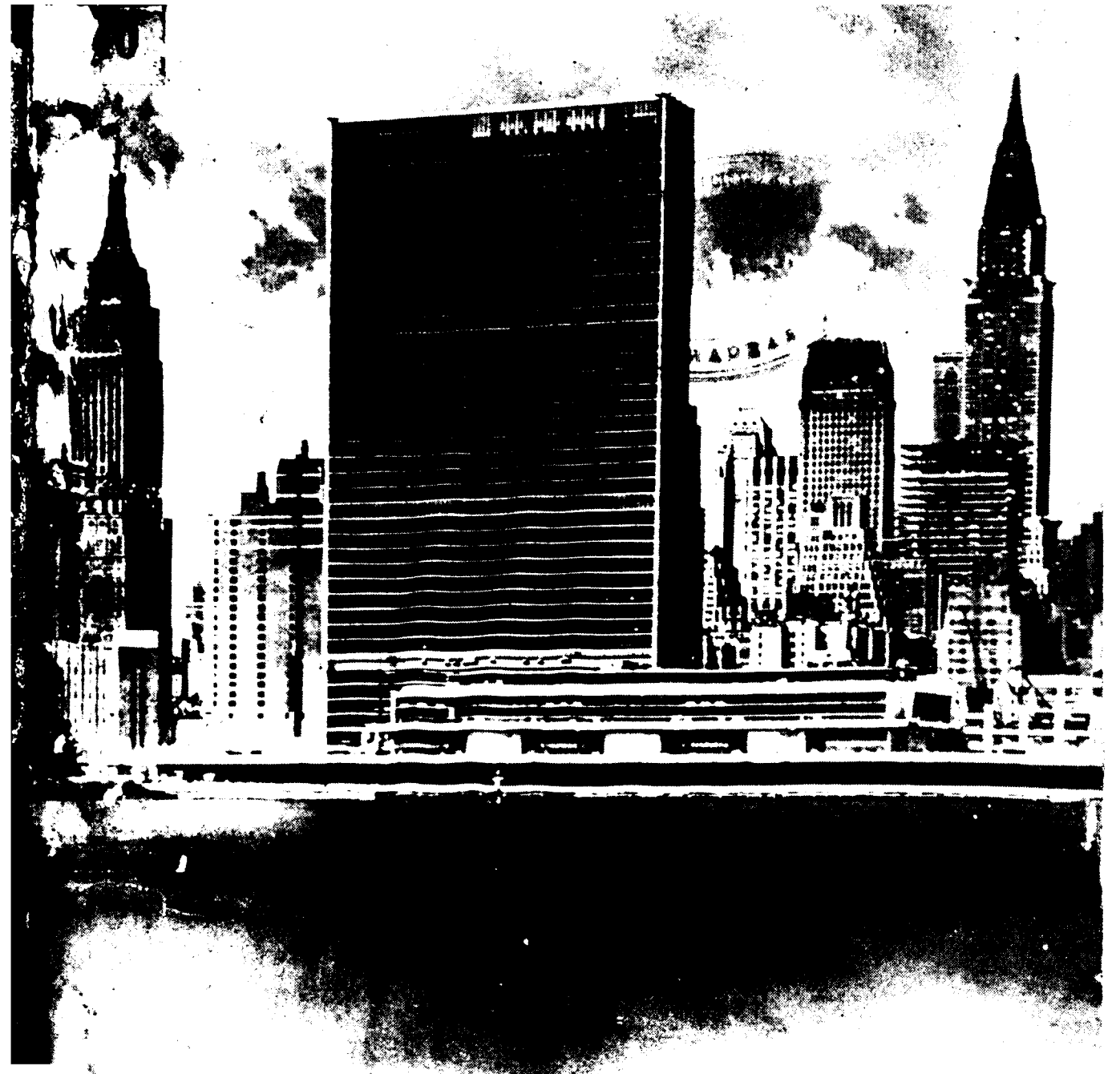


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Southrailnews

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PUBLISHED BY THE SOUTHERN RAILWAY

