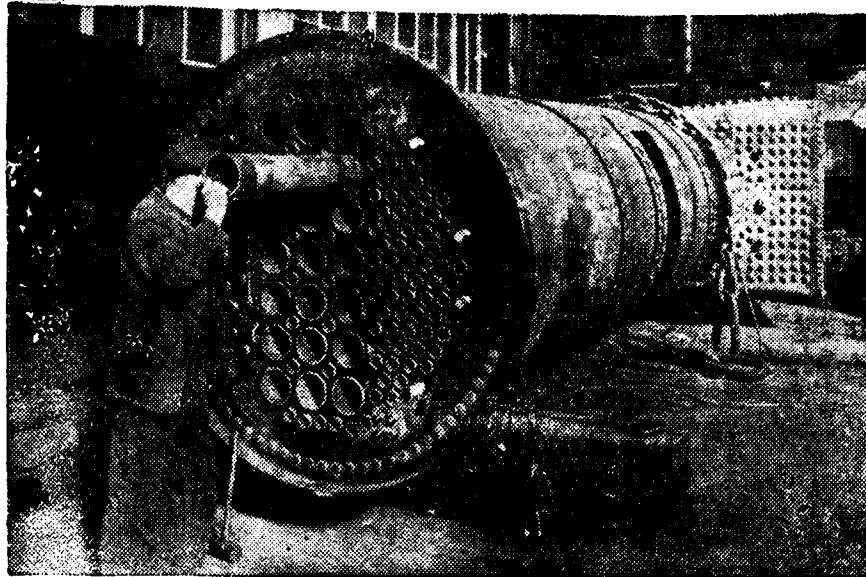
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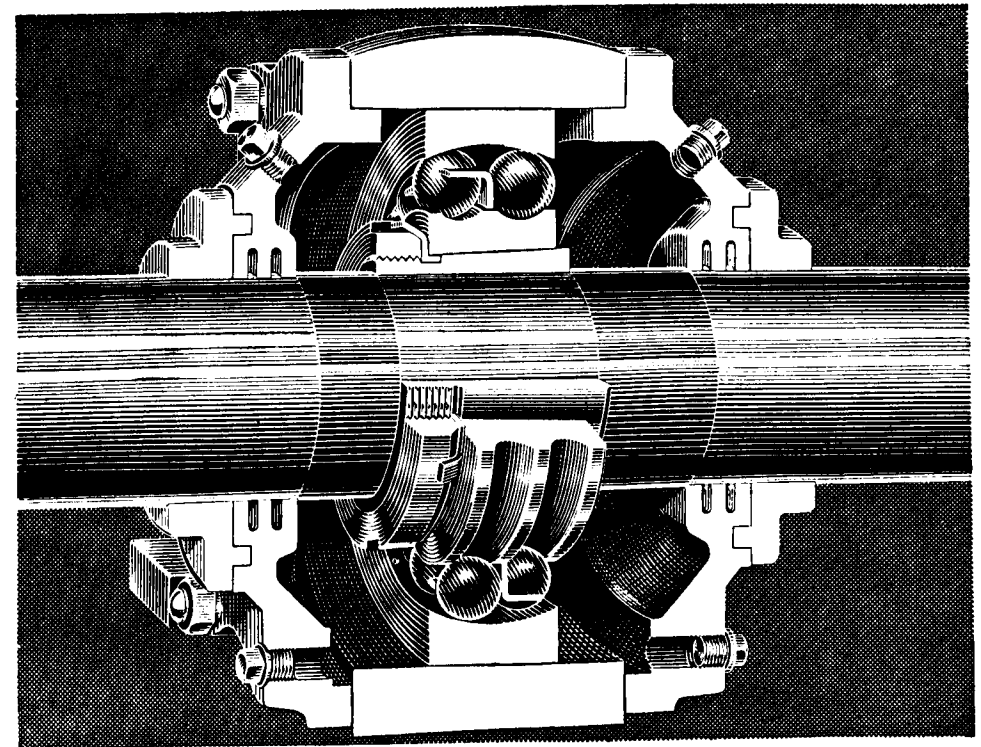
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SOUTHRAILNEWS

(Official organ of the Southern Railway)

VOL. I

No. 8

NOVEMBER, 1954

Editor :

T. S. PARTHASARATHY

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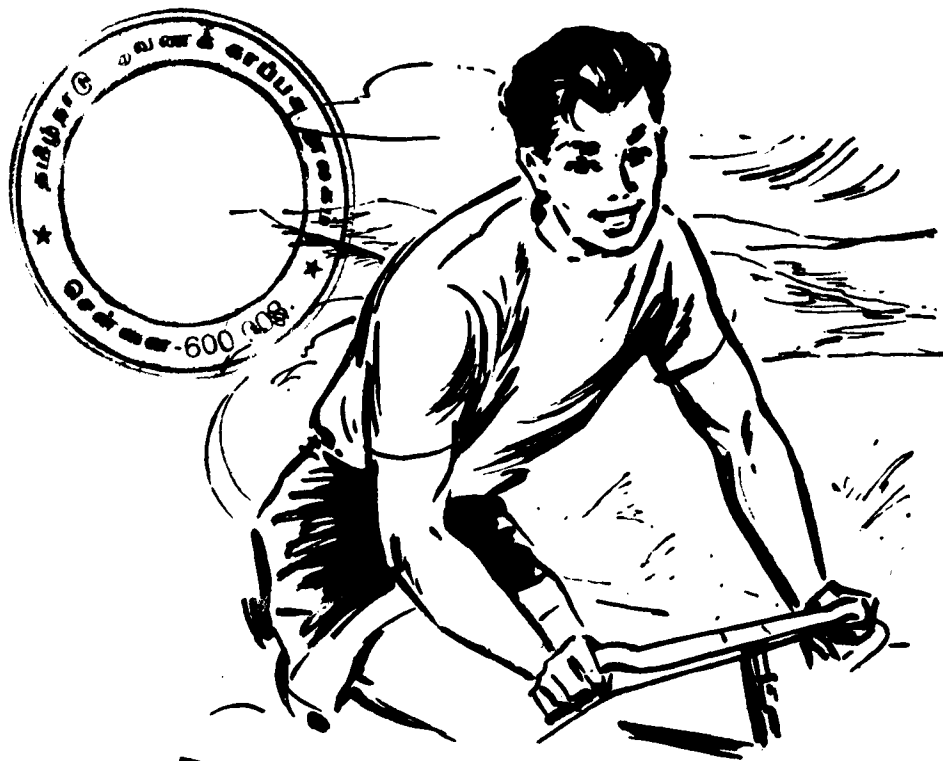
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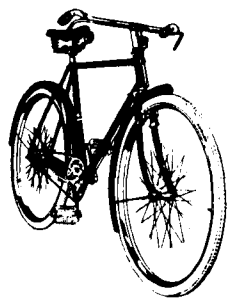
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SOUTHERN RAIL NEWS

Vol. I

NOVEMBER 1954

No. 8

A SHOCKING DISASTER

THE tragic railway accident that occurred near Jangaon (on the Secunderabad-Kazipet Section) on the night of 27th September in which over 130 persons lost their lives cast a gloom over the entire nation. The accident, in which five out of seven bogies of No. 319 Hyderabad-Kazipet Express crashed into the swollen waters of the Vasanti river due to the collapse of a weakened bridge, was one of the major disasters that occurred in the history of Indian Railways. The fact that the ill-fated express, on a dark night, plunged into the torrents of a river whose floods had risen beyond all expectations, aggravated the tragedy and resulted in more casualties than what normally attends such accidents, and difficulties in succour being rushed to the unfortunate victims. The sympathy of the entire nation went out to those who had been so suddenly and tragically

bereaved and the Lok Sabha and the Hyderabad Assembly were among the earliest to express sympathy. The Railway Minister lost no time in visiting the spot and promising a searching enquiry into the circumstances of the disaster and the appointment of a Claims Commissioner for expeditious payment of compensation to those affected by the accident. Accidents, as the very name indicates, are caused by fortuitous circumstances, often beyond the control of human agency, but we dare say that the findings of the enquiry will lead to measures being taken, as far human efforts can go, to minimise, if not altogether prevent, such accidents in future.

RAILWAY BOARD RECONSTITUTED

An event of great significance to the Railway world in India was the reconstitution of the Railway Board with effect from 1st October, last. The

change, which is more in the nature of a re-adjustment of functions and powers of the Members, with wider powers invested in the Chairman, than a substantial alteration in the structure of the Board itself, was brought about when the tenure of the old Members expired and new Members had to be appointed.

The Railway Board had its origin in the formation, in 1874, of a State Railway Directorate in the Central Government as an expression of the increasing participation of the State in railway building. The Directorate was subsequently headed by a Central Directorate-General of Railways who later gave place to a full Secretary to the Government of India. The setting up of a Board with a Chief Commissioner and two other Commissioners was advocated at the beginning of this century in the Robertson report on the administration and operation of Indian Railways. The first Railway Board, consisting of a chairman and two members, was appointed in 1905 and in 1908, this became a separate Railway Department with a president as head with enhanced powers. In 1922-24, the president was designated as Chief Commissioner for Railways, a Financial Commissioner was appointed and a third member was subsequently included. By the middle of 1925, four of the major North Indian railway systems had been acquired by the State and the Railway Budget separated from the general budget.

The old pattern of the Board continued for some time after Independence and its composition, as it existed prior to October 1, was adopted in 1951 when it was headed by three members responsible for Engineering, Transportation and Staff respectively, the member for Engineering acting as chairman, an office which replaced that of the former Chief Commissioner of Railways. Introducing the Railway Budget in 1951, the late Shri N. Gopalswami Iyengar, then Minister of Railways and Transport, announced this functional organization and explained that the Board would function as a corporate body advising him on major policy matters and issuing executive orders for the administration of various railways.

Many onerous tasks fell to the lot of the reconstituted Railway Board, important among them being the regrouping of Indian Railways on a zonal basis and implementing the railway portion of the Five-Year Plan which provided Rs. 400 crores for that purpose out of a total expenditure of Rs. 2,069 crores. The railways are now looking forward to the Second Five-Year Plan to open up a period of development and Shri Lal Bahadur Shastri, announcing the latest reconstitution, stressed on this aspect of the new Board's immediate future and pointed out that he thought it necessary to increase the strength of the Board by one. He spoke in appreciative terms of the valuable services rendered by the outgoing members of the former Board.

The farewell message of Shri Adhwar, the outgoing Chairman (published elsewhere in this issue) rightly emphasizes the fact that railwaymen would always be judged in the light of the service rendered by them to the travelling public and urges them to produce a reflection of which the country and they themselves can be proud.

TAMPS CENTENARY

We seem to be living in an age of centenaries. The Indian Railway and Telegraph centenaries were celebrated last year and the Australian Railways have finished a hundred years of service to the nation. Even the Municipal Borough of Kolhapur, an important town on this railway, is celebrating its centenary.

India recently observed the centenary of the postal stamp and the Postal Department, not wishing to lose the opportunity, arranged an International Philatelic and Postal Exhibition at Delhi. Enthusiastic philatelists have called stamp collecting as "the king of hobbies and the hobby of kings" but the passion is shared by

crowned heads and commoners with equal zeal. The late King George VI was among the most famous stamp collectors and his collection, described as one of the finest in the world, contained priceless stamp albums.

The dainty bits of coloured paper, mainly intended to see letters through to their destination, often unfold the story of mankind's civilization. After Independence, the Indian Government thoughtfully issued several attractive series of stamps, commemorating the saints and poets of the land and these will, no doubt, be treasured by posterity.

Stamp collectors who choose railway philately as their speciality will find more than 2,000 authorised stamps picturing trains or railway equipment, mostly issued in Canada and the U.S.A. New Brunswick claims the honour of issuing the world's first official railway stamp. This one-cent Canadian stamp, issued in 1853, pictures an early type engine and the first United States train stamp which appeared in 1869 likewise portrayed an ancient locomotive with funnel-stacks.

AWARDS TO RAILWAY SERVANTS FOR SUGGESTIONS AND INVENTIONS IN REGARD TO RAILWAY WORK

The attention of staff is invited to the functioning of a Standing Screening Committee (Inventions and Suggestions) at the Headquarters for examining all suggestions and inventions received from railway staff as well as members of the public.

Any member of the staff desiring to submit his suggestion or invention should send it to the Secretary, Standing Screening Committee, General Manager's Office, Madras.

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RECONSTITUTION OF THE RAILWAY BOARD

The Railway Board has been reconstituted from October 1, 1954.

The new Board consists of

(1) Shri G. Pande, formerly General Manager and Chief Engineer of Ganga Bridge Project, as Chairman,

(2) Shri P. C. Mukerjee, formerly General Manager of the Eastern Railway, as Member (Engineering).

(3) Shri K. P. Mushran, formerly General Manager of the Western Railway, as Member (Staff), and

(4) Shri K. B. Mathur, formerly General Manager of the Northern Railway, as Member (Transportation).

The Chairman will have the status of Secretary to Government in the Ministry of Railways and all policy as well as other important matters would come up to the Minister through him.

Announcing the reconstitution, Shri Lal Bahadur Shastri, the Railway Minister, told the Lok Sabha:

"I have for some time been giving thought to the question of re-organisation of the present set-up of the Railway Board. I have also had the benefit of discussions with a number of officers and others who have an intimate knowledge of the subject, and I personally think that the basic idea behind the constitution of the present Board is quite sound, as a clear-cut demarcation between the technical and administrative wings of the railways would not lead to greater efficiency. I might as well mention that a similar view is held in many foreign countries especially Britain.

"I detail below the changes which I have considered necessary to make in the present set-up of the Board:

"The present Board consists of three functional members and one Financial Commissioner. Of the members, one is also functioning as Chairman. Recognising, however, the imperative need for scientific planning and for expediting the implementation of large schemes which the Railways will be called upon to undertake in the coming years, I have thought it necessary to increase by one the present strength of the Board, which will now consist of a Chairman, three members and a member for Finance. The Chairman will have the status of Secretary to Government in the Ministry of Railways and all policy as well as other important matters would come up to the Minister through him. The Railway Board in the coming years will specially have to keep itself posted with trends in the country, its needs and requirements and plan for the future with imagination and a wider perspective, under the guidance and direction of the Minister.

"I take this opportunity to offer my thanks to the outgoing members of the Railway Board for the valuable services rendered by them."

Of the outgoing Members, Shri S. S. Vasist, formerly Member (Transportation) has been appointed as Adviser to the Railway Board and Shri V. Nilakantan, formerly Member (Staff) as the Managing Director of the Sindri Fertiliser Factory.

RETIRING CHAIRMAN'S FAREWELL TO RAILWAYMEN

Shri F. C. Badhwar's Last Message



"In bidding farewell to the team of the million railwaymen, who are today working the unified Indian Railway system, I would like to emphasise that there can be no rest for Railways, although the staff, like the rolling stock, has to be replaced periodically. More and more trains are wanted every day of the year and throughout each of the 24 hours. And it is not only the increased carrying capacity that our country requires from us, but also more comfortable and safer travel for passengers and greater care and safety in moving the goods. Your best efforts are needed to help the nation to accelerate its pace of economic progress, and unlike richer and more industrially advanced countries, this will have to depend mainly on human efforts as you cannot expect the same plentiful supplies of modern equipment as railways in Europe and America.

"For over 29 years, I have had the privilege of working with you under widely varying conditions. We have followed a forward policy in some matters, such as obtaining the benefits of standardisation, which we introduced before many systems in the West, but there are other important aspects where historical factors forced a late start on us and self-sufficiency in essential materials and manufactured components was among this category. Since Independence, however, we have made creditable progress in this direction and in another few years, I hope, during the tenure of my successor and very good friend, Shri G. Pande, we should be capable of making in our own country, with Indian labour and mainly Indian materials, over 90 per cent of our total requirements, including the additional equipment that we shall want for large-scale expansions.

"It is not possible for any country to advance economically without adequate transport, and India has to rely almost entirely on her railways for many years to come. This means that her progress to prosperity will depend on the performance of her railways. Your approach to your tasks, the quality and goodwill in your work, and initiative and enthusiasm you display in dealing with local problems are all personal factors within your control. The Railway Board and General Managements can influence the quantum of equipment and its designs and distribution, but its careful upkeep and its best utilisation will be entirely in your hands. The service which you provide to the public will be the reflection, as in a looking glass, of yourselves, and it is by this image that you and I have been, and will always be, judged. It is my expectation that all Railwaymen will do their utmost to produce a reflection of which the country and they themselves are proud."

F. C. Badhwar

The following have been appointed General Managers in the vacancies caused by the reconstitution of the Railway Board :—

Shri H. K. L. Sethi, Director, Civil Engineering, Railway Board, has been appointed General Manager and Chief Engineer, Ganga Bridge Project, in place of Shri G. Pande.

Shri P. N. Saxena, Director, Establishment, Railway Board, has been appointed General Manager, Western Railway, in place of Shri K. P. Mushran.

Shri A. K. Basu, Director, Traffic (General), Railway Board, has been appointed General Manager, Eastern Railway, in place of Shri P. C. Mukerjee.



New General Manager of Central Railway

MR. A. SALDANHA, M.A. (Cantab), M.I.E. (India), J.P., who succeeds Mr. H. P. Hira, as General Manager of the Central Railway, was born in 1901. He matriculated from St. Xavier's High School, Bombay, in the First Class, in 1917, and joined St. Xavier's College, Bombay. In 1921, Mr. Saldanha secured a First Class Honours in the B.A., with Physics and Chemistry, and was awarded the Xavierian Gold Medal "Bene Meritis". In August, 1921, he was chosen as a Tata Scholar for higher studies in England, on the basis of an All-India selection, and was admitted to Gonville and Caius College, Cambridge, where he took the Engineering Course known as the Mechanical Sciences.

In June, 1924, Mr. Saldanha obtained a First Class in the Mechanical Sciences Tripos, and became Senior Prizeman of his College. He then joined Messrs. Rendell Palmer and Tritton, Consulting Engineers, London, for practical training.

On completing a year's training with the Consulting Engineers, Mr. Saldanha returned to India and was appointed Assistant Executive Engineer on the East Indian Railway in 1925, and later as Executive Engineer. Mr. Saldanha was transferred to the Great Indian Peninsula Railway in 1934 and appointed as Engineer-in-charge "Permanent-way and Stores" in 1935. He subsequently held charge of various Engineering Divisions and was promoted as Deputy Chief Engineer in 1943. He was promoted as Chief Engineer in November 1947. During his tenure as Chief Engineer, Mr. Saldanha was responsible for the execution of several outstanding post-war Engineering Projects, the most important of these being the Removal of Infringements on the Bhore and Thuli Ghats, the Partial Doubling of the Mathura-Delhi Section, and the Construction of the New Down Line from Budni to Barkhera.

In March, 1952, Mr. Saldanha was appointed Senior Deputy General Manager of the newly-formed Central Railway, and succeeded Mr. H. P. Hira when he proceeded on leave last year as General Manager for a period of two months. Due to Mr. Hira's present illness, Mr. Saldanha has taken over charge of the office of General Manager.



Shri M. K. Kaul

Shri M. K. Kaul, Senior Deputy General Manager, Northern Railway, has been appointed General Manager, Northern Railway, in place of Shri K. B. Mathur.



SHRI P. N. SAXENA, who has taken over charge as General Manager, Western Railway, was born in Jhansi on 29th January, 1901. After a brilliant academic career, having stood first in the University in the Intermediate examination and securing first division in B.Sc., he joined Thomason College, Roorkee, in 1921. He took his Civil Engineering degree in 1924 with high distinction. He secured two gold medals for first place in Mathematics and Mechanical Engineering.

He was appointed to the Indian Railway Service in October, 1924 on the Oudh and Rohilkand Railway which soon after was merged with the East Indian Railway. He spent his first few years on the railway mainly on projects and construction works. He attended the Dehra Dun Staff College Refresher Course in 1931 where he stood first among all the officers of the various Railways in India. In 1938 he took over charge as Superintendent, Way and Works. From October 1941 to April 1945 he worked as Divisional Personnel Officer. In November 1945 he was promoted as Deputy Chief Engineer and soon after appointed as Deputy General Manager (Grainshops). He took over charge as Deputy General Manager (Personnel) in November 1947. In January 1948 he was selected as Divisional Superintendent, Howrah and worked as Divisional Superintendent, Howrah and Moradabad upto July 1949 when he was appointed as Director, Establishment, Railway Board, which post he continued till his appointment as General Manager, Western Railway.

He was a member of the Joint Advisory Committee for two years and on the Gadgil Committee for dearness allowance merger in 1952.



SHRI V. NILAKANTAN, who has taken over as Managing Director of Sindri, has had a distinguished record, possessing as he does considerable and varied experience, having held key positions in the Railways, the biggest national undertaking in the country.

Taking his Engineering degree from the Madras University in 1925, he joined the Ex. G.I.P. Railway, in 1926, as one in the first batch of direct recruits after the Government had decided to take over the Railway under direct State management. He was appointed Deputy Director (Establishment), Railway Board, in 1940. He then returned to the G.I.P. Railway as Deputy General Manager (Personnel), in 1944.

He rejoined the Railway Board in 1946 as Secretary to the Board. As Secretary, the brunt of the partition work of the Railways of undivided India fell on him. Following the partition of the country, he was appointed Member (Refugees), Railway Board, in September, 1947 in charge of heavy refugee movement by train from West Pakistan into India. In December, 1947, he was appointed General Manager of the East Indian Railway and successfully handled many problems connected with the partition. In 1949, he went back to the Railway Board as Member (Staff). He was in overall control of the railway personnel, numbering about one million, spread over the far-flung railway system throughout the country. He relinquished as Member of the Railway Board at the end of September to take up his new assignment at Sindri.

Zonal Consultative Committee

The fifth meeting of the Zonal Railway Users' Consultative Committee of the Southern Railway was held at Rameswaram on Monday the 18th October, 1954, under the Chairmanship of Shri T. A. Joseph, General Manager of the Railway. Sri M. C. Sivasankaran, Deputy Chief Operating Superintendent of our Railway and Shri Ganapathy, Chief Engineer, also attended the meeting.

The Committee passed a resolution of condolence on the untimely demise of Shri S. R. Sarma, the former Chief Operating Superintendent.

Before taking up the Agenda, the Chairman introduced to the Committee Shri K. J. Chandy, who has been recently appointed to the new post of Deputy General Manager (Passenger Amenities) and explained his functions. Important among the duties of this officer would be the co-ordination of all matters relating to passenger amenities, ensuring that amenity works as programmed were completed within the financial year and supervision over the Complaints Organisation with special reference to "courtesy."

Replying to various suggestions made by members of the Committee to provide more passenger amenities at stations, the Chairman informed them that a motor car loading ramp would be provided at Mandapam and that the question of constructing a foot over-bridge at Alwaye station was being looked into by the Regional Committee. As regards the conversion of the Renigunta-Tirupati section into Broad Gauge, he stated that although this had not been included in the scheme for converting the Gudur-Renigunta section into Broad Gauge, the provision of mixed gauge between Renigunta and Tirupati might have to

be considered later as a passenger amenity work.

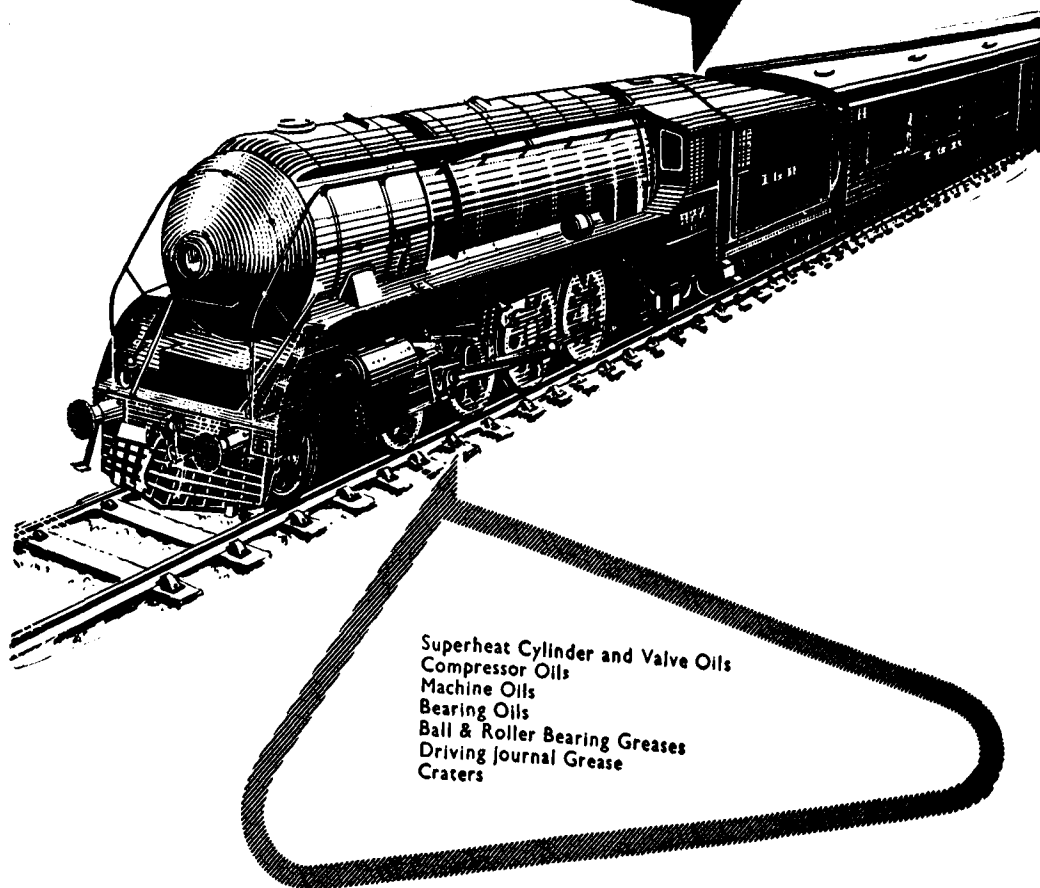
The question of opening an Out-Agency at Nargund in the Dharwar District was under investigation and as regards Gokak, tenders have been called for to operate the proposed Out-Agency. In reply to a suggestion that Vegetarian Restaurant cars should be attached to the Bombay Express trains in view of the inadequate accommodation in the Refreshment Rooms at Cuddapah and Renigunta, the Chairman said that the Cuddapah Room had been sufficiently extended to accommodate 150 passengers at a time. To a suggestion that passenger trains on the Dharmavaram-Pakala section should be speeded up, he said that this could be taken up only after the re-railing of the section was completed.

The Committee discussed the provision of a sub-way at Gudur and the construction of an over-bridge at Cannanore Railway Station. Shri Joseph said that the sub-way at Gudur would probably be provided by the administration at the time of re-modelling of the station, but for the Cannanore over-bridge, the State Government should come forward to do their portion of the over-bridge.