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NOVEMBER 1956

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Southrailnews



Vol. III

1956

No. 8

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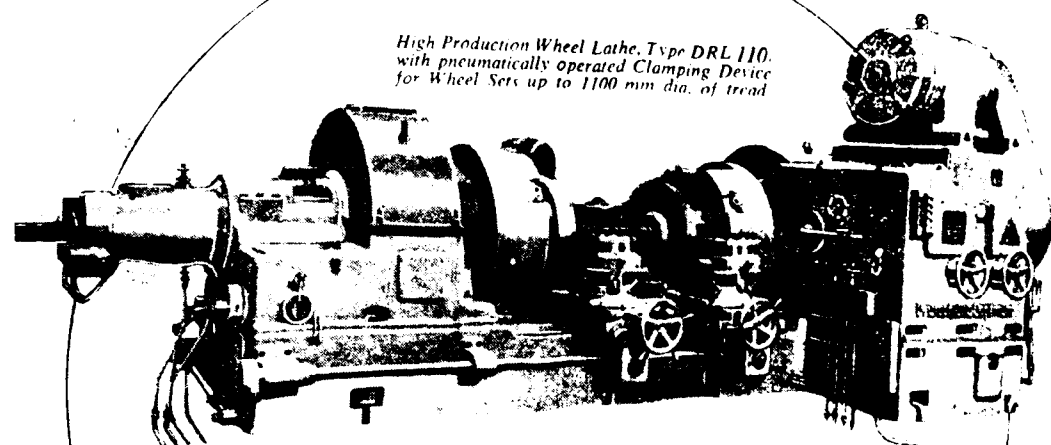
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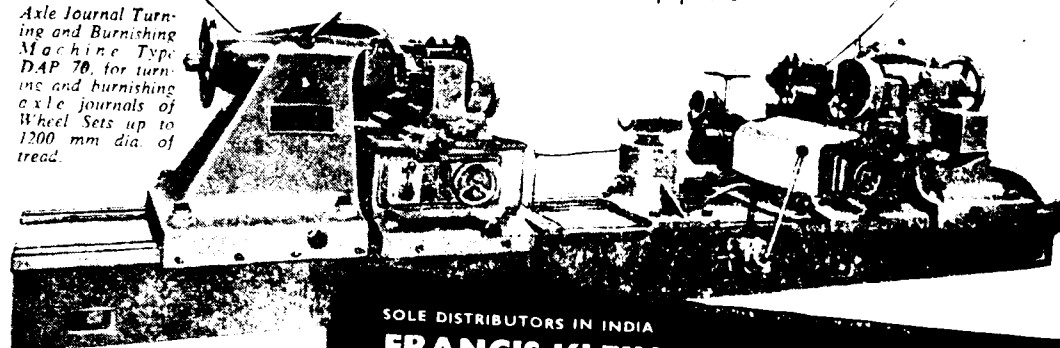
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(Official Organ of the Southern Railway)

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VOL. III

No. 8

Editor:

K. SRINIVASAN

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

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

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

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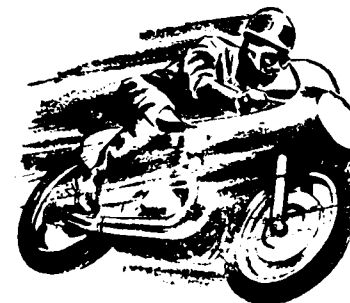
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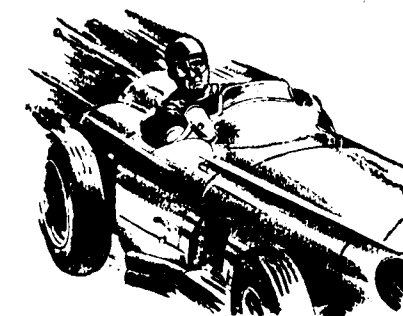
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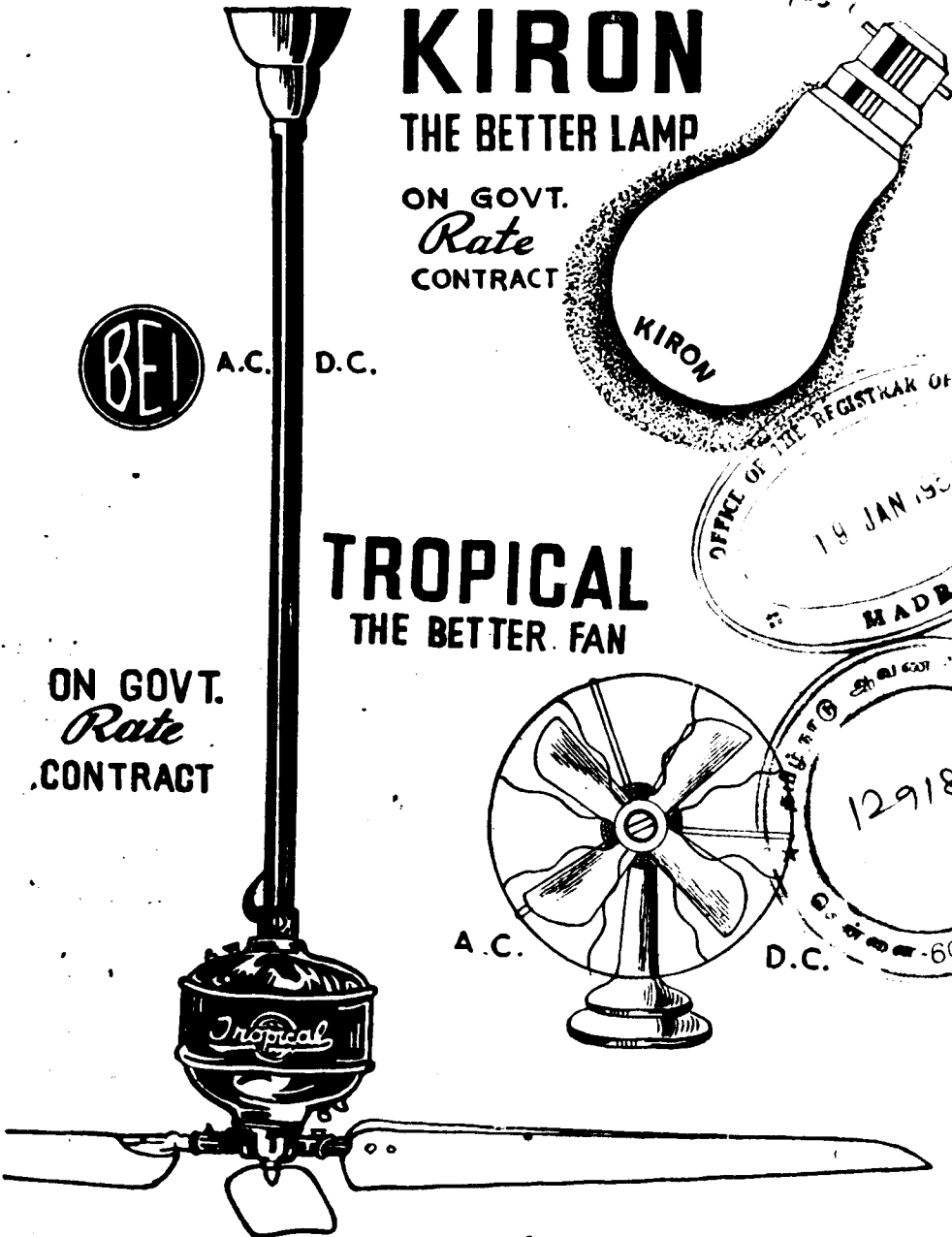
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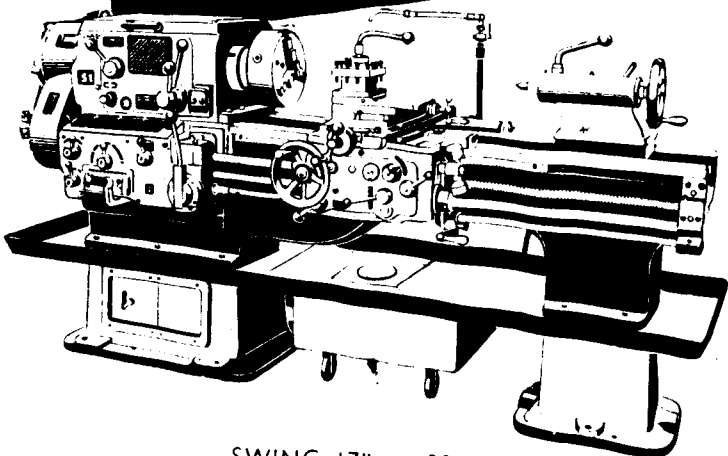
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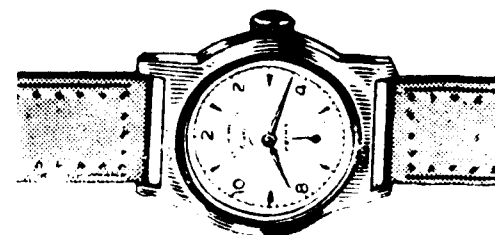
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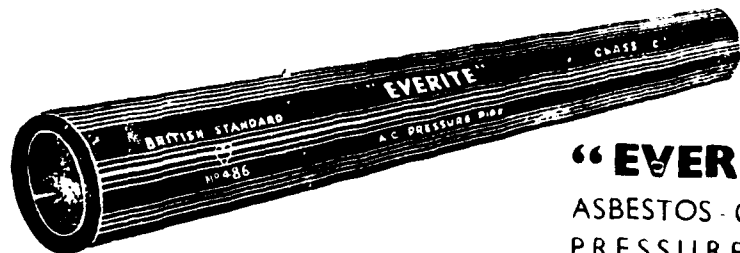
Cover: Headquarters of the United Nations in New York City - the 39-story granite and glass building provides accommodation for 3,500 officials and workers, and occupies a six-block area fronting on the East River.