A statement of amenities provided to the public since January, 1954 was placed before the Committee. These included the provision of new Third Class Waiting Halls, Upper Class Waiting Rooms, improvements to platforms, refreshment rooms and stalls and provision of drinking water and bathing facilities at stations. The standardised menu for vegetarian meals with the revised rates had been furnished in the list, which also contained amenities provided in coaches.



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RESEARCH ON U. S. RAILROADS

RESearch conducted by railroads of the United States has resulted in a steady flow of technical improvements. These improvements have produced railroads vastly superior to those of half a century ago, and intensified research is bringing about still further advances.

So wide in scope is railroad research that it is almost impossible to define its limits. Just as the railroads draw upon practically every section of American industry for their materials and supplies, so do they also cooperate with many industries in carrying out technological developments.

A striking example of inter-industry cooperation on railroad research is the development of the diesel-electric locomotive. This relatively new type of locomotive, which is now replacing steam locomotives, is saving U. S. railroads millions of dollars annually in operating costs.

The metals industry, by creating strong light-weight alloys, made it possible to build an engine of adequate power within a locomotive size limited by roadway clearances. The automobile industry, using advanced designing, developed the modern diesel engine used in the locomotive. The electrical industry perfected the electric generating and motor-drive equipment. The

combination of these and other developments, through cooperation between the railroads and other American industries, eventually resulted in the production of today's efficient diesel-electric locomotives.

What is being done currently in railroad research? With hundreds of specific projects being carried on, any brief answer must of necessity cover only a few significant developments. Following are some of the high points:

Rails

Since breakage of rails had been definitely controlled through improved metallurgy, the "controlled cooling" process for eliminating shatter cracks and the development of detector carriages for track inspection, research engineers are now turning their attention to one of the most troublesome parts of track structure—rail joints. New joint bar designs have recently been developed and are being tested. Lubricants to reduce corrosion between the joint bar and the rail are being investigated. Welding processes for building up battered rail ends have been developed.

But more important, perhaps, is a study under way to cut the number of

NEW DIRECTORS OF RAILWAY BOARD

SHRI S. R. KALYANARAMAN and SHRI N. KAMALAKARA RAO

THE appointment of Shri S. R. Kalyanaraman, our Chief Commercial Superintendent and Shri N. Kamalakara Rao, Regional Traffic Superintendent as Directors of the Railway Board to be in charge of the Traffic and Establishment departments respectively was widely welcomed by all ranks of staff on the Railway.

A party to bid them farewell was arranged by officers of all departments at the Connemara Hotel on the 29th October. Shri Joseph, our General Manager, speaking on the occasion, said that the selection of the two officers was not a random choice but a very careful choice made by the Railway Ministry. Both of them had given

their best to the Commercial Department of the railway and it was with a feeling of personal loss that he was saying "good-bye" to them.

Dr. Somasekhar, Chief Medical Officer, also spoke praising the many-sided qualities of the two chief guests.

Thanking the organisers for getting up the function in his honour, Shri Kalyanaraman said that in that very hall he had seen many of his colleagues overcome with emotion and getting tongue-tied when the time came for them to say "good-bye" to their parent railway. He could not understand this till his own turn came to be in that position. He said that the Southern Railway had a reputation for efficiency in many spheres of work and requested

Shri Joseph speaking on the chief guests



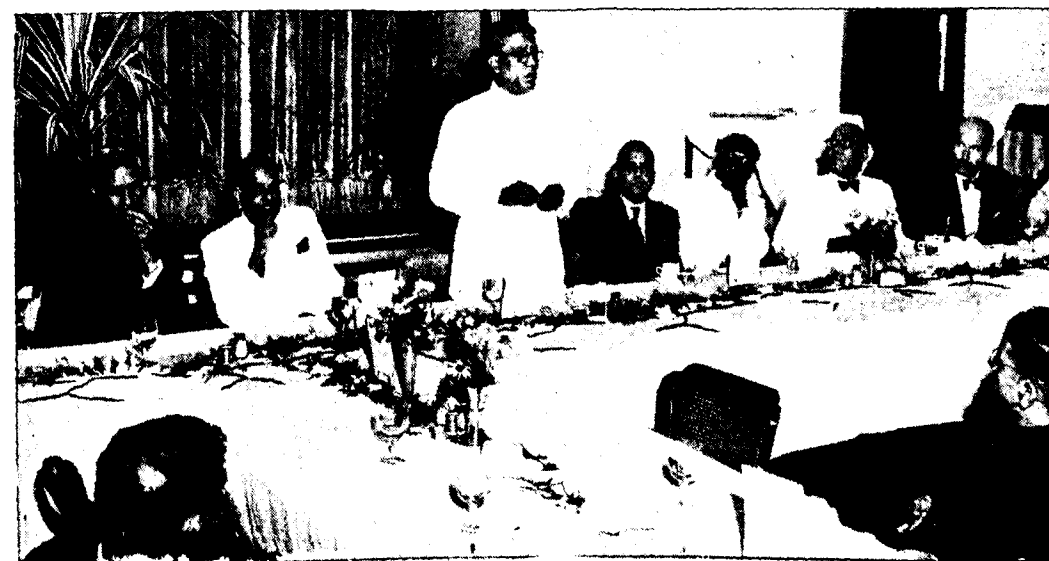
Shri Kalyanaraman delivering his farewell speech

those present not to relax the high standards they had set up for themselves.

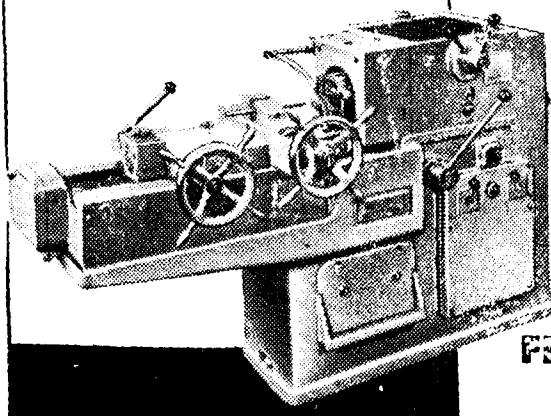
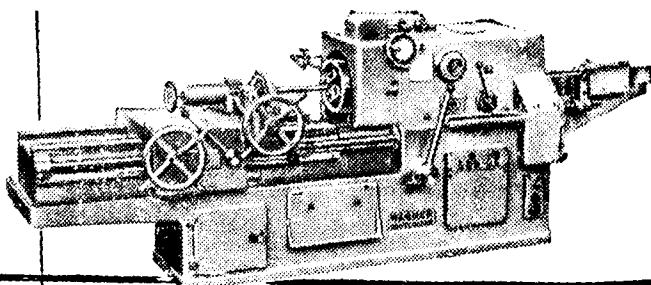
Born in 1904, Shri Kalyanaraman joined the ex-M.S.M. Railway as a Traffic Candidate in 1929 and worked in various posts mainly in the Commercial Department. He held the post of Rates Officer with considerable

distinction. He served for a while as Deputy General Manager (Establishment) and was appointed Secretary of the Railway Rates Tribunal, Madras, when the Tribunal was first formed in Madras. He succeeded Mr. Crawford as Chief Commercial Superintendent in August, 1952 and held the post till his recent transfer to the Board.

Shri Kamalakara Rao addressing the gathering



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RESEARCH ON U. S. RAILROADS

23

rail joints in half, with a consequent large saving in trouble and maintenance costs, by doubling the present standard length of rails from 39 to 78 feet.

Locomotives

While improvement work on diesel-electric locomotives continues steadily, four new types of locomotive power are occupying the attention of research engineers. These are the oil-fired gas turbine, the coal-fired gas turbine, the steam turbine, and the Ignitron electric locomotive.

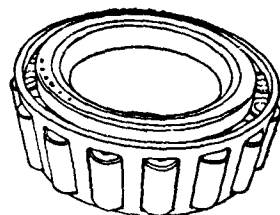
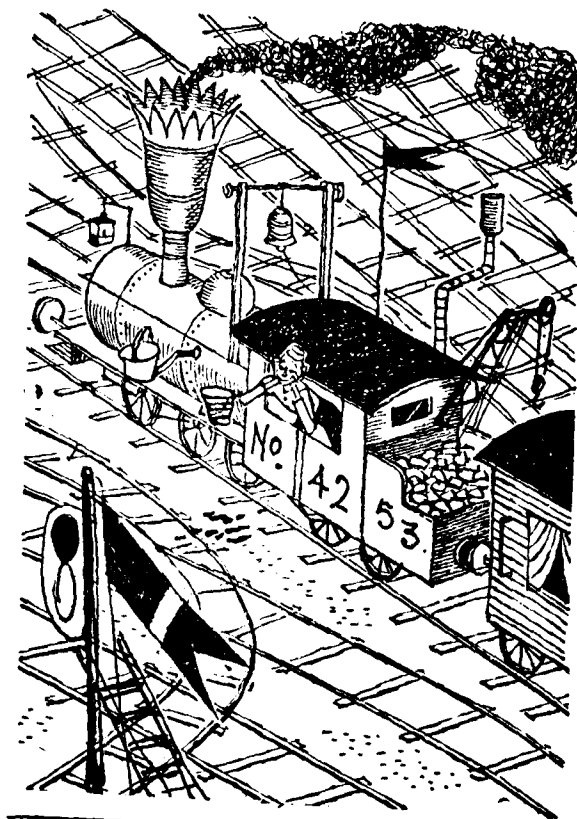
The oil-fired gas turbine is relatively new, and ten of them are now being tested under service conditions. The coal-fired gas turbine is a long-range

research project. A pilot model of such a turbine has been developed and is now being operated in a test plant, burning pulverised coal and delivering the hot gas steam directly into the turbine rotor. The primary problem in this project is that of removing the larger size particles of flying ashes and burning all the fuel particles in the combustion chamber before the gas steam enters the turbine.

The steam turbine, already in use on railroads on a trial basis, is being further developed by a number of cooperating companies. With steam turbine and electric drive, it marks an abrupt departure from the conventional steam locomotive.

This new type of locomotive in the United States pushes trains from the side, instead of from the rear. They operate on a narrow gauge track between two sets of standard track. Pincer-shaped arms on both sides of the locomotive spring out to hook on to wagons, enabling the loco to move two strings of goods wagons simultaneously when necessary.





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RESEARCH ON U. S. RAILROADS

25

Devices installed in Ignitron electric locomotives make possible the large-scale conversion of alternating current to direct current without any mechanically moving parts or heavy loss of energy. Large mercury-arc rectifier tubes make this possible. Since alternating current is best for motor-drive equipment, this type of locomotive is expected to fill the need for an efficient electric current converter.

for perishable goods such as fresh fruits and vegetables. More efficient mechanical refrigeration equipment is being developed and, at the same time, conventional icing methods are being greatly improved. New methods are being used to circulate air within cars. New and more effective non-inflammable insulation and heat and sun reflecting paints for car exteriors are being tested.



Sitting in the observation dome of an express train, passengers enjoy scenery in all directions

Passenger Coaches

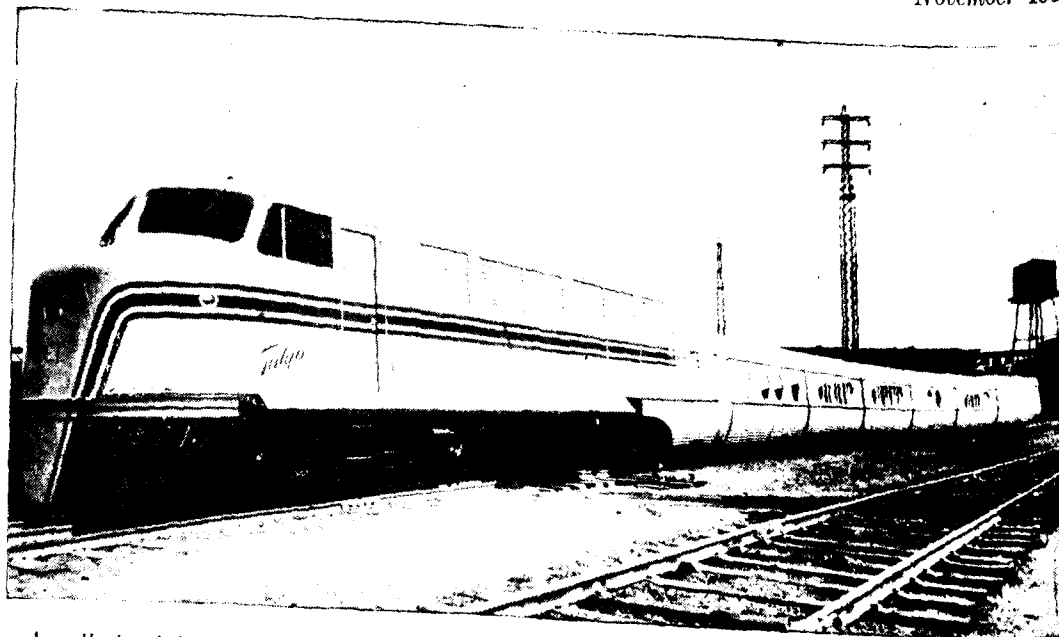
Current research on passenger cars is directed chiefly toward developing improved control of temperature and humidity in air-conditioned cars. In connection with freight cars, many separate research projects are under way to improve those parts which are now subjected to greater stresses due to present-day higher speeds and heavier loads.

A large number of investigations are going on to develop better refrigeration

Signalling and Communications

In the field of signalling, such recent developments as centralised traffic control, automatic train control, cab signals and automatic block signals have contributed immensely toward increasing railroad operating efficiency, safety and economy. They are being steadily improved.

The same is true of communications. Radio is becoming an important part of operations and the number of radios in use on trains, in yards and terminals,



An all-aluminium train which makes possible reduced operation costs through lesser weight

and at wayside stations is steadily increasing, totalling almost 10,000 at present as compared with only 4,100 two years ago.

With so many research projects under way in so many fields, it is obvious that the cumulative total of railroad

improvement and development work is very extensive. And each change begets others, requiring still further study and investigation. The American railroads, in short, are engaging in research as never before, for as technology progresses, more and more research is required.

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Misc. 133

RAILWAY COACH BUILDING AT PERAMBUR

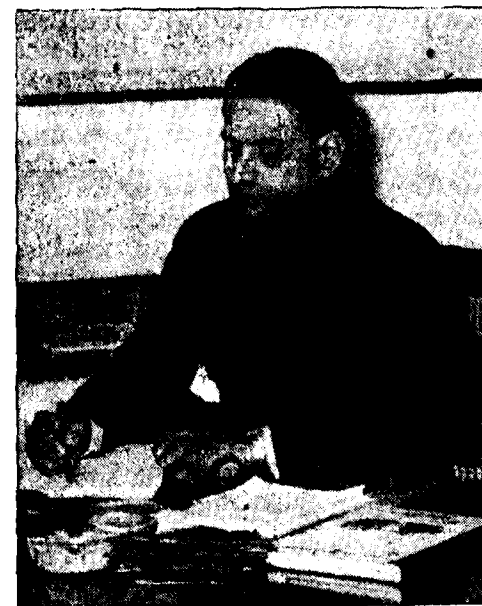
K. SADAGOPAN

Chief Administrative Officer, Integral Coach Factory

THE Capital invested on Indian Railways is of the order of Rs. 862 crores. About 40 per cent of the Capital Expenditure is invested in Railway Rolling Stock. This investment represents only the capital outlay as recorded in the books from time to time, but in terms of present-day valuation, and purchasing power of the Rupee, the assets will be worth three to four times this amount.

The holdings of rolling stock on Indian Railways are :

	Number as on
	31-3-1953
Locomotive and Rail	
Cars, etc. ...	8,330
Coaching Stock ...	14,466
Goods Stock ...	2,04,705



Shri Sadagopan

Locomotives

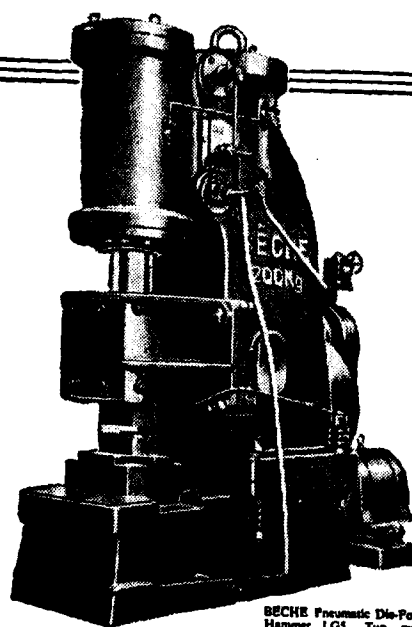
In the past, under the British regime, no serious attempts were made for establishing in India, a large locomotive manufacturing industry, to meet the requirements of Indian Railways. Eventually, due to persistent agitation in the press, the public and the legislature, a beginning was made for the manufacture of locomotives on a small scale in the Railway Workshops at Jamalpur and Ajmer. Even here, production was discontinued after a time. As a result, however, of continued agitation by our leaders, this matter was taken up seriously in 1945 and today, after Independence, we have the Chittaranjan Locomotive Works, with an originally planned production capacity of 120 locomotives and 50 boilers a year and the Tata Locomotive Engineering Company with a capacity of 50 locomotives and 50 boilers a year. As you are aware, it has been recently decided by the Government that the Chittaranjan production capacity should be stepped up to 200 locomotives a year and swift action is being taken to attain this revised production target. Both these industrial units will, when they attain their maximum output targets, more than meet our annual demands of new locomotives and will also leave a surplus for export.

Wagons

The annual requirements of wagons for the replacement of worn out and uneconomical wagons, would be of the order of about 5,000. With the progressive industrialisation and economic development of the country in all directions, the demands for freight movement are constantly on the

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- DOUBLE ACTING SWAGE FORGING HAMMERS, effect of blow, up to 725,000 ft.-lb.
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increase, and to cope with the rising transport demands, an addition of at least one per cent of the holdings would be necessary every year. At the moment, there exists capacity in the country in the private sector, for the manufacture of about 11,000 wagons a year. The Ministry of Railways are constantly exploring ways and means of expanding the capacity in the country to about 15,000 a year, so that indigenous manufacture of wagons may keep abreast of the increasing requirements of Railways.

However, for sometime to come, it would be necessary to import from abroad locomotives and wagons to overtake the enormous arrears of replacement that had accumulated during the war period.

Coaches

In the past, Railway Coach bodies were constructed of timber mounted on steel underframes. In recent years, however, the development in passenger coach design has been towards the all-steel body coach, which makes for much greater safety and protection to the travelling public in the event of accidents. At present, the annual demand for coaches is of the order of about 700 both for the Broad and Metre gauges. The Hindusthan Aircraft Co., Ltd., Bangalore, are at present supplying annually about 120 Broad Gauge all-steel coaches built on steel underframes supplied by Messrs. Tata Locomotive Engineering Co. The balance of our requirements has been partly met by import from abroad and partly by manufacture in the existing Railway Workshops. There are still very heavy arrears of replacement to be overtaken, and there is also the pressure for a very substantial addition to the present holding, if adequate passenger services are to be maintained and overcrowding in trains is to be eliminated. Since 1939, passenger traffic had increased out of all proportions. Compared to 1938-39 the number of passengers originating during 1952-53 had risen from 355 millions to 902 millions—an increase of 154 per cent.

The length of the journeys performed by passengers showed an increase from 12,588 million passenger miles in 1938-39 to 29,013 million passenger miles, an increase of 130 per cent. Against these, there have been no additions worth mentioning, to the passenger stock.

The need for establishing an independent factory for the building of railway coaches, with a view to attaining self-sufficiency, had been engaging the attention of the Ministry of Railways since Independence. In 1948, a decision was taken by Government that to begin with, a separate factory should be established for the manufacture of Broad Gauge coaches. Government undertook a detailed technical study of the different types of modern coaches, and came to the conclusion that the latest design of coaching stock featuring "all-welded, all-metal integral and tubular construction" designed by a Swiss Firm, viz. Messrs. Swiss Car and Elevator Manufacturing Corporation, Ltd., Schlieren-Zurich, Switzerland, should be adopted as the future standard for the Broad gauge coaches. It is this type of coach that has been planned for production in Perambur.

The Schlieren Coach

The advantages of the type of coach to be built in the proposed Factory at Perambur, are:

- (i) The design incorporates the principles of an Integral tubular construction. The tubular Integral design enables the forces sustained by the coach to be borne by the entire body including the skin. This design, therefore, results in the maximum economy of material for a desired strength and is therefore about 7 tons lighter than the conventional design weighing only 35 tons as against 42 tons of the present all steel coach of the conventional type.
- (ii) The design incorporates anti-telescopic end construction. This design, combined, with the fact that the carriage will be of all-steel welded construction would reduce the possibility of the carriages telescoping in the event of an accident. It has also been established that the casualty

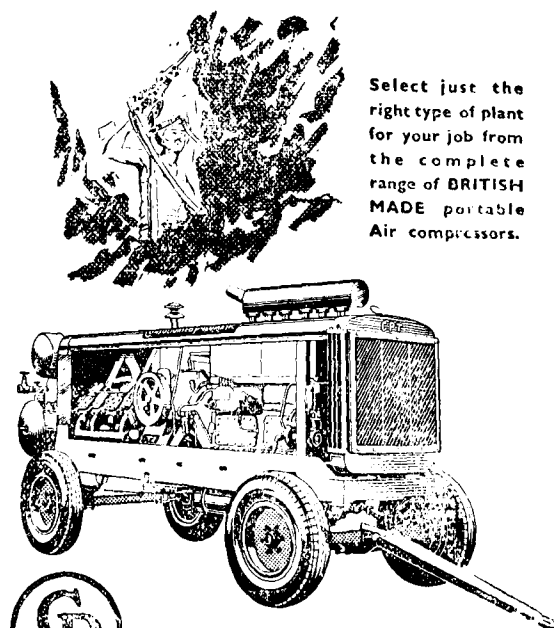
rate in the case of a steel carriage is very much less than in the case of a timber body coach. In the latter case, telescoping is quite common due to which the splinters from the timber body carriage fly and injure the passengers.

- (iii) The carriage is designed for improved riding by the provision of shock absorbers and coiled spring axle box suspension. The bogie trucks are of the latest all-welded Swiss design. The axle boxes are fitted with S.K.F. Roller Bearings, making for smoother movement.
- (iv) The coach will be sprayed with Limpet asbestos as an insulation against heat and noise. From actual experience it can be said that the noise inside a carriage of this design has been reduced to a very appreciable extent.

Layout of the Integral Coach Factory

The Factory has been so planned that the raw material will be received at one end, and processed through the Factory in a unidirectional flow; the coach shell is finished by the time it reaches the other end of the factory, and from this end, one coach will be rolled out every 6 working hours, giving a total of 350 coaches a year.

The actual process of manufacture will commence in the Sheet Metal Shop, where raw material, which is almost wholly sheet metal of 12 to 16 gauge and some plates upto $\frac{1}{4}$ inch thickness, will be received. The machinery equipment in this Shop includes big guillotine shears of 10 feet size, several brake presses some upto 250 tons. These machines will cut and press the structural members such as pillars, purlins, carlines, cant rails, etc. In this Shop, side sheathing and roof sheets would be butt-welded, and window openings will be pressed out in a 1,000 ton hydraulic press. The component assemblies and sub-assemblies will be fabricated on special design jigs by arc-welding and, wherever possible the latest spot-welding machines will be installed in order to effect the maximum economy in production costs.



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The sub-assemblies will then be transferred to the adjoining Main Assembly Shop, where two 80 feet bays are provided with 20-ton overhead cranes for the assembly of the coach on a uniflow scheme. At one end of this Shop, complete roofs and ends of the coach-body will be built separately on jigs which will then be picked up and assembled in their position on the assembly belt. The assembly belt will consist of all positions and the coach will remain in one position for 4 days. By the time the shell reaches the end of the Assembly Shop, it will have been finally assembled and be ready for inspection by an independent Inspecting Organisation.

At the south end of the Main Assembly Shop, there are two 50 feet bays in which the bogie trucks will be fabricated from pressed sections. These bogies are of the Swiss design with coiled springs on the axle boxes and bolsters carried on long span laminated springs. The assembly of the bogie trucks will proceed in conformity with the main assembly lines and the completed bogies will be rolled from the Bogie Shop on to the final hoist, where the body shell will be lowered on them which upto this stage would be moving on service trucks.

From the Assembly Shop, the completed shell moves over a traverser to the adjoining Paint Shop. Here the shell will be thoroughly cleaned by means of shot-blasting for which special shot-blasting machines covering the entire length of the body shell will be installed. Immediately after shot-blasting, the primer paints will be sprayed on to prevent any possibilities of corrosion. The inside of the shell will be sprayed with a coating of limpet asbestos for insulation against heat and noise.

The body shells as finally painted and insulated, will roll out of the Factory at the average rate of one every 6 hours for despatch to the various stations of the Indian Railways, where they will be furnished according to the

designs and developments for being put on the rails.

The ancillary shops included in the second group of shops are at right angles to the south of the Main Assembly Shop. These will form the basic manufacturing shops for the manufacture of important parts required for the building of the body-shell. The latest types of machines will be installed in the Machine Shop and Blacksmith Shop with a view to eliminate most of the handling by manual labour. This is necessary in a big workshop of this size planned for mass production to one standard design.

A very modern Tool and Die Sinking Shop and a Millwright Shop are also being provided with the latest machinery for producing complicated jigs, fixtures and tools required for the manufacture of coaches on a mass production basis at a rate for which there is hardly any parallel at present anywhere.

This Project is estimated to cost roughly about Rs. 7.35 crores. The Civil Engineering works on the Project are in progress. The bulk of the fabricated steel has been received at site, and the erection of the shop structures is rapidly progressing.

Plant and Machinery

Global tenders have been called for the procurement of plant and machinery for the Factory. With the present-day easier market conditions in Europe, it has been possible to place contracts with Machine Manufacturers in West Germany, U.K. and Switzerland and other Western European countries at favourable prices and satisfactory delivery terms.

The workshops will have 30 cranes of different sizes, 2 traversers of 75 tons, 2 mobile cranes besides the latest transport equipment. There will be a number of compressors, the capacity of which will be 5,000 c.ft. per minute. A hydraulic accumulator for providing hydraulic power will also be installed.

There will also be Oxy-Acetylene generators.

It is anticipated that the plant and machinery so far ordered to the tune of about Rs. 1.50 crores, will be received in India towards the end of this year and early in 1955. Allowing for the installation of 700 machines in the works, it is hoped to inaugurate production in the Factory during the latter half of 1955.

In the first year, as is inevitable in large industrial units of this nature, production has to start with only an "assembly" job from parts and components supplied by the Swiss Collaborators. It has been agreed with our Swiss friends that production should be stepped up from year to year, and by 1959, the full production target of 350 coaches a year will have been attained.

The question of training technicians has also been given the most careful and timely consideration. A separate technical training school with its own satellite workshop employing modern methods of training, giving the apprentices the best instruction to develop into efficient tradesmen has already been opened and is functioning since March this year. It is also intended to give general and civic education to the apprentices in this School to make them better citizens of tomorrow. This School will be training 600 men per year for the first 4 years with a view to finding the full complement of skilled workers for the Factory, and after this period it will switch over to training apprentices on a regular Apprenticeship scheme on an extended course of 3½ years, when the number will be reduced from 600 to approximately 150 a year.

The shops have been planned to provide all the modern amenities to the workmen. Special care is being taken to provide well-lighted and ventilated shops in clean surroundings. Canteens, Tiffin Sheds, Washing and Shower bath facilities are being planned to be provided.

The Project will have a small colony of its own, where 400 staff quarters of various categories are being built to provide accommodation for the essential staff. Arrangements for water supply, drainage and for the supply of electric power from the Madras Electricity System have also been made.

A number of supervisors and artisans have been deputed to Switzerland for receiving special training in the latest production methods, so that, on their return, they may demonstrate and teach proper speeds, feeds and other

modern methods to the other workmen of the factory. Our technical collaborators, Messrs. Swiss Car & Elevator Manufacturing Corporation Ltd., Schlieren, have offered their fullest co-operation in this matter and it shall be the earnest endeavour of the Factory Administration to give all such facilities as may help the workers to attain the maximum efficiency.

The factory will provide employment to over 4,000 men in the various categories when it is fully developed.

SOUTHERN RAILWAY NOTICE

Re-allocation of work between the Commercial and Operating Departments

With effect from 1-10-54, the following items of work hitherto dealt with by the Chief Operating Superintendent have been transferred to the Chief Commercial Superintendent :—

- (1) Bedding Sets and Ice Containers—Supply of
- (2) Civil bans, etc., on the movement of traffic—Imposition of and action for booking against such bans.
- (3) Goods consignments—Registration of and all transactions connected therewith.
- (4) Haulage and hire charges for stock, both for public and Government traffic—Determination of the scale and recovery of.
- (5) Mela traffic—Arrangements for.
- (6) Reservation of berths and compartments.
- (7) Retiring Rooms at stations—Allotment and maintenance of.
- (8) Restrictions—Distance limits of booking of passengers by particular trains.
- (9) Wagon registration fees—Refund of.

2. Similarly the undermentioned item of work formerly dealt with by the Chief Commercial Superintendent has been transferred to the Chief Operating Superintendent with effect from the same date :—
Time-Tables—Preparation, printing and issuing of.

3. The public are requested to note the changes and address correspondence on these subjects to the departments concerned.

THE RAILWAYMAN'S BURTHEN

G. RUNGA RAJU

THE public interest is tremendously concerned with assuring the most efficient transport system, not only for official purposes—administration and defence—but for economic development and amenities. It is also concerned with the protection of the individual from injury and exploitation and with the effect of the national transport policy on national taxation, says Brig.-Gen. Sir H. Osborne Mance in his **Road and Rail Transport Problem**. In the transport system of every country, railways have the pride of place and the Indian Railways are unique in this respect for more than one reason. They are the largest State-managed system in the world, next only to the Railways in U.S.S.R. and have development plans for construction of new lines, while many of the Railways of the West have reached the limit of expansion. What is also most significant about our Railways is that they are the visible symbol of the fundamental unity of this great country—a unity among baffling diversity of language, customs, manners, food, dress, religion and provincialism.

A Brief History

Before 1825, communication by railways was unknown to the world. When the boom for their construction commenced in Great Britain later, the British capitalists were prepared to sponsor it in India; but there was powerful opposition from those including the famous economist, Romesh Chandra Dutt, who believed that irrigation works should have priority over railway construction, for minimising the effects of famine and drought. It was given to one of the great empire-

builders—Lord Dalhousie—to foresee the military and political advantages to the country and, incidentally, the social and commercial benefits, by having a net-work of railways and the Board of Directors in England were convinced by him, in regard to their necessity. And the first railway line in India from Bombay to Thana—22 miles—was opened for public traffic on the 13th April, 1853. By 1900, the main lines covering all principal towns and branch lines, opening up the country, were completed by railway companies incorporated in England. This historic background of railway construction, inspired mainly by military and political considerations, with more than one gauge on financial grounds and of management of diverse types—State-owned and State-managed; State-owned and Company-managed; and Company-owned and Company-managed, have left their indelible impress on their later development, which should be borne in mind, when plans for their consolidation and progress are taken into consideration.

The industrial potential of this country had considerably developed, in the wake of two Wars—1914-18 and 1938-45 we have seen in a generation—and the agricultural and commercial progress following it, disclosed the faulty alignment of certain lines, when they passed away from busy centres of trade and industry. This was rectified to some extent, by construction of new lines, till the economic depression cried a halt in 1930. It had to be taken up after Partition, out of necessity and urgency—Assam Rail Link and Kandla-Deesa line—and incalculable transportation advantage—the Khandwa-Hingoli Link. Proposals for further

STUDENTS' CONCESSION

School and College Students in parties of not less than four (excluding attendants), are entitled to concessional fares for travelling to an examination centre, and for journeys from their home town to their institutions and vice versa. Such concession is admissible only on production of a certificate signed by the head of the institution. Concession Tickets are also issued to students' parties not less than 10 in number, for educational tours.



For full particulars please apply to the nearest Divisional Superintendent, or the Chief Commercial Superintendent, Northern Railway, Baroda House, New Delhi.



ISSUED BY
PUBLIC RELATIONS OFFICER,
NORTHERN RAILWAY

construction are being included in the Plans. The heterogeneous types of management of railways have far more serious consequences than irregular alignments, resulting in a menagerie of railway equipment—locomotives, coaches, wagons, bridges, signalling, etc., rendering their standardisation, a prolonged process.

The small length of 22 miles, which commenced working on April 13, 1853, developed like an octopus in expanse and in 1936-37, the route mileage reached 43,128. It dropped to 41,076 in 1938 after separation of Burma and again to 33,861 after Partition in 1947. It again rose to 34,275 in 1952-53. The Indian Railways stood the severest test, immediately after Independence, within living memory—the transport of over 3 million refugees within about three months, equivalent to the capacity of about 1,000 passenger train loads in addition to the movement of official inter-State traffic, between India and Pakistan at a time when there was shortage of engine crew, in particular, and with war-worn rolling stock.

After 1900, the Railways turned the corner and began contributing to the general revenues. Prior to 1923, the railways were included in the Civil estimates of the Government of India and one of the Finance Members of that Government, once, piquantly observed that his Budget was a gamble in rains or railways. The Budget for the latter was, then, separated in 1924, to obviate this uncertainty so far as railways were concerned and a formula for calculating the annual railway contribution to general revenues was laid down, which was revised in 1949. It is now under examination by a Parliamentary Sub-Committee again, with a view to further revision, if necessary.

That the Indian Railways are one of the most efficient transport systems in the world for defence as well as for

economic development is amply borne by their achievements in the past and the progress made so far is, undoubtedly, due to the ceaseless endeavour, round the clock, by railwaymen, in whom the spirit of comradeship, teamwork and mutual trust are highly developed, which bodes well for the glorious future before these Railways. It is proposed to have a brief survey of this mighty endeavour—the Saga of Railwaymen's Burthen—in respect of the plans for consolidation and development, as also his relations with the vast mass of railway users, always conscious of their rights; but occasionally forgetful of their responsibilities.

Consolidation or Regrouping

A few figures about the Indian Railways will be impressive in this context for the factual appreciation of their problems and the magnitude of their organisational structure. As stated, their route miles are 34,275, in 1952-53 next only to those of the U.S.S.R. Their gross traffic receipts were Rs. 270.56 crores and the working expenses Rs. 218.17 crores, the former being equated to a third of the combined annual revenues of the Central and State Governments and the latter to about 27 per cent of their total expenditure. The Capital at charge was Rs. 857.38 crores, with operating ratio of 80.6 per cent and Rs. 33.9 crores were paid to the general revenues, as dividend, at 4 per cent on the capital. The number of passengers carried was 1,156.9 millions or more than half the population of the world, yielding over Rs. 100 crores. 97.1 million tons of merchandise were carried, on which Rs. 146.12 crores were earned. In 1951-52, the number of engines on line (Class 1 Railways) was 8,209, the number of coaching vehicles 19,193 and of goods wagons 199,094. This huge State-managed system of over 34,000 miles had under one

November 1954

SOUTHERN RAILWAY.

TENDERS FOR THE PURCHASE OF USED EMPTY GUNNIES AND TINS EX. RAILWAY STOCK DEPOTS AT TRICHINOPOLY JUNCTION AND RAYAPURAM

1. Sealed tenders are invited for the purchase of

(a) Used empty gunnies and tins which will be made available at the Railway Stock Depot at Trichinopoly Junction, and

(b) Used empty gunnies only which will be made available at the Railway Stock Depot at Rayapuram

during a period of three months from 1-12-1954 to 28-2-1955 or till the closure of the Grainshop Organisation whichever is earlier.

2. Separate tenders on the prescribed forms must be submitted for the purchase of empty gunnies from each Railway Stock Depot. Regarding empty tins which will be made available at Stock Depot, Trichinopoly Junction, the tenders should be submitted separately. The price of each tender form is Re. 1 (Rupee one only) and is payable to the Chief Cashier, Southern Railway, Trichinopoly Junction, for tenders at Trichinopoly Junction and the Chief Cashier, Southern Railway, Park Town, Madras, for tenders at Rayapuram.

3. Intending tenderers should obtain the tender form together with the terms and conditions from the undersigned in respect of Railway Stock Depot, Rayapuram and from the Assistant Controller of Grainshops, Southern Railway, Trichinopoly Junction in respect of Railway Stock Depot, Trichinopoly, on production of the Official Receipt granted by the Chief Cashier concerned towards the cost of the form. The tender form is not transferable and its price is not refundable.

4. Production of Income-tax Clearance Certificate in the prescribed pro forma IN ORIGINAL is an essential condition for consideration of the tenders. Pro forma of Income-tax Clearance Certificate can be obtained free of cost from the office of the undersigned.

5. Tenderers who have no taxable income and who are therefore unable to produce a Tax Clearance Certificate in the prescribed pro forma must submit a duly sworn affidavit to that effect countersigned by the Income-tax Officer concerned as to its correctness.

6. The last date for the receipt of the completed tenders is 15-00 hours on Thursday, the 11th November, 1954.

Office of the Controller of
Grainshops,
Madras Beach,
27th October, 1954

CONTROLLER OF
GRAINSHOPS

administrative control, over 925,000 Officers and personnel in 1951-52 as indicated below:—

	No.	Annual cost Rs.
Class 1 and 2 Officers	2,268	2,91,35,568
Class 3 (Supervisory employees drawing Rs. 250 and over) ..	13,220	6,71,80,177
Class 3 (others) ..	2,59,556	46,13,36,183
Class 4 ..	6,50,275	67,08,02,923
Total ..	9,25,319	1,22,84,54,851

Note.—There is an increase in personnel and cost, subsequent to this period, as a result of implementation of the Adjudicator's Award and other ameliorative measures.

Regrouping of railways is similar to integration of industry—horizontal or vertical—which came into vogue in the West, from the commencement of this century. In manufacturing industries, it may be a relatively simpler process, involving merger of units in varying degrees; but when it is applied to railways, which are essentially providers of transport service and which have also certain industries, either for manufacture of their equipment or only for their repair, ancillary to such service, it involves simultaneous progress in vertical as well as horizontal processes of integration. The advantages associated with large-scale industrial combinations may accrue to railway combinations as well, but in a different order, with time-lag in the realisation of the anticipated results, for in the latter case, rationalisation in full measure as in industry which yields quick results of a comparable nature, is virtually out of court. The Government formulated certain principles in deciding the final plan of regrouping, viz., (i) least dislocation of railway working, (2) minimum disturbance of staff, and (3) each railway system to be so formed, as to serve, as far as possible, a compact region, large enough, to provide a

November 1954

headquarters organisation of the highest calibre. These are in the nature of a ballast, tempering avowed principles of integration, with a human approach and realism.

Regrouping of Railways

Between April 14, 1951 and 1952, regrouping of all the railways, including those which were owned by the Native States, with the exception of a few small company-owned railways around Calcutta and the Barsi Light and Delhi Shahadara-Saharanpur lines, etc., was completed in units of about 5 to 6,000 miles. The route miles as on March 31, 1951, are as follows:—

Railway	Broad Gauge Miles	Metre Gauge Miles	Narrow Gauge Miles	Total Miles	Capital at charge Rs. in crores. (1952-53)
Southern	1,754.65	4,143.12	102.20	5,999.97	116.31
Central	4,091.23	772.49	563.98	5,427.70	164.60
Western	1,266.34	3,402.18	792.51	5,461.03	109.31
Northern	3,855.46	1,997.76	127.97	5,981.19	135.18
North-Eastern	2.15	4,729.64	51.97	4,783.76	84.05
Eastern	4,732.63	..	941.97	5,674.60	218.27

Note.—The Capital at charge for the Zonal Railways in 1954-55 has risen to Rs. 909.09 crores, the additions to the zones as compared with 1952-53 being:

IN CRORES					Rs.
Southern	..	..	..	..	5.15
Central	..	..	..	..	.99
Western	..	..	..	..	6.48
Northern	..	..	..	..	2.19
North-Eastern	..	..	..	..	3.89
Eastern	..	..	..	..	7.31
TOTAL	..	..	..	..	26.01

The existence of three gauges, at present, requires over 50 transshipment points, some of which are extremely difficult to work, resulting in frequent suspension to movement and waste of wagon days and with the increasing tempo of industrial development under the Five Year Plans, a practical and effective remedy for avoiding transshipment, as far as possible, will be necessary, such as introduction of

containers, etc., about which we shall advert later. The proposed conversion of narrow gauge into broad or metre gauges will, however, reduce the number of tranship points of minor importance.

As regards the progress of regrouping and the realisation of its proffered benefits, about which high hopes have been raised among the public, the former may be classified under three stages—immediate, proximate and ultimate for convenience, with possibilities of overlapping. Mr. John Elliot in his **Foreword to Unification of British Railways**, a publication, bringing together the articles by Members of

the former Railway Executive of the British Transport Commission, which appeared in the **Modern Transport** of London in 1950, states that "one of the criticisms made against British Railways is that they are always talking of 'Jam tomorrow' and never 'Jam today.' It is true and inevitable that many of the principles and practices formulated since 1948 will not bear the fruit of increased

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November 1954

THE RAILWAYMAN'S BURTHEN

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efficiency and economy for sometime. Standardisation of locomotive types, for instance, which will eventually reduce the classes operating on British Railways from 400 to 12, will not reap its full harvest until the existing types are worn out.

"But that does not mean that unification has achieved nothing of immediate benefit"

These observations are, singularly, appropriate to Indian Railways as well. According to the stages, mentioned above, the immediate benefits of regrouping—what has been achieved so far and what may be done with expedition—will be stated in the next article. The proximate stage may be taken as the assessment of results of working of the present range of zones, for efficient administration and also the pattern of internal organisation—regional or divisional—with a view to revision of the former as well as the latter. In this stage may also be included the standardisation of track, bridges, signalling types of station buildings, provision of amenities to travelling public, with particular reference to those of sub-standard level in regard to the railways, which merged with the Western and North-Eastern Railways or the non-standard patterns in the ex.-N.S.Ry. The ultimate stage is the standardisation of equipment—rolling stock, locomotives, wagons, etc. As already stated, these stages are by no means rigid, but admit of overlapping, in the wake of gathering momentum.

Fruits of Regrouping

The first fruits of regrouping are the elimination of certain junctions—artificial road blocks—facilitating running of trains through now, on the Southern and Central Railways, resulting in saving of engines and coaches for other productive use. On the Western Railway, pooling of engines at convenient points for utilisation on extended runs was possible in consequence of which, smaller

sheds were closed down. A number of interchange junctions between adjoining railways was eliminated such as Jalarpet on the Southern Railway, Wadi on the Central Railway and Moghalsarai on the Northern Railway, resulting in free flow of wagons and considerable improvement in the movement of traffic. Taking Moghalsarai, for instance, the wagon position is as indicated below:

Year	Average number of wagons, passing through daily through Moghalsarai	
	Up	Down
1951	1,347	1,319
1952	1,439	1,423
1953	1,489	1,439

(The Eastern and Northern Railways were formed on 14th April, 1952)

Similar improvement has been noticed at Katihar—another dark spot, after regrouping. Surendranagar and Balharshah are other junctions, which have shown improved results. In respect of empty haulage, on the Central Railway, 50 per cent of the empty wagons received at Raichur and released in Sholapur Division are now worked via Wadi, thus saving empty haulage of 382 miles for such wagons, moved to Chanda Valley Collieries and 234 miles on empties worked to Ajni (Nagpur) for interchange. Similarly, the transhipment performance at Manmad has improved by 32 per cent in broad gauge loaded wagons and 25 per cent in metre gauge unloading. On the Northern Railway the number of wagons transhipped at Bareilly improved from 12,785 to 16,721 during 11 months—May 1952 to March 1953, as compared with the corresponding 11 months, May 1951 to March 1952. While what has been achieved so far is commendable, regimentation in certain directions may be taken in hand without delay. The Commercial Code, it is believed, is still tentative and deviations were permitted before regrouping. They do not appear necessary now and uniformity in the application of the Rules may be enforced, from an appointed date.

Along with it, simplification in the compilation of station accounts, by confining them to the totality of transactions in coaching and goods traffic is desirable leaving the Accounts Offices at the Headquarters of the Administration, to cast them in any form required for their purpose, making use of the mechanised methods, wherever feasible, so that the Stations may be relieved of the cumbersome work of periodical submission of a variety of returns, as at present, involving, often, in delay in despatch by stations or their misplacement in the Accounts Offices, even after receipt. Again, there is hardly any justification for the Goods Tariffs of Railways, which merged in the Zonal Railways, to be still published separately. The layout and the format of the public Time Tables of the Zonal Railways can be standardised. The Indian Railways own 15 Presses, being the owners of one of the largest chains of Printing Presses in India. Their present rated capacity may be examined, with a view to enhancement, if necessary, so that the mass of printing work of the Railways—Books, Forms, etc.—may be rationalised, resulting in saving of expenditure incidentally. A detailed expenditure in each of these zones may indicate other lines, requiring immediate attention for this purpose, with a view to their adoption on a uniform basis over all the Zones. The Indian Railway Coaching Tariff, issued by the Indian Railway Conference Association does not bear the imprimatur of the Ministry of Railways, as having been approved by it. The continuance of this Association as a separate entity, even after the work in regard to the Wagon Interchange has been taken over by the Railway Board, and its upkeep on contributory basis by Zonal Railways, after regrouping, needs examination. It is a relic of the past and once upon a time, was the citadel of railway obscurantism.

Coming to the proximate stage, the present mileage of Zones is about 6,000 miles each. Two years have now elapsed and possibly, the working

experience can show whether the range of these Zones is too extensive to prevent headquarters supervision becoming remote and the machinery of Administration, getting unwieldy, as anticipated by the Wedgewood Committee. Closely allied to this is the pattern of internal organisation—the Regional or Divisional arrangement. At present, the Southern, Western and North-Eastern Railways are on the Regional basis. The Central and North-Eastern Railways are on the Divisional basis. The Eastern Railway is a combination of both. Integration of Railways in viable administrative groups posits devolution of powers to these groups, so that they will not look for inspiration or sanction, for every act of theirs, from above, resulting in dilatoriness and delay. For the successful working of the units in a zone, considerable initiative and drive are required and also willingness to take responsibility unhesitatingly, in emergencies. It is, therefore, desirable to evolve a uniform pattern, as the present arrangement has been based on the groundwork in vogue, just before regrouping so that the relative efficiency of Zones may be comparable. Next in importance is the standardisation of track, bridges, etc. in all the Zones and in this respect we have the advantage of the existence of an organisation for the past 20 years and with systematic planning with fixed targets, we can be certain of achieving satisfactory results.

The most advantageous benefit of regrouping, resulting in saving of capital cost and maintenance, is the standardisation of running equipment—locomotives, coaches, wagons, etc. which is necessarily a long-term process. In the case of locomotives, for instance, the position is no better in this country, than that in U.K. as stated by Mr. Elliot. In 1947, there were as many as 166 broad gauge and 90 metre gauge types of locomotives in this country and this multiplicity of types is the legacy of the past, as the introduction of certain standard classes,

over 75 years ago, did not find favour with several company-managed railways, which preferred to have their own types, suited to the needs of their traffic. A measure of standardisation was, however, accepted in 1910, with the introduction of the British Engineering Standards Association locomotives, which have been in use on the Indian Railways for over 40 years. The Locomotive Standards Committee of the Central Standards Office designed about 18 classes, many of which have been put in service between 1928 and 1930. Later, certain additional classes and prototypes of the WU, WV, WM, WW and WL locomotives were added. During the later part of the War, a large number of American and Canadian locomotives for goods traffic were included in the service. The provision of steam motive power has to reckon with the advent of new types—electric, diesel and gas turbine—and the life of a steam locomotive of 40 years appears to be too long to stand the inroads of these units unaffected. Since more than 30 per cent of our locomotives are overage, the present number of types may, possibly, be reduced in a shorter period, for bringing them to about 12, which are considered adequate, for complete specialised service of one track gauge. In regard to standardisation of equipment in general, the Indian Railways are in an advantageous position. They are worked on the British pattern and the Engineering Standards Committee, established in U.K. in 1901 eventually became the British Standards Institution in 1931, representing engineering and other industries, in which the Railways in that country are Members. The Railway Board founded the Central Standards Office about that time, in the absence of an Indian Standards Institution or the National Laboratories, which came into existence only after Independence. Systematic research commenced from 1935, with the mobile units—the Dynamometer Car and the Oscillograph Car. A Research Controlling Committee was formed in 1952. The Civil Engineering,

the Mechanical Engineering, the Chemical and Metallurgical and the Architectural Wings are doing valuable work. On 1st September, 1952, the Research Section of the Central Standards Office was placed under the Research Directorate of the Railway Board and its headquarters has since been transferred to Lucknow. Later, two research sub-centres have been instituted at Lonavla and Chittaranjan. It is stated that "comprehensive standardisation policy consistently followed by the Indian Railways for the past two decades is now being adopted by most European systems in their quest for economy and struggle against the growing road competition." With accelerated tempo in their activities, quicker realisation of the proffered benefits of standardisation—the core of regrouping—which the public are eagerly awaiting, will not be far off.

(To be continued)

ICF/P2/1

INDIAN RAILWAYS

INTEGRAL COACH FACTORY, PERAMBUR

Sealed Tenders will be received by the District Controller of Stores, Integral Coach Factory, (Perambur) Ayanavaram, Madras-23, upto 12 noon on 20-11-1954 for fabrication and supply of 136 numbers of Self-Coiling type, Bevel and Worm-gear shaft operated, and electrically operated steel rolling shutters of sizes required for the Integral Coach Factory, Perambur, and will be opened at 12 noon on 22-11-1954. The tender documents may be had from the office of the undersigned on any working day from 1-11-1954 from 10-30 a.m. to 2-30 p.m. on week days, and from 10-30 a.m. to 12 noon on Saturdays on payment of Rs. 10 per copy by cash or by money order only, which amount will not be refunded. Upcountry tenderers should send the money towards cost of tender papers by telegraphic money order. Earnest money of Rs. 2,000 should be deposited by the tenderer in the manner specified in the tender documents.

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TRAVEL NEWS

AUTUMN IN KASHMIR

AUTUMN in Kashmir wears different aspects at different places and times of the day. In the morning, crumpled flower-petals lie around the flower-beds. Half-green pallid leaves float earthward and a warm sun shines on the grey rocks infructuously. There is a quiet feeling of stillness and slow desolation everywhere.

But the feeling is somewhat different on the lakeside. Lounging on the stem of a house-boat, you may watch the day opening its tender eyelids with a warm gush of sunshine. You may grow conscious of the infinite tenderness of a pale sunrise and a mellow curtain of mist slowly lifting over a wide expanse. A lingering procession of shikaras, laden with fresh garden vegetables or the early crop of chrysanthemums, may suddenly come into view but, as you watch, it has quietly moved shoreward!

Towards the end of the day, the same scene takes on a different hue altogether. Sitting quiet-handed, in the sad half-light of the evening, you may watch the sorrow of the evening skies closing in on you with an ineffable feeling of mystery. Somewhere across the horizon, an anxious twilight seems to linger over the grey contours of the hills. On another day, a fierce red sun

may be seen swooping down the lake view, in a sheer blaze of glory. Nearer you, a quiet wind may be sighing from under the doors and the autumn lilies and the scented darkness may be whispering blind desires into your ears. This is autumn on the lakeside.

In the countryside, the scene may wear an altogether different aspect. A strange whistling wind comes echoing through the dim evening spaces of the valley. It comes sighing through the gaunt bare branches of trees. It shakes the tall leafless poplars bodily and shivers past the low-lying shrubs and thorny bushes and then is lost for ever in the stillness of the over-hanging forests. In the morning, a few pallid leaves come eddying down the noiseless air and lie listless in a crumpled mass of crisp fragments. A feeling of quiet desolation is coming slowly over the whole expanse. A sense of finality, of slow brooding extinction is filling the air. One likes to inhale it, to be seeped in the mute awareness of this creeping desolation. It is somehow mysteriously elating as it is replete, with a delicious sense of brooding melancholy. This is the autumn feeling. It grows on you slowly with a strange relentless power if you happen to be in the countryside during these weeks. And if you wait longer, the still unseen shadows of impending winter will add

to it a touch of ineffable loneliness. It may be difficult to describe this feeling as altogether pleasant. But it is something more. It is richly satisfying. It gives you awareness.

Robes of Autumn

Standing on the barren edge of a newly-harvested rice-field, you may feel the whole expanse of the denuded valley closing in on you with a certain sense of inevitable grief. There may, however, still be a patch of scanty vegetation here and there. This, perhaps, helps to add to the anguish. But away in the distance, in the midst of this vast desolation, stands a gorgeous vision in flaming red—a chinar tree apparelled in the robes of autumn. This is an imperishable sight that no trick of memory can efface from the mind. If you look still farther away, through the clear warm air, you may behold the higher, loftier mountain peaks streaked with virgin snow.