[Courtesy: United Nations.]



talking of pipes...

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SOUTHERN RAIL NEWS

VOL. III

NOVEMBER 1956

No. 8

WORLD SECURITY

THE UNESCO General Conference at New Delhi in Nov. 1956 will be something special: it will be the first time that the General Conference has met further East than the shores of the Mediterranean. Secondly, this Conference will coincide with UNESCO's tenth Anniversary. And thirdly, it will select a number of "Major Projects" on which UNESCO's efforts and resources will be concentrated.

The corner stone of security for the free nations must be a collective system of defence. Security for the free world depends, therefore, upon the development of collective security and community power rather than upon purely national potentials. Each nation which shares the security should contribute in accordance with its capabilities and facilities.

The United Nations is striving to make collective security effective on a basis broader than regionalism. The central principle of the Charter is that any armed attack is universal concern and calls for collective measures of resistance.

How should collective defence be organised by the free world for maximum protection at minimum cost? The heart of the problem is how to deter attack. This, we believe, requires that a potential aggressor be left in no doubt that he would be certain to suffer damage outweighing any possible gains from aggression.

A would-be aggressor will hesitate to commit aggression if he knows in advance that he thereby not only exposes those particular forces which he chooses to use for his aggression, but also deprives his other assets of 'Sanctuary' status. It does mean that the free world must maintain the collective means and be willing to use them in the way which most effectively makes aggression too risky and expensive to be tempting.

The point is that a prospective attacker is not likely to invade if he believes the probable hurt will outbalance to invade if he believes the probable hurt will outbalance the probable gain. A system which compels potential aggressors to face up to that fact indispensably supplements a local defensive system.

In the field of atomic energy for peaceful purposes, the tenth Assembly made a constructive contribution. Thanks largely to the work of the Indian delegation, the Assembly laid the groundwork for an International Atomic Energy Agency being set up on an equitable basis instead of as an exclusive club under the management of 'Atomic Powers'.

The Assembly adopted without opposition the resolution to establish an International Commission on peaceful uses of atomic energy. The Assembly also called for the collection and distribution of information on radiation by the United Nations members.

India's role as a mediator between nations was once more clearly demonstrated in the U. N. last sessions in 1955 when India took a prominent part in resolving the deadlock over the admission of 16 new member nations. It was revealed that this was due to Nehru's intervention when the Russian Leaders were at Delhi.

Peace is a subject which has to be discussed not only with reference to external world in which the United Nations Organisation has its role to play in influencing nations in refraining from war with each other, but has also to be looked at from the point of view of internal development in man. This means internal self, i.e., the part each individual has to play in world peace. There is a tendency on the part of western Nations to develop the material conditions and the mental mould

while in the East, the spiritual and the idealistic conceptions dominate in the individual.

Man approaches nearer perfection by recognition of the material mould and metal conditions of human existence side by side with the spiritual of human life combining in himself the idealist and the pragmatist. Man's nature consists of five sheaths: Physical, Vital, Mental, Supermental and Spiritual energy. In the West there has been a lop-sided development of physical, vital and mental energies. In the east, there is a top-sided development of supermental and spiritual energies. If man is not content within himself and develops ill-feelings in his dealings with others, the result is that a tendency towards war develops. If every individual develops the five aspects referred to, there will be less chances of war.

The conception of peace and security should be understood to mean internal development in man and the attitude of each nation to the

other. When there is a balanced development in the individual and also among nations, there is a chance for lasting peace and security in the world.