In the lower regions of the valley, the orchard owners have gathered their fruit, but in the higher reaches, the trees are still laden with apples so that they may redden in the autumn sunshine. There is an air of general expectancy. The bee-keeper is waiting to open his hive. He is, however, eager to give few more days for the honey to mature fully. The walnut gatherers have collected their harvest and little urchins are now busy washing the rind off the shell in order to make the crop marketable. The snow-water streams, in which they do the washing, are becoming shallower every day and the trout which had drifted downstream during summer, is now coming up nearer the source of springs. This is the time when village poachers are also waiting to have their share of what is left over from the angler's rod.

The high verdurous mountains are now bleak and wintry. Therefore, the shepherds and cowherds, with their cattle, horses and ferocious dogs, have

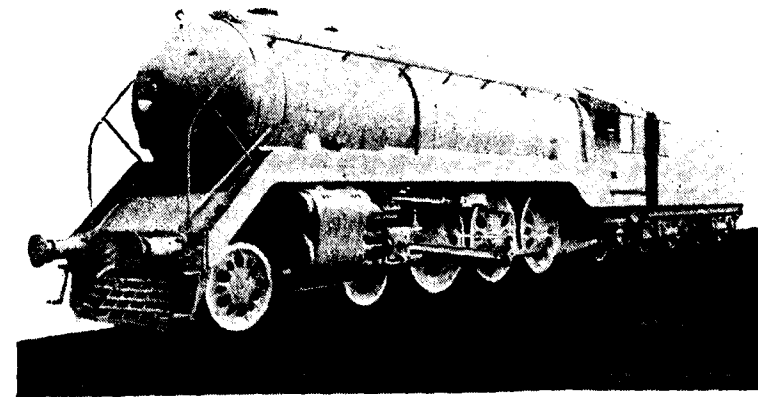
left the higher altitudes and have trooped down to the foothills and lower fringes of the valley. They have pitched their tents for the season. And with their nomad make-shift existence, they seem to lend an appropriate note to the autumn scene. The markbans or pack-pony owners have also started carting wheat to Kishtwar before the approaches to this adjacent valley become snowbound.

In the village fields, sheaves of harvested paddy are now being gathered up into huge mounds. On the heavily pruned willow trees can be seen their dried branches, neatly bundled up for winter fodder. The birds of the valley, particularly the chakoor, is extremely active on the dry scraggy hillsides and also the water-fowls are beginning to swarm around the wayside ponds.

For the village housewife, this is a season of more prudent planning. She is wanting to make the most of her stock in hand. She is reluctant to part with any more fowl eggs for they should now be kept for hatching the last brood of chicks. Her husband is busy growing turnips or digging a pit to preserve them for the winter. The chillies are festooned into garlands and hung on the balconies. And so are other chopped vegetables like cauliflower and brinjals. The scene around the house is unusually busy. The thrashing and husking goes on during the day and in the evening, you hear the high notes of a country voice singing in the wilderness or the combined voices of a chorus echoing through the bleak air.

The Fruit-lover's Paradise

Now turn to the more populated areas of the valley. Here the bazaars are full of fruits and vegetables. French pears, late varieties of sweet plums and all kinds of apples; orange pipins, quince, golden russets, in all their varying shades of red and yellow, are giving to the fruit stalls a look of luscious abundance.



PROBLEMS OF A LOCO MAN

(8) ON STORES ORGANISATION

C. CHALAPATI RAO

Secretary, Railway Workshops Reviewing Committee

[With this article, the series written by a Mechanical Engineer, originally of the Ex. M. & S. M. Ry., and now with the Workshop Committee, comes to an end. Many readers have expressed the view that the articles were found highly instructive not only by Loco men but also by employees of the other departments.—Ed.]

IN the chapter on shed organisation I have mentioned briefly about Stores in Loco-sheds. The up-keep and recoupment of stores play an important part in the efficient maintenance of engines. It is, therefore, necessary to have a properly equipped and organised stores in a shed. Apart from the usefulness of a well organised stores, maintenance costs of locomotives can be cut down considerably if sufficient care and attention is paid to the subject.

Imprest and Non-Imprest Items

Imprest items are consumable stores required for day-to-day maintenance of locomotives and non-imprest items are those required for use occasionally and obtained for a particular job. In the stores there are small and bulky items, materials made of ferrous and non-ferrous metals and materials such as

oils, paints, etc., on which effective control is necessary to avoid wastage. The small items, both ferrous and non-ferrous, are stocked inside a room in proper bins, the bulky items in an outdoor fenced enclosure and oils in tanks.

Looking after the imprest items is the most important work in a stores organisation. Normally it is sufficient if sheds can have two months' stock of consumable stores to start with so that at the end of one month when the stock of consumable stores comes down to one month's consumption, indents can be placed for recoupment and if stores are supplied from the general stores before the end of the following month, fresh stores become available as the original stores get used up. In practice, however, it is found that there are delays for various reasons in the supply of stores from general stores and to avoid hold up of engines for

SOUTHERN RAILWAY

TENDER NOTICE

The Regional Engineer, Southern Railway, Mysore invites sealed **PERCENTAGE SCHEDULE TENDERS** to reach him not later than **12 noon on Wednesday the 24th November, 1954**, for the work of "**Additions and alterations to wash down sidings at Hubli—Hubli District.**"

2. Tenders should be submitted in the prescribed form, obtainable from the Office of the Regional Engineer, Mysore, on production of a receipt for the amount of Rs. 5 (**Rupees five only**) paid to the Regional Accounts Officer, Southern Railway, Mysore, or Trichinopoly, or Chief Cashier, Madras, towards the cost of the form. Extra copies of the form can be had, if available, on payment of Rs. 2 (**Rupees two only**) each. In no circumstances will the cost of the tender form be refunded. The tender form is not transferable.

3. Tender forms will be issued upto 15 hours on Monday, the 22nd November, 1954, only.

4. The quotations submitted in the tender shall be on the basis of a percentage above or below the rates shown for the Hubli District in the printed Schedule of Rates, a copy of which can be had from the officer of any District Engineer on the Mysore Region, on payment of Rs. 5 (**Rupees five only**). The quotations shall also be based on the Southern Railway Specifications of Works, a copy of which can be had from the office of any District Engineer on the Mysore Region on payment of Rs. 3 (**Rupees three only**), in cash or by money order. Copies of the Printed Schedule of Rates and the Southern Railway Specifications of Works may also be had from the Regional Engineer's Office, Mysore, on production of a receipt for the amounts mentioned above, paid to the Regional Accounts Officer, Southern Railway, Mysore, or Trichinopoly, or to the Chief Cashier, Southern Railway, Madras.

5. Earnest money of Rs. 1,500 (**Rupees one thousand and five hundred only**) should be paid in advance to the **Regional Accounts Officer, Southern Railway, Mysore or Trichinopoly** or Chief Cashier, Madras not later than **15 hours on Tuesday the 23rd November, 1954**, and the receipt submitted along with the tender. No demand draft, or cheques, etc., should be attached to the tender.

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

7. The tenders will be opened, at **15 hours on Wednesday the 24th November, 1954** at the Office of the Regional Engineer, Mysore.

8. The Regional Engineer reserves to himself the right to reject any or all the tenders without assigning any reason.

materials, the original stock is to be for three months' consumption instead of two months. To avoid overstocking of materials in shed stores a register with the following particulars should be maintained by each shed and indents placed on the particulars available in the register :—

was high, instructions were issued that before a new gauge glass was issued, the broken one should be handed over to the stores. Immediately these instructions were issued, consumption of the item came down by 50 per cent. This just shows what can be done if care is taken before issues are made.

Description of item : Card No : Sanctioned Imprest quantity :

MONTH.	Opening balance.	Receipts.		Issues.	Closing balance.	Recoupment Indent.			REMARKS.
		Challan No.	Quantity.			Indent No.	Date.	Quantity.	

The date of placing indents should be fixed and the date of supply should also be fixed. With a register of the above description and working to a regular programme, it is possible to watch the stocks. This register also serves another useful purpose. Before making out the indent, if the issue column is carefully checked, the rate of consumption can be judged and on this action can be taken to increase or reduce the imprest quantity.

The issues are generally made on indents placed by the supervisory officials of the shed and after the items are issued, the transaction is recorded on a tally card. The tally card gives more or less the same information as recorded in the register mentioned above but instead of recording the transactions for the month, daily transactions are recorded. For proper control these tally cards should be uptodate.

Scrutiny of Issues

In many sheds it is a common practice to see issues made indiscriminately without a proper check. This leads to misuse of valuable and costly items. Take, for instance, a simple item like gauge glass. In a certain shed the consumption of this item was very heavy because whenever a gauge glass was indented, issue was made without finding out what happened to the old one. To check why the consumption

There was another similar case where the old material could not be produced. This was grease blocks for engine axle boxes. When the tally sheets and original indents were checked, it was found that a fresh block was being drawn for the same box on the same engine once every 4th or 5th day. On a check of the repair book of the engine it was found that the box was being booked as running hot frequently and instead of eliminating the root cause, the staff were just throwing the old block away and putting in a new block. As such instances are quite common specially in big sheds, I always felt that the store-keeper in charge of stores should be a highly paid technical man who knows the normal life of every fitting, and can study the consumption of items intelligently instead of merely working as a glorified store issuer. If maintenance costs of engines are analysed, it will be found that material costs are the highest and it is here economies can be effected to bring down the overall maintenance costs.

Non-ferrous Items

There is one more place where careful and close checks are to be maintained. This is with non-ferrous items. Considerable misuse can take place if this is not done. A very good method of checking consumption of non-ferrous items is as follows :—

"Before a new item is issued, the old item should be returned. Both

the new item and the old item should be weighed and particulars recorded on the indent. A separate scrap tally sheet is to be maintained for each non-ferrous metal in use and in this tally sheet the weight of the old material is to be recorded against the receipt column. After the new fitting is machined, the borings should be returned to stores and the weight of borings should also be entered in the indent and tally sheet. Frequent checks should be done by supervisory officials that the weights recorded are correct. At the end of the month when the non-ferrous scrap is being returned to stores, a cross check with the non-ferrous scrap tally sheet will reveal if the correct and full amount is returned or not."

With a check of the above description, considerable savings can be effected as non-ferrous materials fetch a good return value. Here also the checks done should be done intelligently. Take, for instance, a wagon brass. When a new one is issued, it will be with white metal whereas the old one might be only the shell without the white metal insert. In the stores transactions recorded, it can be seen that an old brass has been returned in place of a new one and if sufficient check is not exercised to get back the white metal of the old brass and account it, the white metal will be misused.

Apart from imprest and non-imprest items, there are several items such as springs, piston and cross-head assemblies, coupling and connecting rods which have to be sent to shops for repair and return. Engines are generally held up for such items. To minimise detentions, it is very necessary to have a proper organisation for sending the materials quickly to shops and get them back quickly. For this purpose, special wagons for loco-materials should be arranged and these should move frequently between shops and sheds collecting and delivering materials. In shops, there should be an organisation to chase the repairs.

To enable shed officials to keep a close watch on the monetary value of stores received and issued the shed stores should have an accounts section attached to it and this section can work out the costs and put it up to supervisory officials for guidance.

In sheds, changes in classes of engines are common. When this takes place, it is not only sufficient to send the engines away, but the stores stocked for that particular class should also be sent away. Similarly when the number of engines of a particular class is reduced, a similar reduction in stores should be made.

(Concluded)

SOUTHERN RAILWAY

TENDER NOTICE

Sealed Tenders are invited for the purchase and removal of Non-Ferrous scrap, such as copper borings, Mixed Phosphor Bronze and Lead bronze borings, lead rosette, white metal dross, lead scrap, etc., from the Stores Depots at Perambur and Mysore and will be received in the Controller of Stores Office (Perambur), Ayanavaram P.O., Madras-23, before 3 p.m. on 15th November, 1954 and opened at 11-00 a.m. on the 16th November, 1954.

Tenders should be in the prescribed forms obtainable from the office of the undersigned (from 10-30 a.m. to 3-00 p.m. on week days and from 10-30 a.m. to 12-00 noon on Saturdays) on payment of Rs. 5 per copy in cash or by Money Order (which is not refundable) with full name and address of the remitter. Remittance by any other means will not be accepted. Tender forms are not transferable.

The materials can be inspected at Perambur/Mysore after purchase of the Tender form.

Applications for tender forms will not be entertained after 3-00 p.m. on 11th November, 1954.

P. N. TALATI,
Controller of Stores

PASSENGER AMENITIES

U. G. K. RAO

Railway Testing and Research Centre, Lonavla

THE Indian Ministry of Railways, practically soon after we attained Independence, has been consistently planning to develop the commercial aspect of Railway working. The more vital refugee movement soon after partition and the urgent rehabilitation plans to improve rolling stock and permanent-way stock assets of the Railways engaged, no their immediate attention and he emphasis is, therefore, shifted at an ordinary trader would as the "consumer's market" pment. This makes the sibility of the Railways to make more attractive and comfortable oviding suitable amenities for passengers. In the broadest sense, amenities therefore, can be brought out essentially under three headings, viz :

- (1) provision of conveniences to passengers at stations and on platforms ;
- (2) improved speeds of and comfort in passenger-carrying trains ; and
- (3) facilities for quick and secure movement of goods.

Standards have been laid down since some time as to what are considered as the minimum requirements of a waiting room area, number of platform benches and fans to be provided on platforms and in carriages and other similar items. It has also been appreciated that more lower class compartments are necessary on trains to reduce crowding. Provision of drinking water for the passengers and bathing and washing places which an average Indian passenger values so much, have been amply described as an important item of the Amenities Programme. While laying down these

standards and details for general guidance is important in itself, it has thrown a great responsibility on the planners to fix both the nature and standards of such facilities at different stations and on trains, running in various parts of the country to suit the requirements of the passengers. Putting an additional coach on the train will mean some amenity only if we can ensure its being well utilised and the real crowding in the rest of the train is avoided. A waiting room may not be of much use at a station, where short distance passengers outnumber the long distance ones, whereas covered accommodation and an adequate number of benches and seating platforms for the waiting passengers would perhaps be a boon on the other hand. I have, therefore, below brought out a few points on this important question. I do not claim that these are complete and detailed, but while formulating them in broad principles, some of the interesting features noted by me during my recent Continental study tour have been made use of.

Long and Short Distance Passengers

The first aspect of developing the "consumer's market" is really to make train services and halts in the served area most suitable for the passengers and the people living in the countryside. Generally, the opening up of new stations in a working section is determined after enquiries are made regarding traffic that may emanate from the village concerned. In a country like India, such an enquiry does not reflect the minds of the people. In the absence of a station actually functioning, an average villager hardly gives an encouraging reply to one who makes

enquiries as to whether he would take advantage of the stoppage of a train if it happens later. But when actually halts are arranged at a place very close to the village, he slowly makes up his mind to make use of the halt and perhaps, what may have started as a very small station, in course of time becomes one of the biggest passenger centres. Therefore, in many of the European countries in addition to the long distance train service, for shorter distances, diesel cars or shorter trains are run with arrangements to stop them at level-crossings and near small villages. This facility is generally very much appreciated and soon what were once small halt stations gain in importance. The Italian and Scandinavian Railways have exploited this very well and there is every reason to believe that it will succeed in India also.

Second comes the amenity requirements on trains. It is needless to point out that in any country, comfort in the train and speed of transport are valued greater than the waiting facilities at the station. If we can ensure punctual running of trains, it means the greatest relief to the passengers who many times have to wait for indefinite periods due to irregular service. Clear and regular loudspeaker announcements about the arrival of trains also help in this direction. Further at the more important intermediate stations, the zone where the passengers should stand to be in front of the least crowded bogies, should be demarcated by placards and also announced on the loudspeakers. It will save the last-minute running of passengers from compartment to compartment and sometimes crowding those that come right opposite them. These facilities, I found, were generally made available on the Continental trains, particularly in Italy and Switzerland.

Luggage

Another source of discomfort in the running trains is the luggage accompanying the passengers. In India,

unfortunately, most passengers carry their belongings with them in bundles and flimsy bags, etc., and in spite of sufficient propaganda requesting them to send the major part of it in brake-vans, there is a tendency to break up luggage items into smaller packages and carry them in compartments. In some countries for transport of parcels, small collapsible but secure boxes called in Germany as "Collico," are provided but, in my opinion, if we could make available such boxes with locking arrangements to passengers, we should be able to prevail upon them to put their bundles and small packages into these boxes, lock them and hand them over to the Railway authorities for transport by brake-vans. The passengers can be afforded conveniences to clear these boxes at the far end. These bags may have to be offered free, to start with, but it will pay the Railway to do so, as in addition to getting more room available for passengers in the compartment, even the ticket checking staff can move about more easily to do their job and perhaps collect their excess fares with considerable comfort to themselves and the passengers. If this ticklish problem of crowding trains is thus solved, many essential improvements in the formation of trains and construction of coaches can be considered such as having a through corridor from end to end, and also provision of dust-tight door and window shutters and forced ventilation by way of blowing air through nozzles, even if full-scale air conditioning cannot be ensured.

Food and Drinking Water

By providing additional coaching accommodation as well as reducing the accompanying luggage, crowding of trains can be overcome. Following this, provision of drinking water vessels with taps in compartments will be easier. Further the fixing up of an adequate number of fans and lights will be greatly appreciated by passengers when the main trouble about crowding is reduced. In so far as the drinking water vessels are concerned, it will be more

hygienic if card-board or earthenware tumblers are kept near the water pots, so that after use, they can be destroyed. In Europe, paper tumblers are used, but in India economic considerations may favour earthen tumblers. If recoupment of water in the pots can be arranged at the more important halt stations at quick intervals, even doling out of water on platforms can be avoided, limiting them to the less crowded ends.

The present practice is to afford service to passengers such as of water, food, tea, coffee, snacks, etc., through carriage windows at stations. This calls for, in many cases, train halts of substantial periods and also causes hurry and inconvenience to passengers. It is hardly possible to ensure serving wholesome and good food articles in these circumstances. One can imagine the plight of a passenger drinking his hot cup of tea just when the guard's whistle goes off. Therefore, on the Continental trains, drinks and snacks are served from light trollies moving through corridor passages in the train, and on Indian trains in addition to this, even clean and good water can be served out from such trollies. The guarantee of securing food and drinks in the trains will also encourage passengers to reduce their luggage, a good part of which many times consists of water pots and food boxes. On the trains buffet cars when provided, will be greatly appreciated where lunch packets, etc., can be served on the running trains to the passengers. Elaborate stalls at way-side station platforms, and hawkers shouting out at every station and occupying the already crowded platform space can be all avoided as a result.

Bath Rooms and Sleeping Cars

Lavatories in Indian trains should be really much bigger than those on the Continental trains, as these have squatting seats and passengers generally use water for cleaning purposes. When they are too small, the whole area gets wet and cannot be maintained

clean. An additional amenity on an Indian train would be a couple of neatly laid out baths with a shower and tap. An Indian passenger generally revels in a good wash and a bath. Even if a small charge is raised, with the easing of crowding on the trains, quite a few long-distance passengers may take advantage of this facility. On the Continental trains, provision of sleeping arrangements and sleeper cars is very common. It is very doubtful if on the Indian trains, this will be popular at the moment, but in course of time perhaps, lower class sleeping carriages with two or three tiers of berths and also offer of mattresses and linen kept ready at stations about at nightfall and the facility to detach these carriages in the morning the next day, may be useful.

I shall next deal with the main amenity items at stations. Substantial platform covers are almost an unavoidable requirement at all stations—big and small. In India, there is hardly any place free from severe sun or heavy rain and sometimes even both. Platforms, particularly at way-side stations, are the only waiting places of passengers and instead of spending money on waiting halls which, in many cases, are being used by undesirable persons, at stations nicely paved platforms with covers practically from edge to edge, would be greatly welcome. Both the paving and the roofing cover suit the Indian conditions most, as the majority of Indian passengers do not have very good protection on their feet against sun and also anything against rains.

Other Amenities

Further, to our passenger, the most useful and attractive sight nearest to the entrance gate is a water tap with a washing place. After a walk or even a drive in the open, he loves a good liberal wash and a drink of water. If this is available at the main entrance, except when he has to wait for long periods at junction stations, he walks straight on to the platform. Seating

Handwritten notes and stamps at the bottom of the page include:
 - "JL" (initials)
 - "X417m21, NSS" (handwritten)
 - "N 54.1.8" (handwritten)
 - A circular stamp with "143446" and "1.8" inside.
 - A circular stamp with "600 008" and "1.8" inside.

places, either benches or small platforms with fans on the top where available, will satisfy him better than an elaborate waiting room which he hardly uses.

For crossing the Railway tracks, the present practice is to provide overbridges. These, in my opinion, are not as inviting and comfortable as subways. With these the heights to be negotiated are much smaller and they are very much cooler than the steel overbridges. Therefore, subways should be encouraged for the purpose of crossing of tracks. Overbridges are almost unseen at the Continental Railway Stations.

Tea Stalls

Tea stalls at the moment are provided on platforms to cater to the needs of both the waiting passengers and the train passengers. The disadvantages of getting these stalls to serve the trains have been already brought out in the earlier paragraph. For the waiting passenger, it is not always necessary to have these stalls on the already crowded platform, but a complete food service room or a cubicle can be at the main entrance or in the part of the platform which is not so crowded. The present method of service became a necessity because the crowded trains do not allow train service. But if this crowding is got over, as suggested, the congestion in the platforms due to hawkers and also provision of stalls with attendant noise can be avoided. On the platforms, drinking water taps may be provided at the ends with a few card-board glasses placed along with them. If a washing place is built at the entrance, there is very little likelihood of these taps being used for the washing purpose, but if necessary these taps may be built round with masonry with a view to avoid their being used

for washing purposes and causing splashing of water all-round on the platforms. At suitable locations, on the platforms, here again where the passengers are not likely to crowd, washing places, lavatories and urinals can be constructed at almost all stations. All the above amenities, therefore, take for granted that a very good supply of water is ensured, and therefore, this becomes the most important need at big and small stations in India.

Waiting and refreshment rooms are all a regular feature at important and junction stations, the size of and services in which will have to suit the importance of the individual stations.

Speed of Trains

Last, but not really the least, important is the progressive improvement in the speed of transport which, in its own way is an amenity to the travelling public. One can hear many times comments from the older passengers that the Mail and Express trains are taking much too long a time compared to the running time about 15 years ago. While these comments may or may not be justified, a sustained effort to reduce the loss of time en route for long distance trains contributes very much to this aspect of railway working. A regular survey of speed restrictions—permanent and temporary—and means of removing or reducing them, speed limits laid down either due to defective track conditions or locomotives (some times these are found to be out of date but continue to be observed for want of a checkup) and loss of time at stations is a fruitful source of speeding up traffic. In most European countries, a regular watch on the raising of the average running speeds of trains is kept.



TIRUVARUR

HALLOWED SAIVITE SHRINE

T. S. PARTHASARATHY

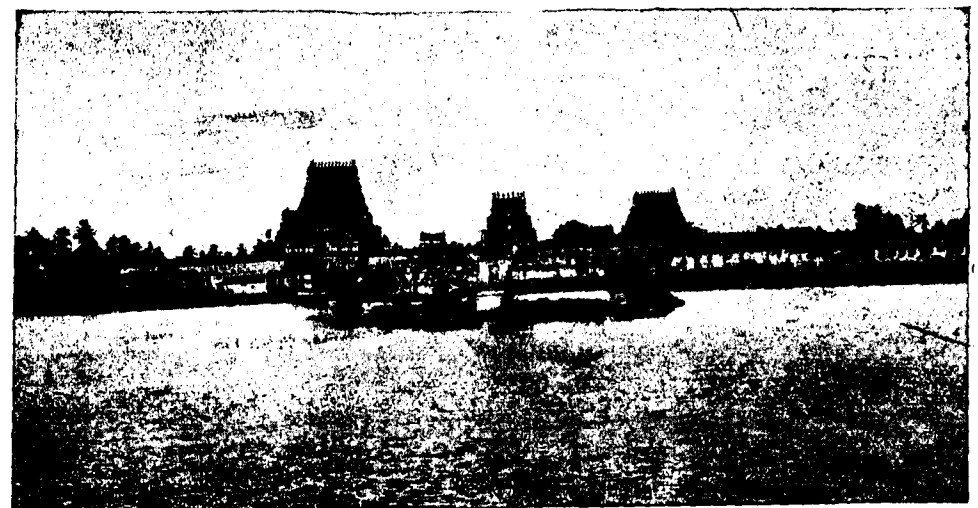
THE true history of India must be studied in her temples, for it is here amid brilliant festivals that the religion and culture of the country have developed through the ages. Temples of cyclopean build and of rare architecture are found all over South India, along the main lines of the Southern Railway and even along its comparatively unimportant branch lines. Built many hundreds and, in some cases, more than a thousand years ago, many of them are even now in a good state of preservation. For, while the North Indian plains of Hindusthan were constantly subjected to marauding invaders—who laid desolate the land they sought to conquer—South India escaped such a fate and thus a civilisation of over 3,000 years has been preserved.

Tiruvavarur is situated on the Mayavaram—Karaikudi line and is an important junction on the Tanjore-

Nagore branch line and is noted for its temple dedicated to Lord Tyagaraja. The temple stands on the eastern bank of a magnificent tank, the Kamalalaya, which contains an island with a small pagoda in the centre. The temple has broad court-yards, surrounded by massive walls and four large gopurams, one on each face. Within the temple, is a thousand-pillared mantapam, the roof of which is decorated with pictures illustrating stories from Hindu mythology. Outside this mantapam are many stone pillars, which are roofed in during the time of festivals. There is but little carving to be seen inside the temple, the best work being the small stone figures placed in the niches of the gopurams. There are five wooden cars belonging to the temple, the largest of which is a fine specimen of its kind.

From the architectural point of view, one of the finest features of the Tiruvavarur temple is the eastern gateway,

A view of the temple and Kamalalaya, the tank.



which, although constructed as late as the early eighteenth century, is as good an example of Dravidian art as can be seen anywhere. "The three lower stories are particularly well produced, the lowest with its broad pilasters alternating with sunk recesses containing rearing hippogryphs being boldly conceived, while the two above have magnificent roll-mouldings and plinths carrying pillared niches in which are enshrined black basalt images remarkable for their architectonic treatment."