It was India under the revered Prime Minister, Shri Jawaharlal Nehru that enunciated the Panch Sila Principles consisting of:

1. Mutual respect for each other's territorial integrity and sovereignty;
2. Non-aggression;
3. Non-interference in each other's internal affairs for any reasons of an economic, political or ideological character;
4. Equality and mutual benefit; and
5. Peaceful co-existence

for ensuring world peace. The above principles, if observed by all nations, will pave the way for world peace.

Shri Shah Nawaz Khan being sworn in as Deputy Minister for Railways and Transport by the President, Dr. Rajendra Prasad, at a ceremony held at Rashtrapati Bhavan, New Delhi, on September 20. The Prime Minister, Shri Jawaharlal Nehru and other Ministers are also seen in the picture.



AMENITIES TO III CLASS PASSENGERS

The Railway Board has set up a committee of three senior engineers to examine the amenities now available to Class III passengers inside compartments, and to make recommendations in regard to any improvements considered necessary.

The committee will, for instance, examine the provision of more convenience to passengers by increasing the capacity of water tankage in third class and by providing automatic water taps.

The committee will also examine the feasibility of revising the present design of lavatories, wash basins, water pipes and storage tanks and improving light arrangements in third class carriages.

Members of the committee are: Chief Mechanical Engineer, Northern Railway (Chairman); Chief Electrical Engineer, Northern Railway and Chief Design Engineer (C & W) Central Standards Office for Railways.

NEW SIGNALLING WORKSHOP NEAR AHMEDABAD

A new workshop for the manufacture of railway signalling and interlocking equipment is to be set up at Sabarmati, near Ahmedabad, at a cost of over Rs. 25 lakhs.

The Western Railway at present has two signalling workshops at Ajmer and Mahalakshmi and a telecommunication workshop at Bomlay. These, however, are mainly engaged in repair and overhaul work.

Shri Lal Bahadur Shastri, Minister for Railways and Transport, blowing the Guard's whistle to start off India's First Fully Air-conditioned Train, providing reclining chairs in third class and sleeping accommodation in upper class, on 2nd October.



NOTES AND COMMENTS

The new workshop will meet the increased demand for these materials on the Western Railway during the Second Five Year Plan period. In the past, this equipment has mostly been obtained from the trade which cannot meet the full requirements during the Second Plan period.

The workshop is being located at Sabarmati in view of its central position as the meeting point of the three regions of the Western Railway. The workshop is likely to occupy about 600,000 square feet of space, and will be equipped with both broad and metre gauge sidings.

RISKED LIFE TO AVERT TRAIN ACCIDENT U. P. STUDENT AWARDED ASHOK CHAKRA

The daring act of gallantry displayed by a young student of Uttar Pradesh, barely 11 years of age, in averting a major train accident on the morning of December 21, 1953, has been recognised by the President in his award of the Ashoka Chakra, Class III, announced in a *Gazette of India Extraordinary*.

On that fateful morning, Shri Akshaya Kumar Singh, a young student of the Janardhan Janta College, Gandhinagar, Ghazipur, was passing along the railway track between the two stations Tapur Dehna and Kari-muddinpur on his way to the College when he noticed a gap in the railway line caused by the removal of fish plates. At that very time the Chapra-Banaras Cantonment Passenger was coming up the line. He had no time to inform anybody, but realising the

magnitude of the possible disaster, he at once stood up between the lines and signalled the driver to stop the train by waving his hands.

This method having proved ineffective, Akshaya Kumar Singh took off his shirt and began waving it vigorously. The driver of the train noticed the danger signal and was able to stop the train just in front of the young boy who did not move away from his position in spite of the danger to his life from the oncoming engine. The presence of mind, high sense of responsibility and courage shown by him in averting a possible train disaster will ever remain a good example to others.

OUTSTANDING PUBLIC SERVICE

Gangman Gobardhan Rewarded

It rained for days round the clock. The daybreak on July 3, 1956, despite the down-pour, brought a smile on Gangman Gobardhan's lips, for that was his day of rest. But gods had willed otherwise. The Sapta Nullah, a stream skirts the village where Gobardhan lives. He saw, while on his round on the previous day, that the stream had been on high tide. Afraid that the water level might have risen under the single-span 60 foot bridge to a dangerous height Gobardhan rushed the mile to reach the rivulet. He was alarmed at what he saw. The 30 foot high bank of the bridgewall towards Muniguda station was badly scoured. He ran a mile again, now to Muniguda railway station. He reached in the time, by 6 a.m. to be precise, for stopping the passage of the

trains on the affected bridge. Train services were immediately suspended and a major disaster averted. In recognition of this very high sense of duty and outstanding public service, the General Manager of the South-Eastern Railway has granted Gobardhan a cash reward of Rs. 500.