To the north of the temple is a stone car having under one of its wheels the figure of a child. Near the car is a cow with a dead calf sculptured in

stone. This group of stone figures commemorates a legendary incident in the life of a Chola King named Manu Neeti Kanda Chola, who was noted for his goodness of heart and sense of justice. God Siva, wishing to test the king's reputation for justice, after having disguised himself as a cow and telling the God of Death to take the form of a calf, went to Tiruvarur to graze in the streets. The king's only son, Vithi Vitankan, who happened to be driving his chariot at this time, ran over the calf and killed it. The prince, trembling at the terrible sin he had committed in killing so sacred an animal as the calf of a cow, and fearing



*The gopuram
of
the Tiruvarur temple
a grand specimen
of
Dravidian
architecture*

his father, went to the priests for advice as to how he should free himself from the sin. Meanwhile the cow, being unable to bear her grief, went to the king's palace and rang the bell provided there for the use of anyone who had a grievance to represent to the king. The king, who was with his ministers at the time, was informed of what had occurred. After consulting them how best to render his son guiltless, he decided that as all the ceremonies in the world would not restore the calf to life, it would only be just if he himself experienced the same grief the cow had suffered. He, therefore, ordered one of his ministers to cause his son, the crown prince, to be run over by his chariot, but the minister, afraid of executing so dreadful a task, committed suicide. The king then decided to do the deed himself and having ordered his son before him, crushed him to death under his chariot

wheels. Siva, being much pleased with the king's justice, assumed his proper form and restored to life the calf, the prince and the minister.

Also known as Srinagara or Sripura, Tiruvarur is a very hallowed shrine for persons belonging to the Saivite faith, with hundreds of verses sung about it by the great Saivite saints. It is also well known for its traditions of classical Carnatic music and happens to be, by a strange coincidence, the birth-place of the Trinity of Carnatic music, viz., Tyagaraja, Dikshitar and Syama Sastri. The great Venkatamakhi, codifier of Carnatic music, has composed sixty-four "ashtapadis" (musical compositions) in Sanskrit and Shahji Maharaja, the second Mahratta king of Tanjore, who ruled from 1684 A.D. to 1711 A.D. has composed the "Pallaki Seva Prabandha" in Telugu on God Tyagaraja.

The stone car mentioned in this article



RAILWAYMEN!

Keep in touch with what is going on by reading your staff magazine. If you have gifts in that direction, you may even be able to contribute to it. If so, the Editor will be glad to consider your "copy".

Reports of activities of Railway Associations and Clubs are also welcome.

CARRIAGE AND WAGON EXAMINATION

~~~~~ "OPRAIL" ~~~~~

**R**AILWAY administrations take every precaution for the safe transport of passengers and freight, and one of the most important of these safety measures is the examination of trains on the run. How is this job of train examination done?

Throughout a railway system there are what is known as train examining depots, usually situated at junctions and larger stations on a district or division. We will assume that a mail train has rolled into one of these train examining stations. The wheels have barely stopped, when from the locomotive to the rear brake van of the train, the train examining gang has started on its routine job. The vacuum men go up to the driver to ascertain if there are any faults or defects with the vacuum gear of the train. If there are, the Train Examiner in charge of the gang is informed immediately, and he and his staff go to work at once to locate the defect and put it right. They have to work fast as this has to be done with the five to ten minute halt of the train. They have to work efficiently also, as the braking power of the entire train depends on the efficient functioning of the vacuum apparatus throughout the train. While doing this job, hose couplings, train pipes, vacuum cylinders and all vacuum components get a thorough check-up. No driver will dare start his train with defective vacuum gear, as ineffective brake power may cost him his life, along with the lives of perhaps a thousand passengers, if his train gets out of control.

While this is going on, other staff are feeling the bogie boxes of each coach for signs of heat. The train lighting staff are checking up on dynamos,

lights, batteries, fans and other electrical apparatus on the train. Overhead on the carriage roofs will be seen the watering staff with hose pipes whose nozzles are inserted into the carriage overhead tanks and fed with water, so that passengers will have enough water for their washing needs.

Minor defects are mostly dealt with by the train examining staff concerned on the spot. But if there are any major defects, the Train Examiner is promptly advised. Perhaps the wheel-tapper has discovered that a wheel tyre does not ring true. This is a warning of possible trouble to come. He will report to the Train Examiner who will personally check up and then decide on the course of action to be taken. If the offending wheel is not considered "safe to run" the coach must be cleared of all passengers, detached and sent to the "sick-line" which is the carriage and wagon depot where repairs are done.

The cleanliness of rolling stock is another important item for the constant attention of train examining gangs. Throughout a long journey dust and dirt creep into every carriage. As soon as the train stops, several sweepers, with brooms, floor swabs, dust-can and insecticide spray-gun, will present themselves. They are at the service of the passengers for whatever carriage cleaning that may be required. Carriage lavatories also receive attention with a clean-water flush and a final wash-down with disinfecting fluid.

During epidemics, a passenger may suddenly develop symptoms of a dangerous infectious disease, like cholera, or small-pox. Passengers are naturally alarmed at having one of these victims amongst them. So the

railway doctor is called in. If after examination he declares the sick person to be a possible menace to his fellow passengers, everyone in that particular coach must be requested to vacate. The coach is now in a state of temporary quarantine. The train examining staff will then shut every door and window securely, to prevent this coach being used by other passengers en route. Destination station is then wired for "disinfecting" action before the coach can be put into "passenger" service again.

Train examining staff cannot always do their jobs smoothly. Quite often they are hampered by complaints from passengers. Some of these complaints are of course genuine, but many are trifling irritants which a passenger wants to be removed promptly. A shutter may be sticking, water supply to bowls and lavatories may have come down to a trickle; or a passenger with an undue sense of fastidiousness may demand that his compartment be dusted and wiped from roof to floor, including all nooks and corners. Carriage lighting may be too dim, or a bulb fused or missing. Then there is the timid passenger, whose sensitive ears always seem to be hearing queer noises. He is tormented by morbid thoughts of train accidents, so he complains of these queer knocks or rumbles to the train examiner, who must be patient and examine the coach, lest the passenger be right. After all, it is the job of the train examiner and his men to act on the principles of "safety first" and last also.

It is not only the passenger-carrying train that gets all the attention of the train examining staff. There are also staff for the examination of goods trains in large station yards. A goods train often consists of fifty to seventy wagons, and to tackle the job of examining this long train in quick time, two gangs work on each train, one from the brake van end, and the other from the locomotive end. Here again, expertly and rapidly, vacuum gear and

apparatus, axle boxes, couplings and wheels of each wagon are checked. Minor defects are put right on the spot as "running repairs." Major faults that require "sick-line" treatment will mean that the lame wagons must be "damage-labelled," detached from the train, and sent into the depot for repairs.

Often consignments of an awkward size or shape are required to be carried by goods train. Such consignments are known technically as "out-of-gauge" loads. These protrude over the side of an open truck, or are high above the tops of wagons, and usually infringe the standard moving dimensions. Special precautions have to be taken to the transit of such loads, as otherwise they would be a danger to passing trains, or may foul station platforms, yard structures, overbridges, etc. To get these loads through safely special train examining staff are deputed to travel by the goods train on which these consignments are loaded. It is the job of these men to ensure right throughout the run that each consignment is kept properly adjusted and in position, as the motion of the train sets up oscillations and vibrations which are liable to displace the consignments.

There is another type of goods train that must get the special attention of the train examining men. This is the train consisting of tank wagons. These tank wagons are used for transporting high-grade aviation spirit, petrol or kerosene, and also molasses and vegetable oils. But when these are carrying aviation spirit or petrol, the whole train can be a veritable death-trap. A slight drip-leak from one of the tanks, a tiny spark from a passing engine, and the whole train will go up with a roar and a blast. The train examining staff must pay special attention to these tank wagons so that there is not the slightest possibility of a leak. Even the empty tanks must be treated with special care, as petrol fumes floating inside are deadly when a lighted match or a cigarette is near.

# ONE NIGHT IN THE STRONGROOM

C. DORAIRAJ

Detective Inspector, Watch & Ward, Trichinopoly

**T**HE night was hot. The clock struck twelve. The smart strides of the patrol duty sepoy was dying away at a distance. The strongroom was plunged in darkness, which aggravated its stillness. In spite of adverse environments, some consignments awaiting delivery and stacked in the strongroom resumed their conversation.

"Tomorrow morning," rejoiced Mr. Medicine Chest, "my Doc will come and take delivery of me. I shall quit this unholy spot for good."

"True; true," yelled Mr. Electrical Goods, "I too am happy to leave this dungeon tomorrow. Thanks to the Consignee! But surely, it will take some time for me to forget the rotten smell of dry fish in the goods shed."

All of a sudden there came a moaning from one corner of the strongroom. Mr. Medicine Chest was struck with wonder to see Mr. Radio Case upside down, despite the label: 'This side up.'

"How did this happen?" queried Mr. Electrical Goods.

Mr. Radio did not reply; but started quoting Shakespeare: "A knave; a rascal; an eater of broken meats; a base, proud, shallow, beggarly, three-suited, hundred pound, filthy, knave; ....."

Somebody was groaning at the other corner of the strongroom and it was Mr. Piece Goods, on top of whom Comrade Machinery was slumbering peacefully.

"You, Mr. Radio," pacified Mr. Piece Goods, "are lucky however in so far as the porter, whom, I presume, you

had just now vituperated in lighter vein, has been charitable enough not to load Comrade Machinery on top of you in addition to putting you through a course of compulsory 'SIRAS ASAN.' But my case is a bad one and an interesting one also."

"How?"

"Do you know what is inserted in my stomach? It is brick—pure brick to make up the weight lost by the extraction of a portion of me. It gives me terrible pain and makes me groan under the weight of Comrade Machinery."

"We pity you. Now tell us where do you come from?"

"Oh! that is a big story..... Hark! some thief is coming!"

"Trut.....Trut.....Trut.....Trut....."

"No fear! It is only the sepoy patrolling. Will you please tell us something about yourself?"

"I shall tell you everything. Listen. I am a consignment of silk piece-goods from Ludhiana, Punjab, originally booked to Bangalore and then surreptitiously re-booked to Madras."

"Re-booked? Surreptitiously? Why?"

"Indeed! It so happened that, after booking me to Bangalore, the Consignor removed me stealthily, when the receipting clerk was busy making out the Railway Receipt. He changed my address in a minute and tendered me for booking to Madras and obtained another Railway Receipt therefor."

"What is the big idea?"

"It often happens so, when the receipting clerk is too slow to secure 'outward' consignments in the portion marked off exclusively for them. The Railway Receipt, you should remember is a document, that can be transferred for value. The holder of the R/R can lodge it in a bank and the bank will advance money in the normal course of transaction in good faith. In such circumstances, it will be very difficult for the Railway authorities to trace the loss, as the package does not eventually pass out of the station."

"I see.....say so!"

"Earlier in Ludhiana, I escaped an extraction by a casual labourer late in the evening, when there was only one clerk in the Parcel Office for making book entries and clearing cash. Again at Delhi, when I was awaiting transshipment into the Grand Trunk Express, some thieves in the know of things attempted to decamp with me."

"Where was the duty Watch and Ward sepoy? Were you not made over to him by the Traffic Staff?"

"I was made over all right. But the criminals were dexterous in their profession. One man talked nicely to the sepoy and managed to take him away from his duty post for a cup of tea. His associates were marking time to remove me when nobody was watching their movements. But the sepoy was a conscientious man. He returned to his post before I was purloined."

"When were your contents actually extracted?"

"It was during transit between Delhi and Madras. I am not sure of the place and the identity of the man, who committed the offence. I can remember only this. It was night time. The Grand Trunk Express was stopped in a small station for crossing. One vagabond entered the parcel van undoubtedly with the connivance of the guard in charge. I was one amongst the few consignments of piece-goods victimised then."

"What a melancholic affair!"

"Even after coming to Madras, I was not left alone. I had to escape the final artifice of a rogue of a merchant, who tried to remove me from the Parcel Office along with some other inward consignments he took delivery of. The Watch and Ward sepoy at the gate, however, was vigilant to catch the delinquent red-handed and hand him over to the Police for prosecution. I was in the custody of the Police and the Court for some time and then I was brought back and put behind the bars in the strongroom."

"Do you expect anybody to come and deliver you from this place?"

"How can I predict it, when all the planets in the universe are antagonistic towards me? When sorrows come, they come not single but in battalions. Ludhiana will be searching for a consignment booked to Bangalore. If the investigating authorities were shrewd enough to trace me, well and good. I shall be glad to go to Bangalore and enjoy the fine climate in summer there. Otherwise I will have to sweat in the hot weather of Madras. Anyhow I shall be greatly relieved, if the brick is removed from my belly."

"Don't you worry. The investigating authorities on the Railway are sharp people. They are capable of finding out the mischief-makers and bring them to book and also relieve you of your suffering by sending you to Bangalore, your proper destination. Is that not the special business of the Watch and Ward Department.....?"

"Trut.....Trut.....Trut.....Trut....."

".....Look! How smart these people are!"

"They are smart indeed. But the public should co-operate with the Railway Administration to eradicate such evils. It is public opinion that should support the hand of the Railway."

## THE MYSTIC EAST

~~~~~ NORA SECCO DE SOUSA ~~~~~

THERE is no doubt that the Indian is not only a very clever conjurer but has also acquired powers over his body of which Westerners have little or no knowledge. So that, to the Oriental mind there is nothing remarkable in the displays of magic, snake-charming, conjuring and other supernatural feats that he daily sees around him, for they are as logical to him as television or the atomic bomb is to the Occident. The famous Rope Trick is one of those tricks in the Indian conjurer's bag that one hears much about but never sees, nevertheless it is a piece of magic which is no myth. I have never been fortunate enough to see this particular performance but hearing about it from a reliable source who was privileged enough to have witnessed it once in his lifetime, I personally feel that the whole secret of the trick lies in a form of mass hypnotism. The couple of hours of ceremonial preparation and incantation that precedes the actual climb up the rope and the disappearance of the performer, which happens in the twinkling of an eye, having some close connection with hypnotic influence. The extremely bright sunlight has also a lot to do with a successful performance.

A few odd tricks that baffled me and I confess I would like to know more about, took place in one of the main streets in Rangoon, Burma. Seeing a staggering crowd gathered, I swelled the number. It was one of those wandering troupes of the magic-working fraternity giving one of their open-air acts. While a ragged, semi-starved and nude urchin was giving a display by coiling his limbs into some unnatural and fantastic knots, a small square basket was passed round by the

"manager" to the audience for inspection. After satisfying everybody that there was no deception in the way of a false bottom, the little boy still in knots, was lifted and put into the basket which was covered with a cloth. The manager then took a pointed staff and began stabbing the contents of the basket. After some time the cloth was removed revealing an empty container. When the urchin did finally put in an appearance, it was from amongst the crowd. A tall pole was then planted in the ground and the versatile nude boy, after climbing it with the agility of a monkey, began with arms outstretched pivoting on it at a dizzy speed, first on his back and then on his stomach. After several other preliminary items the travelling show which appeared to possess a limited equipment, requisitioned such articles as an empty kerosene oil tin, string, a knife, a large white sheet, and four posts, from a nearby house. With the sheet and posts a tent was constructed, and within this was to be produced the "piece de resistance"—the Levitation Act. Here is exactly what happened. A man was seen lying on the floor of the tent holding a short pole bound round with cloth. The public were allowed to examine the man, the pole, and the surrounding ground, and no possibility of deception was apparent. Presently the man began to fall into a state of coma and the flaps of the tent were lowered. One of the troupe, followed by a midget drummer boy, now marched round the tent alternately drumming and shouting unintelligible incantations. Once or twice they stopped for the purpose of making mystic signs on the tent. It was all highly weird and impressive and in accordance with the best traditions of the profession. At

last the flaps of the tent were raised again and the man was seen literally floating in the air. He was at the top of the pole and one hand was resting lightly on it. Further, there appeared to be no doubt that he was under some deep trance. He remained in this position for about half-an-hour and the audience were allowed to approach him to see that there was no support under him, but were warned not to touch him or he might fall down dead. The flaps of the tent were again lowered.

Then the drumming and incantations and mystic signs began all over with renewed vigour, all efforts appearing to be directed towards helping the floating body to descend earthwards. After a time the noise ceased and the "manager" peered inside the tent to see how the performance was progressing, but evidently dissatisfied he signalled to the drummer boy to strike up again. It was altogether another thirty minutes before matters were sufficiently satisfactory to allow the raising of the flaps of the tent disclosing the body resting once again upon terra-firma. Two men then rushed forward and commenced an elaborate system of artificial respiration on the body, with much thumping and rubbing. The patient continued to be under a hypnotic influence right up to the last moment and presently when he returned to normal he seemed dazed and the very spark of life robbed from him. The light also appeared to trouble him much. It was truly a mysterious act in a well-organised show of travelling magicians, who lived purely and simply by magic.

Snake-charming is also centuries old in India but though highly popular, it is a dangerous business, for all snakes used are poisonous. Highly skilled as it is, the profession is hereditary, passing from father to son. Only by living on it in this way can the necessary technique and knowledge be acquired. In the streets or bazaar of any Eastern town you will find the snake-charmer squatting before his basket, pipe to mouth. One tap on the lid and an ugly

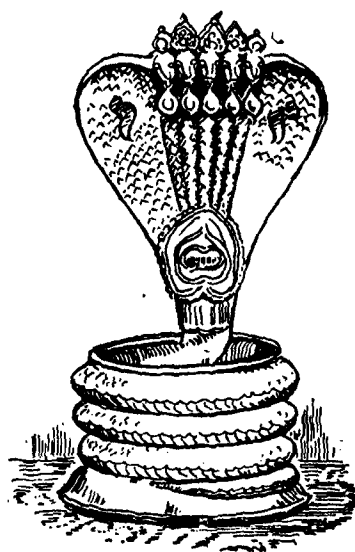
diamond-shaped head thrusts out, forked tongue darting, cunning black eyes fixed on the pipe. The eerie, wailing notes sound as the piper plays, his pipe waving to and fro and the snake sways with it, gradually rising erect, eyes still fixed on the pipe, following every movement of it. Then obediently it sinks again into the basket, its head resting on its coils. The basis of snake-charming is nothing but hypnosis. A snake has no ears but it can only "hear" with its breast muscles, which are so sensitive that they pick up the slightest vibration. It is the dancing end of the pipe that charms the snake, hypnotising it, compelling it to move. The wild music is only for effect. A snake swaying in rhythmic dance to the music of the charmer's pipe is also only an illusion, because what in fact actually happens is exactly the reverse. A snake manoeuvred into a defensive position cannot help swaying. He sways with natural rhythm and it's not the snake keeping time with the music at all, but the music keeping time with the snake! It is simple and elementary when you know how.

A snake-charmer is not only a performer. He must also catch all the snakes he uses, a dangerous and difficult undertaking, but his wide knowledge of them tells him just where in the jungle lives the specimen he wants. Usually it is a Cobra Di Capello or Hooded Cobra, valuable because of its spreading hood, but deadly. This



notable peculiarity in the cobra the expansion of the neck, popularly called the hood, is attributable not only to the skin and muscles but to the skeleton. About twenty pairs of the ribs of the neck and fore-part of the back are flat instead of curved, and increase gradually from the head to the eleventh or twelfth pair, from which they decrease until they are emerged into the ordinary curved ribs of the body. When the snake is excited, it brings these ribs forward so as to spread the skin and then displays the oval hood to the best advantage. In this species the back of the hood is ornamented with two large eye-like spots united by a curved black stripe, so formed that the whole mark bears a striking resemblance to a pair of spectacles. There is a Dandy too among the cobra clan, that is distinguished by a single monocle! In spite of being able to erect itself two-thirds of its length, the cobra can only strike foremost that is how the snake-catcher and the clever mongoose usually get the better of him.

The snake-charmer's outfit consists of a bowl of milk, his pipe and a large earthenware pot with a lid. Finding a suitable spot, he puts the pot on the ground with the bowl of milk near it,



and watches. Sooner or later a head will be thrust out of the undergrowth, and a long sinuous body will glide across to the milk. Cobras love milk and will even steal into cowsheds and suck milk from the cows. As the snake drinks, the pipe begins to play. The waving end catches the attention of the snake and hypnotised by the motion, it stops drinking, and gradually rears itself as the player approaches to within arm's length. Then his arm shoots out like lightning, grasps the snake behind the head, and throws it into the pot, into which it glides. After an interval of four days it is taken out, and the poison sacs cut away. This does not mean that the danger is over for the venom gradually collects again, and must be removed about once a month. Neglect of this has caused the death of more than one snake-charmer, who eventually got bitten by his own snakes. The danger is always imminent, for unlike most performing animals, the snake is not trained and its brain is too rudimentary to allow it to learn like dogs, lions and tigers. Each time it must be controlled afresh; each time it is just as liable to break out of control and bite.

Very often you will find people who are troubled by poisonous snakes in their home or garden sending for the snake-catcher who, after locating the deadly reptile, which turns out to be a Russell's viper or King cobra, will allow it to bite him and show you the fatal double puncture in his hand. He then proceeds to cure himself with the aid of a magic stone which "sucks out the poison." The stone is applied to the wound and for some time incantations continue. The victim at first shows all the familiar symptoms of snake-bite poisoning but in five or six hours completely recovers. Here is the secret of the rapid cure. A snake can only eject poison through his hollow striking fangs when his head is in a certain position which the juggler fully knows, so holding the head in a non-ejecting angle he deliberately punctures his hand on the fangs, probably picking up just the faintest trace of

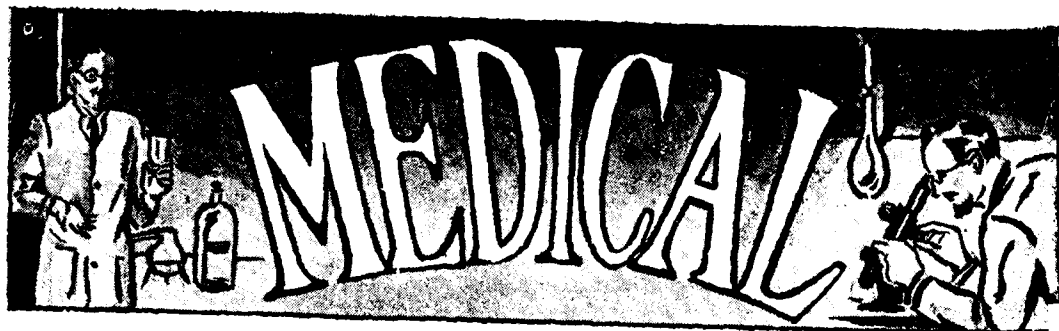
poison but enough to give him snake-bite symptoms. That small quantity of poison might well mean eternal rest to you or me, but you must remember that the snake-man comes of a long line of snake-catchers, each of whom is injected in childhood with snake poison to render him as immune as possible throughout his life. The primary purpose why snakes are equipped with poison is to help them to overcome prey; its other beneficial uses to the snake being to act as a digestive fluid and confer immunity from the poison of other venomous reptiles.

I once had the unique experience of seeing a snake-catcher charm a cobra that had found its way into a crevice of a well where the public used to get their supply of drinking water. Crowding round the brim of the well were a host of spectators including myself to whom, it seemed next to impossible that the unseen snake could be drawn out. Climbing into the well and approaching the tiny orifice with a noose, the snake-charmer began in soft and soothing language to call out the reptile. We first saw a head being thrust out and gradually a long gliding body slip into the noose which was tightened as the snake emerged. As the man was climbing upwards with the snake held at arm's length, the noose unfortunately snapped and then followed a life and death struggle between the enraged cobra and the defenceless man which provided us with unforgettable thrills. But eventually the persuasive powers of the charmer got the better of the cobra, and tamed to docile submissiveness he was brought to the top. After extracting the poison—a mixture of a very pale yellow colour having the consistence of salad oil—which the snake-catcher did by holding the snake behind the head and getting it to bite several times into a piece of cloth, he carried it away in a small earthenware pot after being rewarded with a tenner for his dare-devil performance. In spite

of the most far-fetched cases of vindictiveness being laid at the door of the cobra, I personally feel that with the exception of its uncanny susceptibility to sound there is no other malignant attribute one could accuse it of, as it only harms or bites when driven to do so under great provocation.

The best snake-charming I have seen however was not done in India, but in Burma. In villages in the depths of the Burmese jungle the Dance of Death is still performed. A pot containing a fully-grown cobra is placed on the ground, near it stands a slim girl while the villagers squat around watching intently. Pipes wail slowly as the lid of the pot is removed, and the head of the cobra with its darting tongue appears over the edge. Then the girl begins to dance, hands and body moving rhythmically as she slowly sways to the music and the snake, caught in the spell of that motion, begins to sway too with her, rising still higher as she slowly approaches. Nearer and nearer she comes, the throbbing music rising in intensity, until her face is only a few inches from the head of the Hamadryad. Then she leans forward and gently kisses it below the extended hood, to come erect as slowly again and draw back, always dancing, until the snake sinks again into its pot, and the music dies away. The slightest error in judgement, the least movement of the audience, could break the spell and cause the snake to strike fatally. Only the greatest skill and years of training could dare this test, when a date with death is conquered with a dance.





INSOMNIA

"A RAILWAY DOC"

[Most railwaymen, especially those who have night-duty to perform, do not suffer from this complaint. Sleep often overpowers the night-duty cabinman just when the Mail train approaches the outer and an irate second fireman rudely rouses him into activity. Those who have charge-shee's to answer or Efficiency Bar Examinations to pass, sometimes suffer from sleeplessness and may find these notes useful.]

SLEEPLESSNESS or Insomnia, as it is called, is but a symptom of a disturbance which may belong to the body or to the mind or to both. Whether the mind or the body is concerned, insomnia is in itself, very distressing and dangerous to health for, sleeplessness interferes with the proper assimilation of food and therefore with the replacement of the waste which is constantly going on in our bodies. Insomnia, therefore, renders the sufferer weak and incapable of efficient work. Insomnia is particularly dangerous in the case of persons suffering from any disease, particularly a wasting disease, and growing children who require more sleep than adults for the constructional development and growth of their bodies. Children complaining of insomnia invariably suffer from stunting not only of the body but also of the mind as a result of defective assimilation. Almost every person has, at one time or other, had occasion to pass sleepless nights. Whatever might have been the reason for keeping awake,

one could never have failed to notice the general unbalanced state of the body, the worried condition of the brain and the misty condition of the mind following a sleepless night. The result is that the system had not had the requisite respite to replace the waste produced during wakeful hours and the organs were no longer in a proper mood or condition to carry on their allotted works. In fact, insomnia, if allowed to persist, will play havoc in one however strong the constitution. It will be remembered that a few years ago there appeared an advertisement in the press offering a fortune to any physician who could induce sleep in a rich business magnate who had been completely deprived of sleep for over six months. One should, therefore, be particular in securing periods of sleep at regular intervals.

The common causes that interfere with sleep and initiate insomnia should, therefore, be carefully noted and removed as best as circumstances permit.

November 1954

INSOMNIA

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Lack and fresh air and good ventilation of the bed room is a common condition that keeps away sleep. Blood is the great repairing agency of the body and is the fountain-head of life. It carries and supplies nourishing materials to every part of the body. From the very moment of conception of a new life the blood is building, repairing and rebuilding the man.

The first duty of blood is to feed the tissues of the body and keep them in prime condition. For this purpose, a large number of different substances are required each of which must be carried to the part where it is required. Likewise, it is necessary to remove the waste products produced by the constant work inside the body and which cannot be left to accumulate at those places where they are produced without very serious consequences. This important duty of scavenging the waste products also belongs to the blood.

In the lungs as we breathe out, the blood gives up the load of carbonic acid gas to take up a fresh load of oxygen. If fresh air is shut out, the oxygenation of the blood is interfered with and as the blood is not relieved of waste matter, headache and other troubles result and retard sleep. Bad ventilation thus stands in the way of sleep by preventing the supply of fresh air.

Late hours.—The keeping of late hours is another very common cause leading to insomnia. By keeping late hours the system gets into the habit of wakefulness and the irritation thus caused to the nervous system tends to maintain the conditions of wakefulness. A little dose of sedative may be given to break the habit if insomnia persists.

Mental work, worry or shock.—Excessive mental work or worry is quite a common cause of insomnia. The excessive strain imposed upon the system to earn and maintain oneself in the modern world tells very much upon the system, so much so that the body does not properly recover the balance. In such cases the simple task is to reduce the mental work or worry as far as possible.

Insufficient exercise is another potent cause of insomnia as it is evident from the lives of persons of indolent habits. The introduction of sufficient exercise in some form or other into the habits of such persons generally improves matters. A brisk walk in the morning or some moderate walk after meals and before retiring to bed is strongly recommended.

A heavy night meal is another common cause of insomnia. Besides inducing sleeplessness, a heavy night meal may bring on various other troubles and should better be avoided. One of the curses of modern civilization is the practice of keeping late hours and having heavy meals. It should be remembered that doctors derive their incomes more than from these two causes than from anything else.

An empty stomach likewise interferes with sleep. The remedy is to fill the stomach with some food.

But the very apprehension of wakefulness is a formidable enemy of sleep and it tends to reach its climax at bed time. There are other causes which tend to produce sleeplessness and as they are mostly due to toxins in the body, treatment by a qualified physician should be resorted to at the earliest possible opportunity.





A WELL-DRESSED WOMAN

V. S. SHANTHALAKSHMI

A husband may praise a wife's intellect. Oh yes; he may speak well of the food on her table; he may think few play a better hand at tennis; he may raise his eyes in ecstasy over the way she does an "alapana" in pure Carnatic style; but she will forget such praise if he draws a line of comparison between her ill-chosen clothes and those worn by another woman which proves that women will be women to the last moment of the last cycle of time.

A well-dressed woman and good taste in clothes are reversible phrases. One cannot exist without the other. The mistake often made by the majority on the subject of clothes is to think that good taste is a gift or the right choice of suitable raiment is a birth-right. Rid their minds of that error and light breaks in; an optimistic struggle to attain the desired goal begins. And the essentials to victory in this struggle are observation, imitation and calculation. Salvation is not wholly from within. Others may help, but they do it only when they focus your mind on these three essentials.

This art of draping the body gracefully to bring out all its charm has

been an intricate and fascinating art from the times that Eve quit her robe of Nature. "Women wear what they think will make them attractive" (as if men don't) said someone. That is not absolutely correct, and needs a little amendment; for does it not all depend upon what they think is attractive for their individual colouring, size, shape and age, to say nothing of the purse and taste (however much we deny the fact) of our males, the father, brother, or husband whichever it may be. But most of our sisters do not know what makes them most attractive. Many have yet to learn that the vertical striped Chandini Saree, tall and graceful Miss Cine Star is wearing, will not go well with puny Miss Iyengar's figure and that broad-faced Miss Rani will certainly by no means flatter her face by drawing back her hair like lovely Miss Lekha at the Club. One sees these subtle yet vitally important points violated again and again, so that a few suggestions on those will be useful to many women and college girls who would find their natural charm enhanced if only they take a little more trouble with their dress.

The craze of the modern for anything that is new whether it became her or

not, ought to be curbed. Blindly and irrationally following the whimsicalities of fashion is highly deplorable, and won't make a well-dressed woman at all. So for any one, the first rule is study your type. Before you buy a new sari next time or create a dream of a blouse, take it from me, don't hungrily accept the dictates of the screen world or glean information from the Women's page of countless magazines; throw away these pictures of sylph-like models in ravishing dresses and have in mind only yourself with all your weak points mercilessly laid out under severe scrutiny. Be ruthlessly critical about yourself. No illusions please! Face the facts bravely and scan the mirror ruthlessly. But remember you are out to create harmony with a Capital H, harmony with a dash of striking individuality, which is the hall mark of a woman of personality.

To be quite precise, the campaign of dressing well starts from the shopping adventure (it is adventure indeed; hopping from shop to shop and parading a whole market in the desperate quest of beauty to wrap ourselves in, is quite an adventure!). And here it is that you are apt to be trapped by the treacherous pit called "Fashion." But wise women will escape this snare by making discretion and good taste come to their aid. She will be quite up-to-date and modern but with the ingenious knack of amending and adopting fashion with her creative and imaginative ability to suit her person—she dexterously keeps the metre but varies the rhythm. Another mistake that many a woman make is wearing the same colours and styles for ages just because they think that that is their type and that experiments to change their particular mode of dressing will prove disastrous. So often have I seen women with sallow colouring sticking to pastel shades of pink, egg-blue and lilac, just because they happen to be their favourite colours and just because these colours suited them wonderfully when they were in their teens with a

healthy, fresh, blushing complexion. Whereas a deviation into flame or orange set-off with black, or even a magenta saree with a purple border, would have given a new lease to their personality.

Take a dark girl. Certain shades of green, the unrelieved black, and shades like sherbet pink won't be wise; but contrary to popular belief shades of red, the lovely claret, the black-prince, and burnt-brick-red for instance, suit most dark complexions, as anyone with a colour-sense can see. So don't put aside a new coloured saree with the resign "Pretty but won't suit me."

With your type in mind and a little gay daring, ask yourself if you have not allowed your type of saree to become dull and stereotyped. If that is the case neither you, nor your husband nor your friends will look forward to your new dress, and you will miss all the exhilaration of that gasp of surprised admiration that is due to you (also from your own mirror) as a woman of charm.

So a careful scrutiny and criticism of self, compounded with the lively keeping-up with the conditions of your age, bodily proportions, colouring (and your husband's purse of course) will help to dress you to a smarter, and more harmonious personality—without being one who tries to ape the Siren of the Silver Screen with a ludicrous effect, or one who allows herself to become a dowdy, old-fashioned being, stagnantly unimaginative in the sartorial art.

Hence do not ignore the importance of knowing how to dress. Do not belittle it. There is no stratum of life in which attractive clothes are not better and wiser than ugly ones. There is no compelling virtue in us to make those we love quite forgive us for looking our worst, when we might by taking thought, look our best. It was that wise and witty Sheridan who said to Garrick "Dress does make a difference, Davy."

LOVE THY NEIGHBOUR

RAMA SRINIVASAN

"Proximus a lectis ignis defenditur aegre."—Ovid.
[When a neighbour's house is on fire, the flames are with difficulty kept from your own.]

THE Guptas have just vacated their house" were the words my wife greeted me with, when I returned from office that Saturday afternoon. I would have realised as much, without her informing me, for all was quiet on our western front. It seemed a veritable lull after a storm. My wife and I heaved a sigh of relief as we came out to sit in the front verandah, to enjoy the strange peace that pervaded after four stormy months. I assure you we were not being unneighbourly. When we moved into this house four months before, we had determined to be as neighbourly as any one could have wished. But you know how it is

As we lounged in the verandah, my wife and I were thinking of the same things—all that had happened during the four months we had the Guptas as our neighbours

"Who are our neighbours?" asked my wife two or three days after we had moved into this house.

"The house on our left is unoccupied and on our right are the Guptas. Not a bad chap—Gupta. Only, the opinion he has of himself seems to be somewhat higher than what the rest have in the office."

"Mrs. Gupta seems to be the most unhelpful sort. I have had to go over twice or thrice before engaging the servants and the milkman to find out what the others paid them. She seemed to be quite annoyed with me when I asked her all these details."

To men who are away at their offices the whole day, it does not make much difference who their neighbours are. But to women at home it matters a lot. We were both of the opinion that one of the nicest things in life is to have neighbours who like you and whom you like.

A Bad Beginning

My wife tried her best not to let Mrs. Gupta's initial annoyance prejudice her. She tried to observe peace on this side of the fence and go on goodwill missions across the frontier. But she had to contend against heavy odds. It takes two to make friends and the whole business had had an unfortunate beginning.

Several incidents contributed towards the building up of a state of high tension. When Mr. and Mrs. Gupta called on us, their Little Terror came along too. When my wife served drinks, the boy knocked over a glass from our best set, and spilt lemonade all over the carpet. My wife borrowed a book from Mrs. Gupta and our dog had a go at it. One day a tennis ball came whizzing over and broke two of our drawing-room window panes. And as it turned out the Little Terror was a gramophone-maniac. From the time he woke up in the morning till the time he decided to give his body some rest at night, their gramophone blared the same half a dozen songs over and over again, till my wife felt she would go crazy. This sort of thing went on till the servants and the dogs also took to

November 1954

LOVE THY NEIGHBOUR

69

the field. Mrs. Gupta complained that our servant threw all the rubbish from our house, over the fence, into their compound. There was a regular pitched battle between the two servants and Mrs. Gupta branded our servant the aggressor. The dogs joined the fray too. My wife reported that their dog dug up our vegetable patch. Mrs. Gupta retorted that our dog had nearly bitten her poor child. "That Enfant Terrible teased our poor dog so. What does he expect in the bargain?" said my wife.

You must of course understand that all this warfare took place only indirectly through subsidiaries as in the Korean war between the Reds and the U.S. One can hardly expect such relations to promote neighbourly love.

The Olive Branch

Such was the state of affairs when the Singhs moved into the house to the east of ours. My wife made friendly overtures to Mrs. Singh and did all for her that Mrs. Gupta had failed to do for us, when we first moved in. She went over and offered to help Mrs. Singh, gave her suggestions to solve the various household problems. She wanted to set neighbourliness on a proper footing right at the beginning. She felt glad that she had made up for her lack of neighbourly love for Mrs. Gupta.

Gupta was transferred, and that Saturday they vacated the house. We felt that as they had left, all was right with the world, and everything was as it should be. My wife thought she would get on splendidly with Mrs. Singh. And she hoped we would have better neighbours in place of the Guptas.

"Oh peace, it is a gentle thing

Beloved from pole to pole"

mused I, as we sat in the verandah, drowsily discussing the past affairs,

Then came the bolt from the blue, shattering the silence and the peace. The Singhs had visitors and they were all talking loudly, discussing their neighbours, among other things.

Cats and Dogs

"The Guptas have been transferred, and they have left," Mrs. Singh was saying. "I wish the Madras next door had gone instead. The lady next door was always quarrelling with Mrs. Gupta. And I suspect she is the meddlesome type. You know the very day we moved in here, she came over, ostensibly to offer me help. But I suspect it was more curiosity that made her come over. Why couldn't she wait for a couple of days, till we had got everything in order? Or did she think we could not get on without her help? I don't know how we are going to get on, as she is the overbearing, bossy and interfering type And you know they have a horrible dog which has been chasing our poor cat up the tree ever since we came"

"Oh dash it. How does one love one's neighbour?" I said, stealing a sly look at my wife to see how she was taking it. I was quite tired of the whole business. I wondered if there was going to be an angry outburst from her.

But there was none. She was terribly hurt at first, but she took the whole thing in good spirits. She thought of her own opinion of Mrs. Gupta, and gave a short laugh as she said, "Well, there are things one is not supposed to hear. But dogs will be dogs. Surely Mrs. Singh does not expect our dog to sign a non-aggression pact with her cat, does she?"

I heaved a sigh of relief. "I don't know. But I do wish you and Mrs. Singh would issue a no-war declaration" said I, as I turned over to complete my Saturday afternoon snooze.

SOUTHERN RAILWAY.

TENDER NOTICE

Quilon—Ernakulam Railway—Construction of Station Building at Kottayam.

The Chief Engineer, Southern Railway, Park Town, Madras-3, invites sealed tenders for **Construction of Station building at Kottayam**, upto 12 hours on the **3rd December, 1954**.

Tenders should be in the prescribed form obtainable from the Chief Engineer's Office or from the Executive Engineer's Office, Quilon-Ernakulam Railway Construction, Ernakulam South, from the Assistant Engineer's Office, Quilon-Ernakulam Railway Construction, Quilon, upto 12 hours on the 1st December, 1954, on production of receipt from the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, or from the Station Masters, Ernakulam South or Quilon for payment made towards the cost of tender forms at the rate of Rs. 10 per each set of tender forms and Rs. 2 per spare schedule, only if available, which amounts will not be refunded.

An earnest money of **Rs. 2,000** is to be paid to the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, before 15 hours on the 2nd December, 1954.

Income-tax clearance certificate, in original, should be attached to the tender.

Tenders will be opened at 11 hours on the 4th December, 1954.

The Chief Engineer does not bind himself to accept the lowest or any tender.

SOUTHERN RAILWAY

TENDER NOTICE

Quilon-Ernakulam Railway Construction—Supply of Stone, Jelly, Sand, etc., for construction of 2—60 feet spans (Skew) girder bridge No. 415 over Edachal Kayal.

The Chief Engineer, Southern Railway, Park Town, Madras-3, invites sealed tenders for the supply of materials for constructing **Major Bridge No. 415 over Edachal Kayal** upto 12-00 hours on 22-11-1954.

Tenders should be in the prescribed form obtainable from the Chief Engineer's Office or from the Executive Engineer's Office, Quilon-Ernakulam Railway Construction, Ernakulam South, or from the Assistant Engineer's Office, Quilon-Ernakulam Railway Construction, Quilon, upto 12-00 hours on the 20th November, 1954, on production of a receipt from the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, or from the Station Masters, Ernakulam South or Quilon, for payment made towards the cost of tender forms at the rate of Rs. 10 per each set of tender forms and Rs. 2 per spare schedule, only if available, which amounts will not be refunded.

An earnest money of **Rs. 500** is to be paid to the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, before 15-00 hours on 20-11-1954.

Income-tax Clearance Certificate, in original, should be attached to the tender.

Tenders will be opened at 11-00 hours on 23-11-1954.

The Chief Engineer does not bind himself to accept the lowest or any tender.



RAILWAY SUCCESS AT Y.M.C.A. ATHLETIC MEET

A. B. KRISHNASWAMY

Senior Labour Welfare Inspector (Sports)

THE Athletic Meet conducted by the Y.M.C.A. College of Physical Education on the 24th and 25th September, 1954 concluded on 25th September, 1954 with the Southern Railway winning the Team and Individual championships. Over 170 athletes drawn from the Indian Air Force, Engineering College, Southern Railway, Special Armed Police (Madras and Andhra), Y.M.C.A. College, Teachers' College, College of Indian Medicine, Vivekananda College and Malabar Special Police took part.

The proceedings of the first day opened with the 1,500 meters race and as anticipated, Prem Kumar of Loco Works, Perambur, came out successful clocking 4 mts. 22 secs. Not content with his success in this event, Prem Kumar had a go at the 800 metres flat race which he won, thus giving the Railway a starting lead of 10 points. Prem Kumar exhibited a high standard of pace judgment which is so important in middle distance races, specially while running against new opponents.

K. K. Nair of the Seniority Section, who spent the early part of the Athletic season in conventional forms of exercise, flew over the pole vault cross bar



Shri K. K. Nair cleared 10 ft. 5½ inches in pole vault

at a height of 10 ft. 5½ inches, giving the Railway the first place and an advantage of another 5 points.

A smashing 3,000 metres race on the final day saw G. Lakshmanan, Sanitary Inspector, New General Offices, Madras, at his best. Lakshmanan whose performance was not to the standard last year, staged a determined come back. He ran a glorious race although he was strongly challenged by the Police and Air Force representatives in the early rounds. Lakshmanan managed to reach the finishing tape about 50 meters ahead of them in 9 mts. 42 secs. The only athlete who followed him closely was his team mate, 17 year

old Shunmugam of the Complaints Section. The score now went up to 23.

In the 110 metres Hurdles, the Flying Fireman C. D. Cleur caught the eye of every spectator when he cleared the 10 fences with lightning speed and grace. He then won the Triple jump and was placed second in the broad jump while his team mate Ramsbotham of the District Traffic Superintendent's Office, Trichinopoly, came first with a leap of 21 ft. 4½ inches. By this time the score had gone up to 46 points. By winning 2 first places and one second place Cleur got the unique distinction of being declared the Individual Champion of the Meet.

S.R.A.A. Athletic Team which won the Team and Individual Championship at the Y.M.C.A. Invitation Athletic Meet held at Saidapet on 25-9-1954.

Standing:—V. Martin, L. Ramsbotham, Prem Kumar, Ian Trower, Govindaraj, K. O. Bosen, A. B. Krishnaswamy (Team Coach and Manager), R. D'Sena, Shunmugam, K. K. Nair, C. D. Cleur (Winner of Individual Championship).

Sitting:—George, E. Stevenson, Mascarine, G. Lakshmanan, M. Muthappa.



Flying Fireman C. D. Cleur (extreme right) of Egmore Loco Shed in action over the Hurdles. He subsequently won this event and also annexed the Individual Championship.

Govindaraj, Clerk, District Engineer's Office, Bangalore City, was applauded when he beat Ivan Jacob of the Malabar Special Police, the National Record Holder in the 400 metres flat. The whole audience stood on their toes when the champion clashed with the Railway Athlete in his first heat. Ivan fought well to the end but yielded to the superior speed of the Railway Athlete. This is the first time Govindaraj takes part in a class meet. A determined runner, he took to training seriously and has brought honour to the Railway.

Six feet tall, Assistant Train Examiner Ivan Trower of Madras Egmore, jumped the 6 feet high cross bar to raise the score from 51 to 56 for the Railway. Coaches agree that high-jumping is notoriously one of the most

uncertain of events. But Ian Trower, who won this event, showed wonderful consistency. His improvement during the last three years is phenomenal. It was a feast for the eyes to see Trower clearing 6 feet in a grand western roll. High jumpers in India who can clear 6 feet are very few. Ian Trower is one among them.

Throwing the javelin, known among Greeks as throwing the spear, is an event the Railway can always be sure of winning. Oswald Bosen, the tall slim spear-thrower, who always assures the Railway with javelin successes made a double in this meet by winning the discus throw also, adding 10 points to the score.

The Southern Railway 'flash' and Indian Railways' fastest runner, Vincent



Vincent Martin of Golden Rock breasting the tape for the first place in 100 metres flat race.

Martin of Golden Rock, got off from an excellent start in the finals of the 100 metres race and kept it up throughout and did not allow his serious challenger Ivan Jacob of Malabar Police, the State Record Holder, to catch him. In the 200 metres he came second to the policeman, losing the first place by a very narrow margin, thus giving the Railway another 8 points. The total score now was 74.

400 metres Hurdles was won by Muthappa of the District Traffic Superintendent's Office, Bangalore.

In the 16 lbs. Hammer-throw, two Sikhs from the Air Force were leading till the last but one throw. But D'Sena, the heaviest man from the Golden Rock

Workshop heaved the Hammer over 116 feet in his last attempt to win this event.

I come finally to the Relay Races. "It is the speed of the Baton that counts" says Britain's Chief Coach Mr. Geoffrey Dyson. This has been amply justified by the lightning passing of Batons by the Railway team which won both the 4x100 and 4x400 metres relays giving the Railway the grand total of 104 points.

The meet has given a fillip to the Railway athletes and it is definite that given further opportunities, the Southern Railway will be in a good position to meet the challenge from other Railways.

Secretaries of our Institutes and Athletic associations are requested to send in reports of all their activities accompanied by suitable photographs wherever available.

CHILDREN'S CORNER

How Did It Start?

THERE must come a time when a boy or girl looking at something will wonder who first made it, or how it first started? These are questions we often ask ourselves. For instance, if we hold a lovely flower, we have learnt from our nature lessons in school that the flower first started as a seed which had to be planted in the earth. So even with a nice juicy mango we may be eating, because if we take the seed of that mango and plant it in the garden, before many days pass we see the little mango plant shoot up out of the earth. But there are other things we see and use around us which must have had a start at some time in the days gone by. So let us try and find out about some of these common every-day things.

You wake up in the morning and find yourself sitting up in bed. You stretch and yawn and want to lie down again in your nice soft bed. Now where did the bed come from first? It is said that these were first thought of and made in Persia or Asia Minor. Now what did you sleep on? Cotton bed sheets. Well, the use of cotton for making things like sheets and clothes first started in our land of India.

It is time for you to have a wash. You step into the bathroom. Perhaps your bathroom has fancy-coloured tiles, or small porcelain squares. Now, where did these come from? The tiles came originally from the Near East, and porcelain was first made in China. After you have filled your wash-basin with water, you reach out for the soap. Now who first thought of making soap? The ancient Gauls. When you clean

your teeth with a toothbrush and tooth-paste, remember that this practice first started in Europe. When you have finished your wash or bath, you flip your Turkish towel off the towel-rail and use it for drying yourself. Have you guessed where this first came from? Turkish towels were first made in Turkey!

Back in your dressing-room you start to put on your clothes. Over your head goes a nice white silk shirt. The silk that made your shirt first came from China. In the cold winter months you wear clothes made of woollen materials. The wool that makes your clothes first came from Asia Minor.

Before you are ready to leave for school you stand in front of your dressing-table mirror to take a good look at yourself. Where did mirrors first come from? These were made first in the countries bordering the Mediterranean Sea. And when you slip on your shoes remember these were first made in that little island called Crete.

You cannot go off to school until you have a good morning meal. So you sit down at the dining table. But what do you sit on? A chair, of course. And that chair was first made in the countries in the Near East. On the table you see spoons, forks and a glass. The spoons first came from Rome, the forks from Italy, and glass was first invented by the ancient Egyptians. And what about the knives? These are made of steel which was said to have been discovered first either in India or Turkestan.

As we all know the people of South India love to drink coffee rather than tea. Now where did the coffee plant come from? It is said that this plant was first discovered in Abyssinia by the Arabs. When we have our cup of coffee, who does not like to add sugar and milk for good flavour and taste? Now sugar was first discovered in India, and the milk came from the cow. Long, long ago, the people of Asia Minor found that milk from the cow was good for human beings, so they milked their cows and thus we got our milk for whatever purpose we want it. Now we must not forget all those people who like their cup of "chha". Tea, as a refreshing drink, was first discovered in China, and was brought to England in the seventeenth century when people had to pay as much as one hundred rupees for half a seer! Phew, it must have been expensive to offer your guest a cup of tea in those days.

What about all the nice, juicy fruits we eat and like today? Ages and ages ago the oranges, the bananas, pineapples, mangoes, apples and so on, grew wild on trees and bushes. Our ancestors did not know which were good to eat and which were not. It was only by plucking and tasting that they soon found out those which were good and tasty to eat. It was in Persia and Asia Minor that men first cultivated fruit trees in large plantations, so that the fruits could be grown and collected when ripe and sent to markets for sale.

And what about eggs? With hardly a passing thought we have our eggs boiled, fried, poached or made into some other delicious and tasty dish. But we do not know when it was first known that the eggs of certain kinds of birds—especially the common fowl—could be eaten by man and was good food. It is however said that the people in South-East Asia first tamed the birds which are now found in our poultry yards, and which give us all the eggs we need for food.

Now there is another useful article we can use both in rain or sunshine. When the sun is blazing hot on a summer's day you take out your big black umbrella and open it to give you some shade. And when it is raining hard your umbrella keeps you from getting a good soaking. Now where did umbrellas first come from? We are not quite sure about this, but it is said that very large umbrellas were first made in our own land—India.

When you travel in a train you may have wondered where the rail coach first started running on the rails. This happened first in England, where the old horse-drawn coach was provided with special wheels so that the coach could roll over steel rails. Eventually, when the steam engine was invented, the horse-drawn coach gave way to the proper rail carriages.

What's that you are jingling in your pocket? Small coins—an eight-anna bit, a couple of four-anna pieces and some annas. Now where were metal coins like these first made? In an ancient country known as Lydia. You will not find this country on the map now, but it was originally situated in Asia Minor, somewhere near the Straits of Dardanelles between Europe and Turkey.

Who has not heard the remark "Isn't this a small world?" We may wonder how this is, especially when we think of the world as we learn about it in our geography lessons. But when we look around our homes, and try and remember where certain articles were first made or invented, we soon find that we have a little of various parts of this wonderful world of ours right here in our own homes. And today, what with airlines and radios, and television, we can have all parts of the world in our midst merely by pressing a switch and twirling a knob.

UNCLE TELLATALE

A GREAT ENGINEERING FIRM STORY OF LARSEN & TOUBRO LIMITED

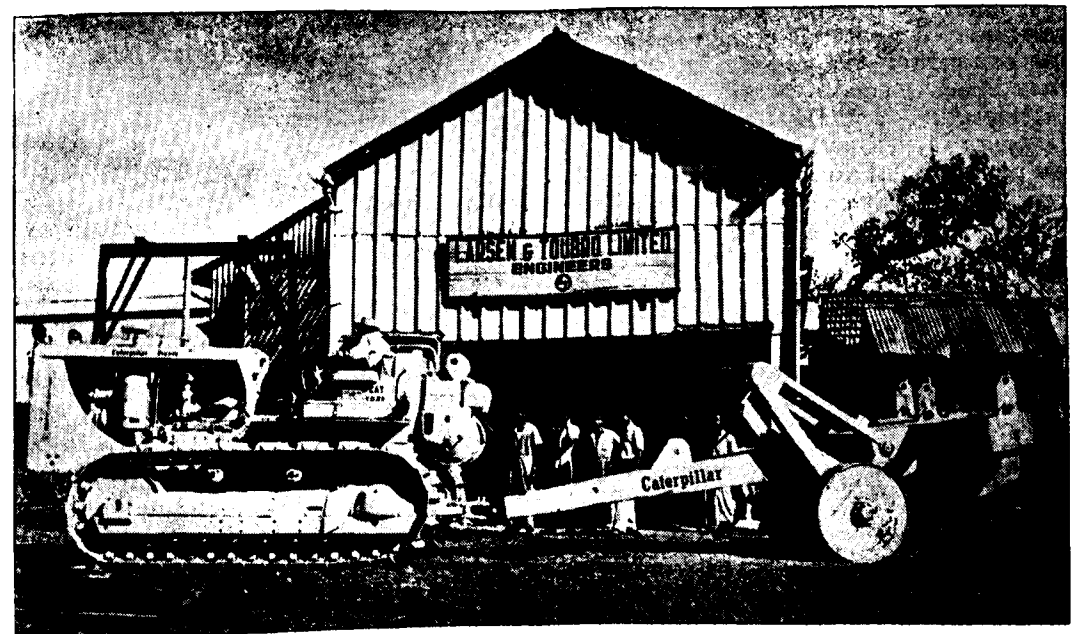
IN 1938, two Danish Civil Engineers, Messrs. H. Holck-Larsen and S. K. Toubro, established the partnership firm of Larsen & Toubro in Bombay. Although the firm started on a very modest scale, there stood behind the venture the highly specialised engineering industry of Scandinavia, which supported and assisted the firm.

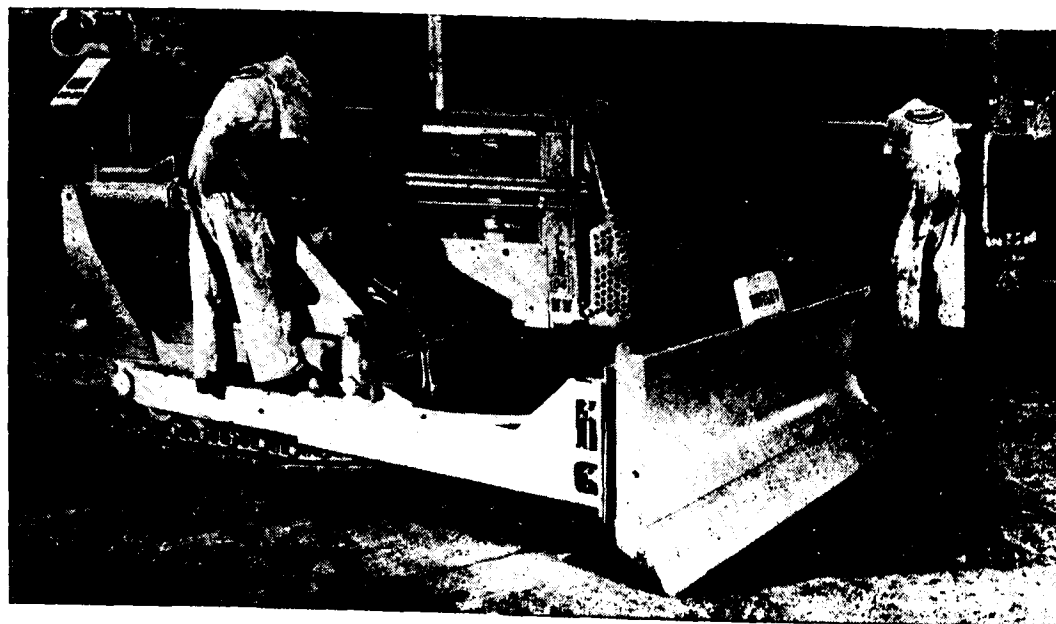
The firm represented a number of European manufacturers, mostly Scandinavian and the high quality of the machinery delivered, together with a reputation for giving effective after-sales service which the firm soon acquired, resulted in a rapidly increasing turnover.

During the last world war, all trade between Scandinavia and India was suspended and the ensuing period was a difficult one for the young and

unconsolidated firm. The partners realised that new avenues should be explored if the firm were to survive war time conditions and at the beginning of 1941, a drawing office and a small workshop were set up and a quite satisfactory turnover in manufactured articles, chiefly dairy machinery and plant, was gradually achieved. Simultaneously, the firm began to undertake repairs of ships' machinery and in 1942 took over from the Government of India the repair ship 'HILDA' for the purpose of effecting repairs to ships and merchant vessels.

In 1951, Larsen & Toubro Limited was converted into a public limited company. The firm had, after the war, expanded its activities and as Bombay could not accommodate the expanding undertaking, the firm acquired 50 acres of land at Powai in Greater Bombay





and set up a large service station, up-to-date workshop, spare parts depot, warehouses, training and proving grounds and offices.

Main Activities

Today the Company works on solid foundations. Its main activities are in the lines of mechanised agriculture, earthmoving equipment, and road building equipment. In addition to this, the firm has specialised in the dairy, refrigeration and bottling machinery business as well as heavy industrial and chemical plant and equipment. To cope with the increasing demands, the Company has established branches at Bangalore, Calcutta, Cochin, New Delhi, Hyderabad and Madras and resident sales representatives, stockists and distributors have been appointed in all the important cities in India. Among the important lines of business represented by the firm are :—

Caterpillar Tractor Co., Illinois, U.S.A.

Rome Disk Plowing Harrows, Georgia, U.S.A.

Boyles Bros., Drilling Company Ltd., Canada.

Blaw-Knox Hi-Boy Trukmixers, U.S.A.

Etnyre Bituminous Distributors, U.S.A.

Hardie Sprayers, U.S.A.

Earth Moving Equipment, The Birtley Company Limited, England.

Milk Cans and Dairy Utensils, Denmark.

W. Meadowcroft & Son Ltd., England, etc., etc.

Indianisation

Several of the top posts in the firm are held by Indians and from its inception the Company has pursued a policy of progressive Indianisation. Many of the firm's employees were sent for specialised training in U.S.A. and Europe.

The Company's lines of business ensure it an ever-expanding market because engineering and specialised machinery connected with food production and food processing are most essential for building a New India.

STAFF NEWS

TRANSPORTATION (TRAFFIC) AND COMMERCIAL DEPARTMENT

Shri P. T. Padmanabha Mudaliar, P.O. (T)/MAS (S.S.), has been promoted to officiate as Dy. C.O.P.S./MAS (J.A.), with effect from 18-9-1954.

Shri P. A. Chidambara Iyer, Offg. A.C.S. (C)/MAS, has been posted as Offg. A.C.S./Claims Prevention/MAS, with effect from 16-9-1954.

Sarva Shri S. S. Viswanathan, A.T.S. (Class II and O.B. Platel, A.W.W. (Class II) are permanently promoted to the Superior Revenue Establishment of the T (T) & C Department of this Railway, with effect from 28-8-1954.

Shri R. Jagannathan, A.T.S. on leave was compulsorily recalled to duty and has been posted to officiate as D.T.S./RPM, with effect from 30-8-1954 A.N.

Shri K. J. Chandy, D.T.S./RPM, has been promoted to officiate in Junior Administrative Grade and posted as Dy. G.M./Amenities/MAS, with effect from 1-10-1954.

ENGINEERING DEPARTMENT

Shri V. C. Rangaswami, Asst. Engineer, on his transfer from the Central Railway, reported for duty on this Railway on 2-9-1954.

Shri M. Sethu Rao, A.E.N./SBC, has been posted as A.E.N./RPM, with effect from 11-9-1954 A.N.

Shri I. V. Vaidyanathan, Offg. A.E.N./RPM, has been posted as Offg. A.E.N./Conversion of RU-GDR M.G. Section into B.G., with effect from 13-9-1954.

Shri N. Shankar Rao, Offg. A.E.N./QLN, has been posted as A.E.N./Preliminary Engineering Survey/Mangalore-Hassan Railway, Mangalore, with effect from 12-9-1954.

ELECTRICAL ENGINEERING DEPARTMENT

Shri R. K. R. Naidu, A.E.E. (Class II), is permanently promoted to the Superior Revenue Establishment of the Electrical Engineering Department of the Indian Railways, with effect from 31-8-1954.

SIGNAL ENGINEERING AND TELECOMMUNICATIONS DEPT.

Shri R. D. Stephenson, Offg. D.S.T.E./TPJ, has been confirmed in the Senior Scale as D.S.T.E. on this Railway, with effect from 11-9-1954.

MECHANICAL DEPARTMENT

Sri P. N. Batra, R.M.E./TPJ, proceeded on two months' leave on average pay from 20-9-1954.

Sri K. V. Krishna Rao, Offg. R.M.E./Mysore is transferred to TPJ, with effect from 20-9-1954 F.N. vice item 1 above.

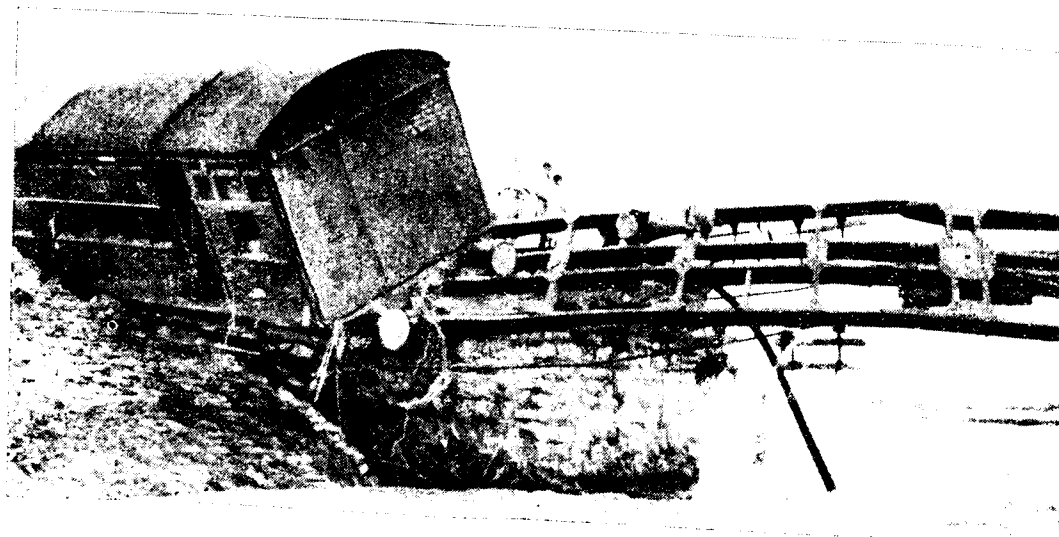
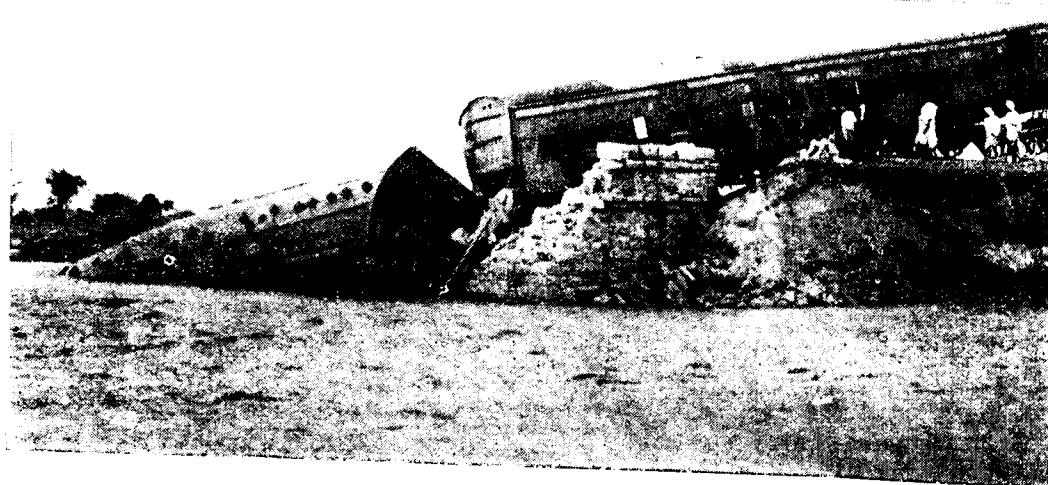
Sri M. Cheluve Urs, R.M.E., on expiry of leave joined duty at Mysore on 18-9-1954 A.N.

Sri R. K. Tyagarajan, Offg. P.E./PWP, is transferred as D.M.E./GTL, with effect from 20-9-1954 A.N.

Sri S. Krishnaswamy, Special Class Apprentice (1949 group), is posted to the working post of A.M.E., with effect from 22-9-1954 F.N. and posted as A.M.E./RPM.

Sri B. J. Thompson, Offg. A.W.M./PWP, is posted as A.M.E./SBC, with effect from 23-9-1954 A.N.

Sri K. Viswanathan, Offg. A.M.E.(F)/MAS, is posted as A.W.M.(L)/PWP, from the F.N. of 22-9-1954 vice Mr. B. J. Thompson.



*Pictures showing the unfortunate train disaster near Aler on the Central Railway.
Courtesy "The Hindu", Madras.*



MADRAS GOVERNOR TRAVELS BY ELECTRIC LOCO

Shri Sri Prakasa, Governor of Madras had a ride in an electric locomotive from Guindy to Tambaram on October 4. On arrival at the Guindy Railway station, the Governor was received by Shri A. R. Rao, Senior Deputy General Manager, Shri K. Sambamurti, District Traffic Superintendent, Madras Egmore and Shri N. Ramamurti, District Elec. Engineer (Traction), Tambaram and other officials of our railway.

On reaching Tambaram, the Governor paid a visit to the Electric Traction Workshop where he spent some time studying the type of work that was carried on there in respect of repairs and maintenance of the electric railway units. On arrival at the workshop, the Governor was received by Shri B. Govindarajulu, Car Workshop Foreman, who took him round. Shri Ramamurti explained to the Governor the various types of equipment used and the nature of the work that was carried on in regard to maintenance of the electric traction units and their repairs.

Madras Governor inspects the Electric Traction Workshop, Tambaram.



Courtesy "Swadesamitran"

UNION MINISTER'S VISIT TO I.C.F.

Shri K. C. Reddy, Minister for Production, Government of India, paid a visit to the Integral Coach Factory, Perambur, last evening. He visited the Technical Training School, the Project Works and the Staff Colony.

He was later accorded a reception at the spacious lawns of the Administrative Office and entertained to tea by the officers of the Project. Welcoming the Minister, Shri K. Sadagopan, the Chief Administrative Officer, referred to the keen interest which, as Minister for Production, he was evincing in all industries in the Public Sector, of which the Integral Coach Factory was one and explained that this was one of the many projects which the Indian Railways had launched towards attaining self-sufficiency. He added that when the factory went into full production, the country would have attained full self-sufficiency in coaching stock and

that with the introduction of a second shift we would be in a position to supply coaching stock to neighbouring countries as well.

In his reply, Shri Reddy expressed great satisfaction at the remarkable progress made in the construction of this project which, when completed, would not only make the country self-sufficient but also enable us to export coaching stock to other countries. In this connection he referred to the continuously expanding nature of our economy and emphasised the need for all planning to keep this in view. The biggest national undertaking in India was the Railways and he was happy to note that they were expanding on the right lines. He was greatly impressed with the way the factory was planned and with the way the plans had been worked up to. He also expressed satisfaction at the location of the Factory in the outskirts of a City, thereby cutting down the need for



heavy capital investment in building a township as at Chittaranjan, though it was somewhat against the generally accepted principle of dispersal of industries. He was pleased to note the confidence the officers of the Project had in themselves and in their ability to build the Project according to plan. He called upon them—most of whom were comparatively young—to take their full part in the adventure of building up the new India, without getting tired of their work and to keep up their enthusiasm and energy and soak themselves in the feeling that they are doing something worthwhile not only for themselves but also for the country.

Shri Reddy also referred to sanctity of the day as the Birthday of the Father of the Nation whose ideals they had constantly before them and he wished that all officers and staff of the project would buy khadi hundies according to their capacity and try to help the khadi industry, which was so dear to Mahatma Gandhi.

RAILWAY EMPLOYEES CONSUMERS' CO-OPERATIVE STORES, MYSORE

The inauguration of the Railway Employees' Consumers' Co-operative Stores Ltd., Mysore was performed by Shri M. Rama Rao, District Signal and Tele-Communication Engineer, Southern Railway, Mysore Region, Mysore, on 7th October. In the course of his address he said :

"It is a happy augury that the stores begin to function from this Vijayadasami Day, which day is reckoned as the victory day announcing righteousness, justice and equity right from the old Mahabharatha times.

"You are aware that the Railway Board, keen as they are to promote the well-being and happiness of the employees on Indian Railways (who by the way as you know form practically one in every 400 of India's population) suggested the formation of these consumer co-operative stores on Indian Railways, as early as August

1949. They have offered certain concessions in the matter of building facility as well as payment of membership fees, etc. from the salary of the employees in easy instalments. The grant for the first three years of a subsidy not exceeding half of the administrative and establishment charges is another of the concessions, and I am sure, the co-operative stores inaugurated today will be able to sustain on its own even before the expiry of this stipulated term. Owing to various circumstances which were inevitable, this store begins to function from today. There is a fairly good membership, which I learn is nearly 250. As has been the usual custom, from these small beginnings, I am sure the stores will develop into a very useful organization for the benefit of railway employees in this area. The Railway employee as you know is a "24-hour man," his services being called up any time during night or day. This great advantage of procuring all his domestic requirements at one central place, will largely minimise his having to move from one place to another.

"Personnel forms the key-note to success of an organization like this and I would lay stress on the need to maintain those laurels of honesty and integrity always in full bloom. The Railway Board have stressed certain cardinal principles, which I would like to repeat here and which should be the guiding factors in furthering this co-operative stores.

"Firstly, the efficiency of the co-operative stores depends upon its satisfactory management which is generally carried through the proper and close supervision of the Secretary.

"Lack of adequate membership has been largely attributed to want of sufficient inducement to the staff, by not meeting in full the demands of the railway employees and this aspect should not be lost sight of. The stores should in fact make the railway workers feel that he should not go out to buy anything of his normal requirements.

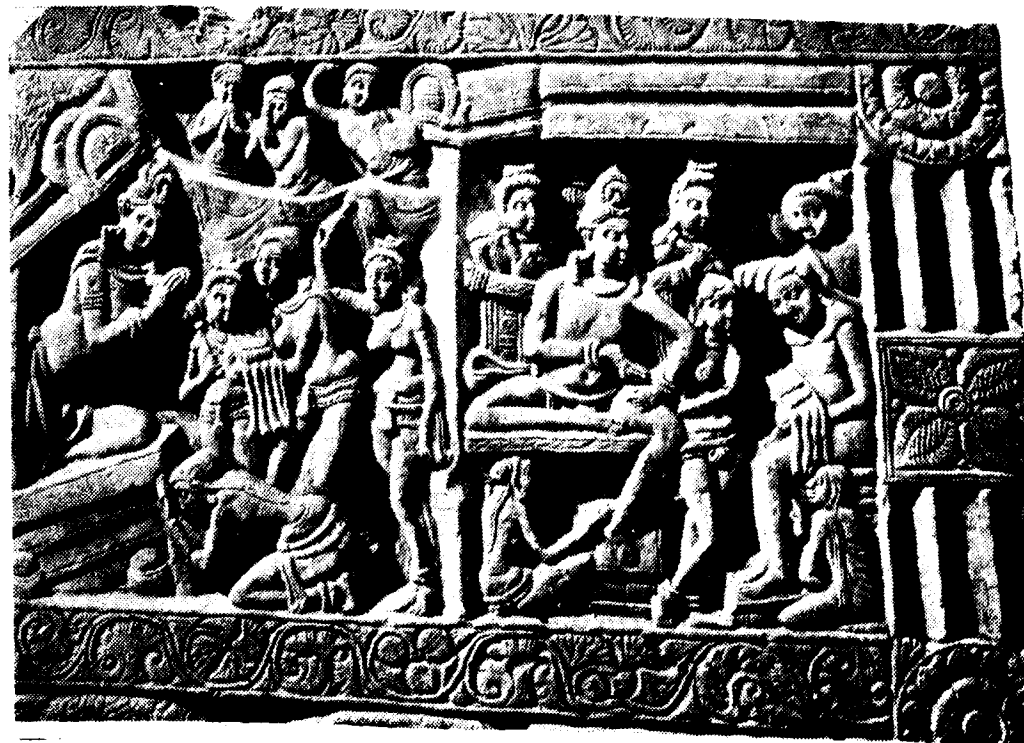
"The other healthy principle is to have cash transactions and a check on the same as often as possible.

"I am sure you all know that the Railways are a product of co-operative organization and effort, and a Railway worker, be he at the top or bottom, contributes to its running and efficiency. Therefore, I do feel quite sanguine that this co-operative stores forming a limb of the railway organization will meet with the same amount of earnest co-ordination, with you all as its

1954, by Shri T. Viswanatham, Finance Minister of Andhra.

Situated on the right bank of the river Krishna, Nagarjunakonda is about 10 miles from Macherla, the terminus of the Guntur-Macheria section of this railway and was discovered after an excavation in 1926.

The Union Education Department deputed a committee sometime back following representations from the Archaeological Department that a



Asita Mahamuni interviews Siddhodana.

Courtesy "Andhra Patrika"

members, and will grow to be one of the most popular institutions. It should be nourished with the same care and attention as you would give a favourite plant."

NAGARJUNAKONDA EXCAVATIONS

Large-scale archaeological excavations at Nagarjunakonda, important seat of Buddhist culture in ancient days, was inaugurated on October 17,

Nagarjunakonda would be submerged on the execution of the Nandikonda Project and further exploration of the ruins and relics there would be rendered impossible.

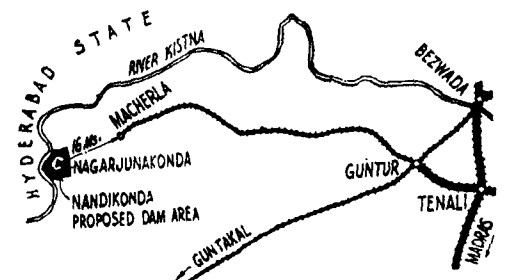
The Archaeological Department believes that further excavations at Nagarjunakonda would lead to the discovery of precious relics and valuable information relating to the Buddhist period.

Nagarjunakonda, named after its builder, Nagarjuna, an ardent devotee of the Buddha, is believed to have flourished as a Buddhist pilgrim centre. Pilgrims from Ceylon, Japan, Burma and China and other countries under Buddhist influence are believed to have come and settled down there. The belief among Buddhists that a sacred tooth of the Buddha was preserved in one of the shrines at Nagarjunakonda accounted for its importance as a pilgrim centre.

The earlier excavations at Nagarjunakonda led to the discovery of ruins of monasteries, shrines, prayer halls, stupas and exquisitely-carved sculptures of the Buddha. Around the main stupas, now in ruins, are white marble slabs on which are inscribed the "Jataka Kathas" (story of the Buddha's incarnations). The relics and sculptures found at Nagarjunakonda are believed to be rare specimens.

The inscriptions also give valuable information about the Ikshwaku Dynasty to which Virupaksha, during whose reign the construction of Nagarjunakonda city is believed to have been completed, belonged.

If further relics are excavated, the place may soon develop into an important centre of interest, not only for Buddhists but also for lovers of ancient Indian art and culture.



Courtesy "Andhra Patrika"

Buddha and children.



November 1954

CEYLON RAILWAY DELEGATION

A railway delegation from Ceylon with the Hon'ble Montague Jayewickreme, Minister for Transport and Works, Ceylon Government, as its leader, is at present touring the country.

The delegation arrived in Bombay by air on the 13th October 1954 and was received at the airport by Shri K. P. Mushran, Member (Staff), Railway Board and the General Managers of the Central and Western Railways. Among other places, the delegation visited the Matunga Railway Workshops on October 14. A pleasant garden party was arranged in their honour by the General Managers of the Central and

Western Railways on the lawns of the Western Railway Offices at Churchgate.

On October 15 the delegation arrived at Delhi. They visited Rajghat and laid wreaths at the Samadhi of Mahatma Gandhi. On October 16, they paid a visit to Amber Fort and Palace, the seat of the rulers of Jaipur till 1728. They also visited the City Palace, the "Pothe Khana," the "Hawa Mahal" and an emporium of Rajasthani arts and crafts and later the Jaipur Museum which has antique collections of metalware, jewellery, etc.

They returned to Delhi from Jaipur and concluded on October 19 their two-day discussions with the Indian Railway Board before they began a fortnight's tour of railway establishments

The delegation being received in Bombay by the Member (Staff) Railway Board and the General Managers of the Central and Western Railways



November 1954



The Deputy Minister for Railways and others received in delegation at Delhi airport

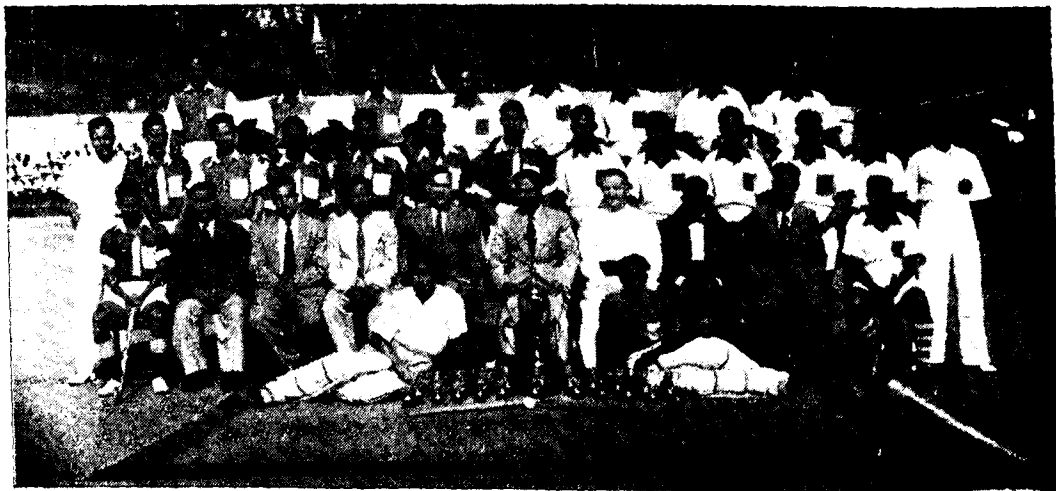
throughout the country. Among the subjects discussed at the meeting with the Railway Board was a suggestion that a team of Indian Railway Officers should visit Ceylon under the Colombo Plan to study the working of the Railways in that country. Discussions also related to subjects like the railway rates and fares structure, standardization of rolling stock on the Indian Railways, research on the railways, statistical procedure, cost analysis and allied questions. Shri Pande, Chairman of the Railway Board, presented to the visitors copies of the Indian Railway Centenary Commemoration volume.

The delegation arrived in Lucknow and on October 20 paid a three-hour visit to the Railway Testing and Research Centre at Alambagh. The members of the delegation evinced a keen interest in the activities of the Research Organisation. They also visited field-test units.

**POLICE CONSTABLE'S ACTION
PRAISED**

The Government of Andhra have expressed their appreciation of the presence of mind, devotion to duty and the bold action of Railway Police Constable No. 934, Shri M. Subba Rao, who, on the night of July 13, 1954, opened fire with his musket on a gang of defiant looters, about 25 in number, who had attacked the goods train No. 1734, running between Kadiam and Biccavolu on the Rajahmundry-Waltair section of this Railway. On opening fire, the looters dispersed, leaving behind the looted property.

The timely action of the Police Constable taken with utter disregard for personal safety was able to save valuable stocks of iron rods in the goods train. It also resulted, later, in the arrest of several culprits, who were alleged to have been involved in the raid.



Wellington Gold Cup Hockey Tournament, 1954—Finalists, Southern Railway
Tambaram and Madras Regimental Centre, Wellington. The winners,
Southern Railway, Tambaram are seated on the left

NEW METRE GAUGE DIESEL RAIL CARS

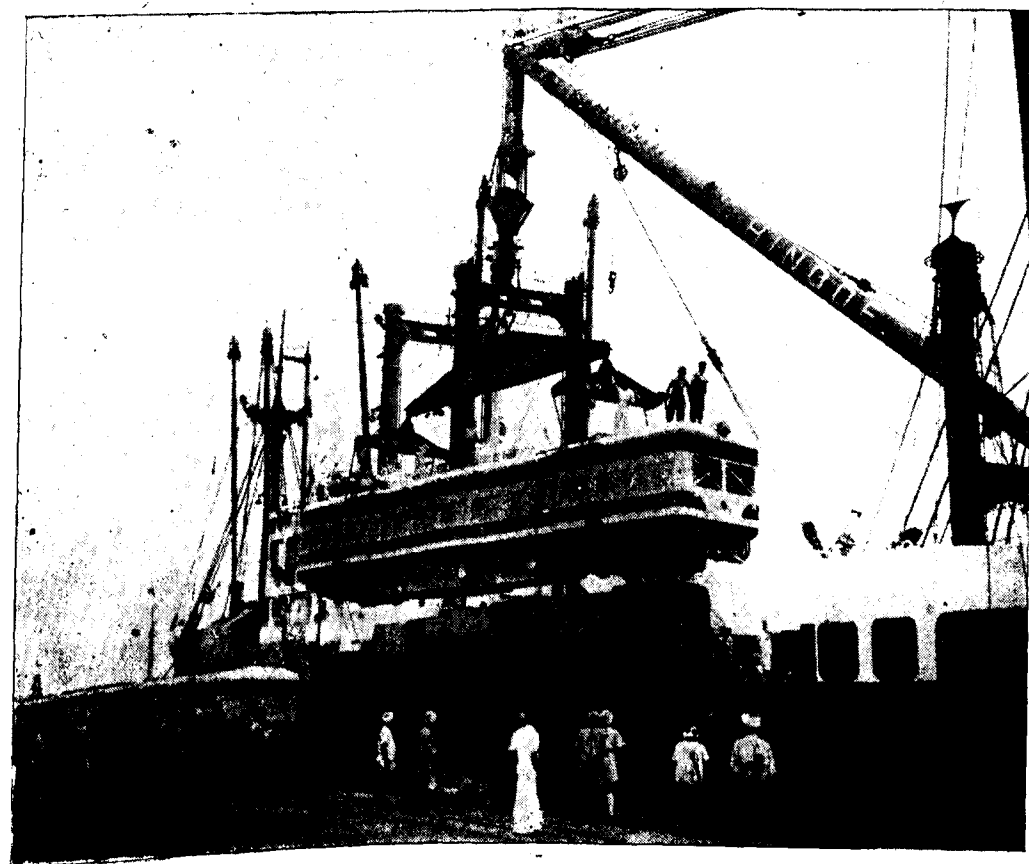
Twelve new Diesel Rail Cars ordered by the Southern Railway from Japan were received recently at the Madras Port by s.s. "Kasuga Mara". The Rail Cars were built by Messrs. Nippon Sharyo Seizo Kaisha Ltd., Nagoya, Japan, with whom an order for 75 metre gauge steam locomotives has also been placed by the Indian Railways. The Rail Cars have been sent to Golden Rock workshops and will be put into service shortly on the Trichinopoly-Lalgudi, Trichinopoly-Karaikudi and Trichinopoly-Mayavaram sections.

The Rail Cars, which look extremely attractive both inside and outside, are provided with flat 180 BHP Diesel oil engines which are placed completely

beneath the underframe, thus not taking up any body space of the car. The overall length of each car is about 64'-6" over buffers.

The cars provide only third class accommodation with double rows of two-seater transverse seats with a corridor in the middle with the exception of one long seat for five at the non-driving end of the car. Each car is provided with a driving compartment at one end of the coach with a nicely cushioned seat for the driver. There are two lavatories each fitted with a stainless steel commode and wash basin, mirror, shelf and flushout taps for commode and wash basin and a Lotah tap. The cars have ample ventilation with wide windows, roof ventilators and plentiful supply of

A car is unloaded



the
name
to
go by...



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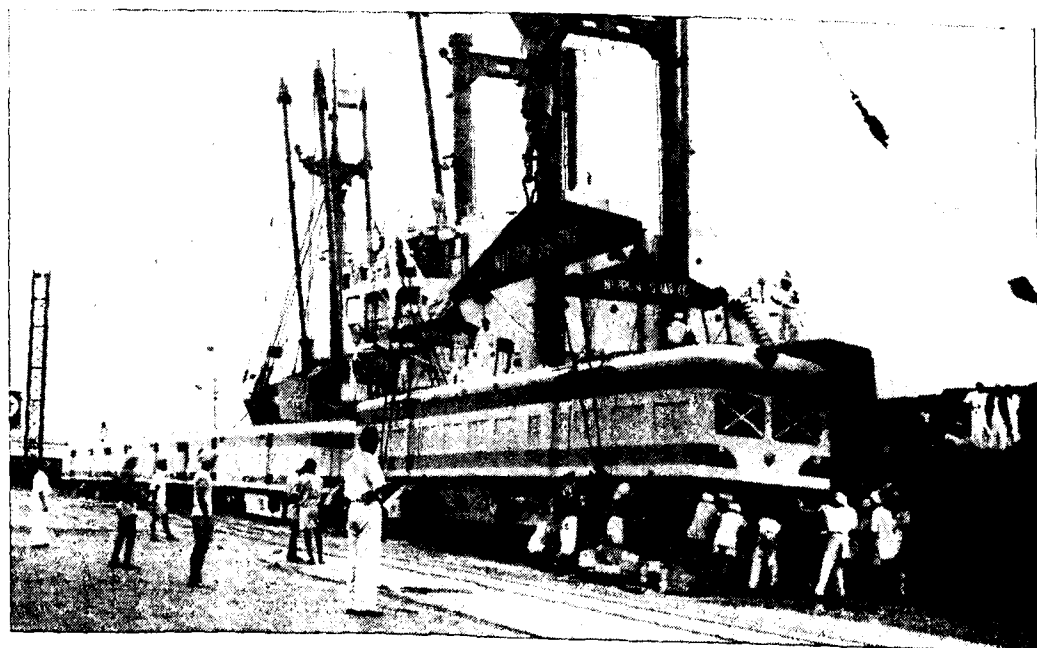
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18 electric fans with adequate lighting arrangements. On both sides of the car, longitudinal light luggage racks are provided. Coat hooks are available in between windows. The windows of these cars are very large in size about 4' x 2' and each window has two shutters, one glass and the other metal louvre lifting up to open. In spite of the large size of the shutters they are very easily manipulated and run with perfect ease in their grooves and are held in open position by a spring catch.

The cars are so designed as to be suitable for running either singly or in multiple operation with two together. If the car is run singly, it would require to be turned for the return trip as it has the driver's compartment at one end only. If two are run together as a double unit, the question of turning will not arise.

MACHINERY FOR INTEGRAL COACH FACTORY

The first consignment of machinery for the Integral Coach Factory, Perambur, arrived in Madras Harbour by the **Dan Y. Bryn** and s.s. **Indian**

Shipper. Shri O. V. Alagesan, Deputy Minister, Railways, accompanied by Shri K. Sadagopan, the Chief Administrative Officer, and other Officers of the Integral Coach Factory, visited the Harbour on this occasion and witnessed the unloading operations. The first consignment consisted of 140 arc welding sets and 21 machines, most of them from Germany and Switzerland.

In this connection, it would be of interest to mention that orders have been placed abroad for 260 welding sets and 283 machines of the most up-to-date type costing about a crore and 7 lakhs of rupees. Orders have also been placed for indigenous machinery costing about 12 lakhs of rupees. Orders for important machinery were placed after a detailed assessment of the requirements in consultation with the Swiss Consultants, Messrs. Swiss Car and Elevator Manufacturing Corporation Ltd., with whom the Government of India have entered into a Technical Aid Agreement and after calling for global tenders. Competitive and favourable terms regarding delivery and price were obtained, as a result of

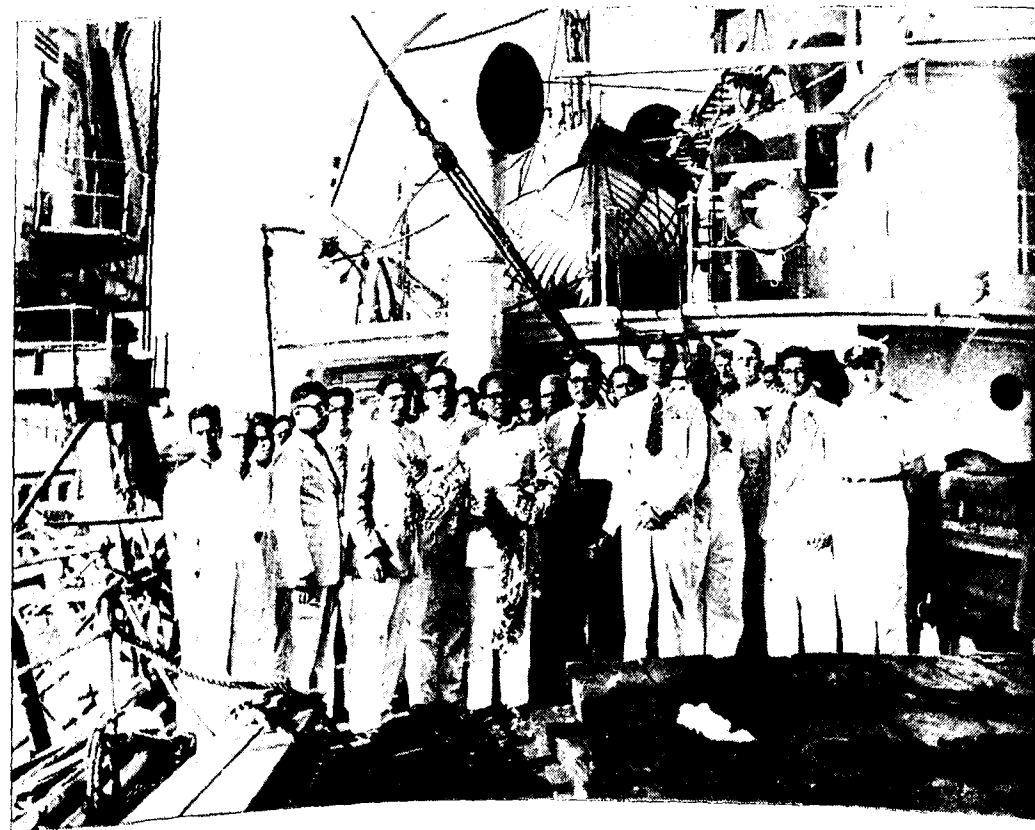
on-the-spot negotiations, before placing orders. Sixty per cent of the orders for imported machinery have been placed on firms in Germany, 15 per cent in Switzerland, 15 per cent in the United Kingdom and the balance of 10 per cent in Czechoslovakia, France, Italy, Belgium and Sweden.

The construction of the all-welded all-steel tubular coach involves the pressing and forming of sheet metal in various shapes and contours and for this purpose heavy guillotine shears, press brakes and hydraulic presses have been ordered. Orders have also been placed for the most modern high production turret and capstan lathes and other automatic machines, besides the normal complement of drilling, slotting and milling machines for the Machine Shop. The Smithy Shop would be equipped with double acting Beche

hammers which were specially selected to suit the soil conditions obtaining in Perambur. These hammers do not require very deep foundations and are the most modern drop stamp hammers which are gradually replacing the single acting drop hammers formerly being used. The Wheel Shop will have a big tyre turning lathe, axle press and axle grinding machines. To clean the surface of the coach body shell prior to painting, a big grit blasting plant at a cost of about Rs. 2 lakhs is being obtained. This grit blasting plant will be worked in a closed chamber through which the coach body shell would be passed.

In addition to the machinery mentioned above, the Shops will also be equipped with 30 cranes and 3 traversers and a good number of modern lift trucks and lister trucks.

Shri Alagesan witnessed the unloading of machinery



SOUTHERN RAILWAY

TENDER NOTICE

Bezwada—Remodelling of Yard—Construction of Type I and II Quarters, forming of Roads and Construction of Bridges.

The Chief Engineer, Southern Railway, Madras, invites **SEALED TENDERS** for the above upto 12-00 hours on **Wednesday the 24th November, 1954.**

The tender should be submitted in the prescribed form obtainable from the Chief Engineer on production of a receipt for the amount of **Rs. 10** paid to the Financial Adviser and Chief Accounts Officer, Southern Railway, Madras, or Regional Accounts Officer/Trichinopoly or Mysore, towards the cost of tender form. The tender form is not transferable and no refund of the cost of the tender form will be made under any circumstances. The last date for the issue of tender form is 12-00 hrs. on Monday the 22nd November, 1954.

An earnest money of **Rs. 800** is to be paid in advance to the Financial Adviser and Chief Accounts Officer/Madras, Regional Accounts Officer/Trichinopoly or Mysore, and the receipt issued by him should be attached to the tender. No demand draft or cheque should be attached to the tender. The earnest money should be paid on or before 15-00 hours on Tuesday the 23rd November, 1954.

Tenderers are required to submit Income-tax Clearance Certificate (in original) along with the tender.

Tenders received after the prescribed time and date will not be considered.

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

Quilon-Ernakulam Railway Construction—Section I—Quilon to Mavelikara—Supply of Stone Jelly, Rubble Stones, Sand, etc., required for the construction of 7—60' spans Girder Bridge No. 408 across Kallada River.

The Chief Engineer, Southern Railway, Park Town, Madras-3, invites sealed tenders upto 12-00 hours on **8-12-1954** for the supply of materials required for the construction of Bridge No. 408 across Kallada River.

Tenders should be in the prescribed form obtainable from the Chief Engineer's Office, or from the Executive Engineer's Office, Quilon-Ernakulam Railway Construction, Ernakulam South, or from the Assistant Engineer's Office, Quilon-Ernakulam Railway Construction, Quilon, upto 12-00 hours on 6-12-1954 on production of a receipt from the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, or from the Station Masters, Ernakulam South or Quilon, for payment made towards the cost of Tender Forms at the rate of **Rs. 10** per set of Tender Forms and **Rs. 2** per spare Schedule only, if available, which amounts will not be refunded.

An earnest money of **Rs. 1,800** is to be paid to the Financial Adviser and Chief Accounts Officer, Southern Railway, Park Town, Madras-3, before 15-00 hours on 6-12-1954.

Income-tax Clearance Certificate, in original, should be attached to the tender.

Tenders will be opened at 11-00 hrs. on 9-12-1954.

The Chief Engineer does not bind himself to accept the lowest or any tender.

OUR COMMERCIAL



News Letter

EARNINGS

The approximate earnings on originating traffic for September, 1954, compare as under with those for the corresponding period of the previous year :—

(Figures in thousands of rupees)

| | September | |
|----------------|-----------|---------|
| | 1953 | 1954 |
| | Rs. | Rs. |
| Passengers | 1,29.24 | 1,35.45 |
| Other Coaching | 25.45 | 26.25 |
| Goods | 1,65.76 | 1,72.00 |
| Sundries | 5.69 | 8.80 |
| Total | 3,26.14 | 3,42.50 |

The increase in passengers was largely due to increased traffic on account of the Velanganni Feast near Negapatam and to diversion of passengers from the coastal areas on the Hubli district to the railway consequent upon the suspension of steamer service on the West Coast due to the monsoon.

INDO-CEYLON FERRY SERVICE BETWEEN DHANUSHKODI AND TALAIMANNAR PIER

Prior to 1st October, 1953, the two classes of accommodation provided over the ferry service between Dhanushkodi and Talaimannar Pier were first and third, the basis of charge for the passengers carried over the ferry service in the first class being the same as for first class by rail. With effect from 1st October 1953 from which date first class accommodation was withdrawn from the Indo-Ceylon Express between Madras and Dhanushkodi and all trains generally, the second class fare was being charged for the

The reduction in the basis of fare charged for the upper class over the ferry service from 1st October 1953 did not result in any change in the standard of comfort provided in that class prior to 1st October, 1953.

From 1st October 1954 the two classes of the ferry service have been renamed as upper and lower, the basis of charging for upper class being that of first class. The present charges are as under :—

Upper class Rs. 12 per passenger.

Lower class Rs. 3 and 32 cents per passenger.

RAILWAY RATES STRUCTURE

The Railway Board are reported to have rejected a plea of the Federation of Indian Chambers of Commerce and Industry for setting up a committee to enquire into the present rates structure as, according to it, the steady increase in the index of industrial production bore ample testimony to the reasonability of the rates structure as a whole.

Among other reasons given by the Railway Board to justify the existing rates structure are :—

(1) The rates structure was revised in 1948 after prolonged investigation by a special organisation which worked for four years and every effort was then made to ensure that the increases in rates made did not affect traffic movement adversely :

(2) The Railway Rates Tribunal set up to consider all complaints of unreasonable or undue preferential rates had during the past four years of its existence only a few cases referred to it indicating that complaints were few ; and

(3) the railways have been given powers to quote reduced rates where a convincing case has been made out.



BOOK REVIEW

THE INDUSTRIES OF INDIA—COAL— Published by Burmah-Shell.

What distinguishes these little books elegantly produced by Burmah-Shell from other publications of a similar nature is the wealth of information that is compressed within the very limited space available combined with the eminently readable manner in which the subject is presented. Coal, however much it may justify the name 'black diamond' and be much more precious than diamond itself, conjures up before one's mental vision extremely uncomfortable occupations like coal-mining, highly unclean objects like furnaces and steam-locomotives and coal-tar, the thick, black, viscid liquid. The story of coal as presented in this big volume published by Burmah-Shell, however, reads like a romance and concludes with the statement that coal, which contains treasures still uncounted, is among the great assets of the future.

Coal, although used as locomotive fuel hardly a century ago, was known to the ancients at least three centuries before Christ. A disciple of Aristotle has mentioned it in his 'Book of Stones'. Deposits of coal were discovered in India in 1777 and regular collieries started working by 1843.

The book traces the origin of coal from the geological angle and deals with the various types like hard coal, bituminous coal and lignite. The working of a coal mine is then summed up in a few sentences and very interesting statistics of world output of coal furnished.

One of the by-products of coal is coal-tar from which are produced creosote oil, naphthalene, carbolic acid and even sulphur drugs. Prontosil was first produced from coal-tar and now chemists produce such unbelievable things as beautiful dye, perfumes, aspirin, atebirin, laxatives, sedatives and certain vitamins. Some even produce butter and oil from coal.

Burmah-Shell claim to have specialized in lubrication for coal-mining equipments and some of their finest technologists were

employed to solve the various lubricating problems of the industry.

T.S.P.

CONCRETE ON THE RAILWAYS.— Published by the Concrete Association of India, 1, Queen's Road, Bombay. Rs. 1-4.

Concrete is a mixture of cement, sand and gravel or crushed rock made into a thick liquid by addition of water. Moulds of wood or steel are first prepared and the concrete is poured into the mould. After it is hardened, the moulds are removed and the hardened concrete becomes really an artificial limestone. It is greatly in demand in modern construction because it has become the very symbol of strength and durability.

The serious shortage of steel in the country made the Indian Railways explore the possibility of utilizing concrete instead and their wide use of the latest developments in concrete technology enabled them to cope with the heavy post-war rehabilitation schemes. The brochure under review gives, with illustrations, the many uses to which concrete has been put by the railways.

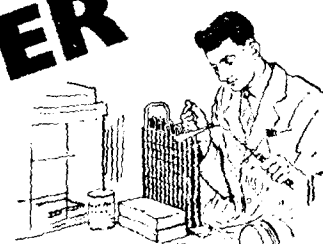
Among the pioneer uses of concrete are the rigid frame bridges on the Western Railway and of pre-stressed concrete in bridge construction on the Assam Rail Link. In many other fields too, concrete has replaced steel on railways, from signboards and signal gantries to structures. In the majority of loco sheds and workshops, concrete has been found to be more satisfactory than steel for beams, rafters, trusses, etc. For tunnels, concrete lining has become the standard practice on important railways.

The versatility of concrete has led to its being used on the permanent-way as well and pre-stressed sleepers are in use on the main line on Central Railway. Concrete marches on, not only in India but in Europe and America and is likely to show the way to the solution of many problems. This brochure will be found extremely useful by railway engineers and others.

T.S.P.

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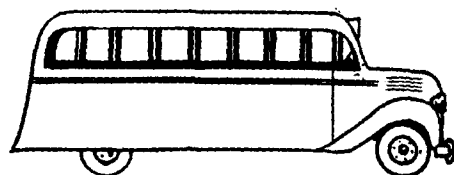
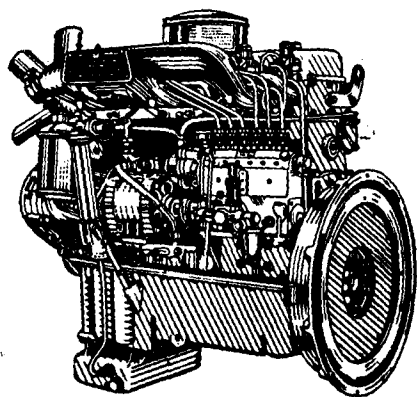
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Check these four big reasons why it will pay to standardise on Perkins Diesel for Dependability and most economical cost per mile.



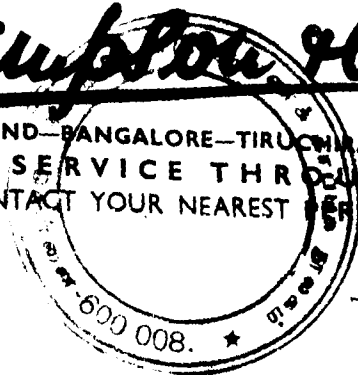
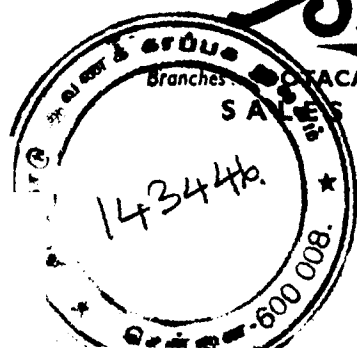
1. In this country alone over 25,000 Perkins Diesel engines are in daily use which prove the superiority of Perkins Engines—the preferred choice of the wise!
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NORTH-EASTERN RAILWAY

WHILE MAKING THE
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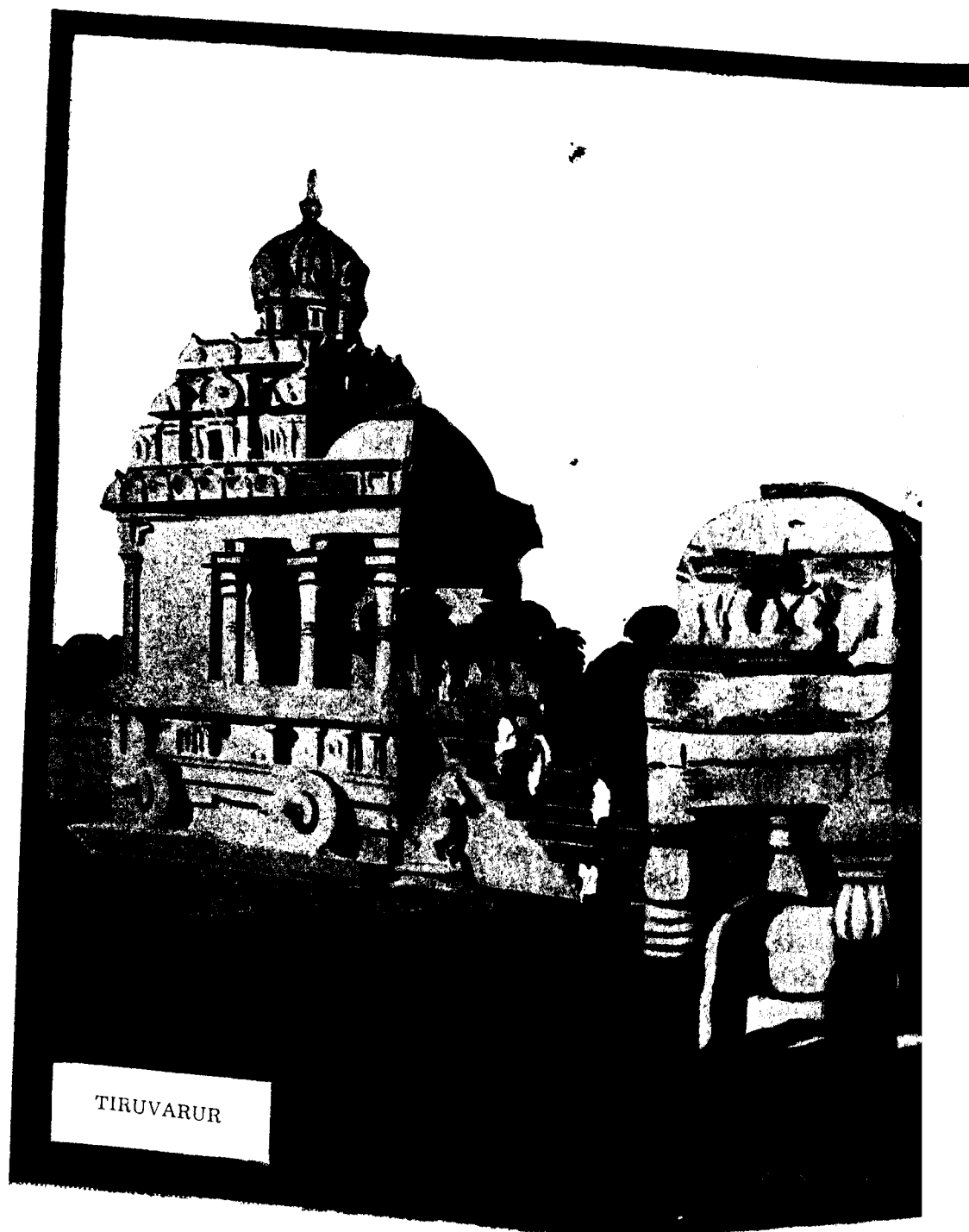
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2. VRINDABAN ~ The Holy City famous for Temples
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4. KAMAKHYA ~ The Centre of Tantric Worship in India
5. KASIA ~ The Scene of Buddha's Mahaparinirvaha
6. SARNATH ~ Where Lord Buddha Preached his First Sermon
7. AYODHYA ~ The Birth-place of Shri Ram Chandra

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TIRUVARUR