Gobardhan belongs to Gang No. 45 under the Permanent Way Inspector of Rayaghada on the Raipur-Vizianagaram sections of the South-Eastern Railway. His parents are living; he has a son aged eight years and a daughter aged three.



QUILON-ERNAKULAM RAIL LINK

ON October 17, 1956 the Railway Minister Shri Lal Bahadur Shastri inaugurated the 37 mile Ernakulam-Kottayam section of the Rs. 6 crore, 96 mile Ernakulam-Quilon Metre gauge rail line along the west coast, opening up before the local population a new era of progress. An unusual feature of the line is the construction of over 100 bridges, including 34 major ones, over the 96 mile stretch.

The Quilon-Ernakulam metre gauge railway, connecting Ernakulam and Cochin in the north with Quilon and Trivandrum in the south is one of the important projects undertaken by the Railways during the latter half of the first plan period. Construction was inaugurated by the Prime Minister on December 12 1952. Since then construction has proceeded rapidly and as the first instalment, the section from Ernakulam to Kottayam, 37.25 miles long, was opened on October 17, 1956.

The landscape on this route of 96 miles from Quilon to Ernakulam is one of great variety and beauty. A chain of backwaters, the largest of which is the Vembanad in the

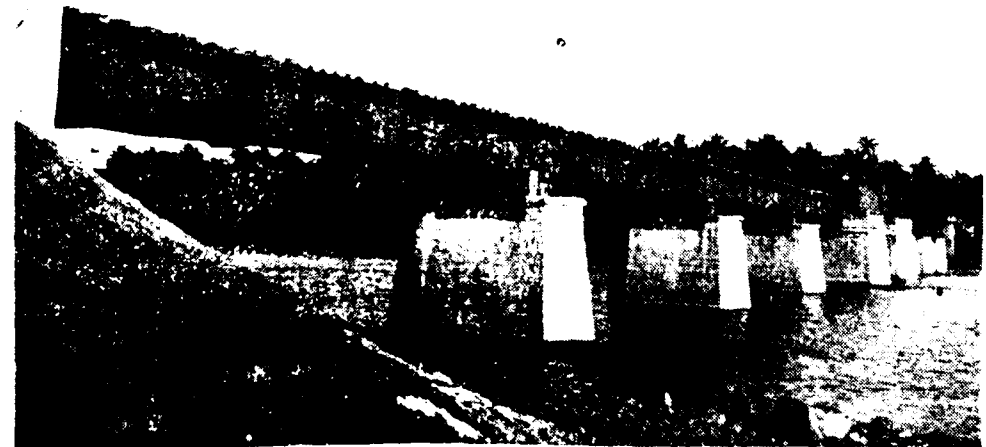
north, adds much to the charm of the country side.

The enchanting Asthamudy lake lies at the Quilon end with its eight creeks, the smallest of which is crossed by the railway alignment at two narrow necks. The Cochin harbour is situated at the point where the Vembanad lake joins the sea. This lake extends south from Cochin to Alleppey, a distance of more than 50 miles, receiving on its way the waters from Moovattupuzha, Meenachil, Pamba and other rivers. Quilon is situated on the shores of the deep and placid lake Asthamudi. These two lakes are interconnected with a system of canals which forms one of the main means of communication along the coast.

Further inland is the picturesque midland, very fertile and evergreen, and with a landscape of incomparable beauty. Sixty miles of this route, out of a total of ninety miles, lie in the midland region.

This tract of country has vast natural resources, because of its numerous rivers, plentiful rainfall and geological structure. Virtually every inch of land is under cultivation of food or money crops. There is an exportable

Gridder bridge over Asthamudy Lake near Quilon end of the Quilon-Ernakulam Rail Link.



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surplus of coin, copra, pepper, rubber, tea, coffee and spices, all of which increase the region's natural wealth. The intensity of population here, naturally, is very high, being on an average about 1800 per square mile.

The alignment from Quilon to Ernakulam has been so arranged as to serve the belt of densest population as also the maximum number of towns. It was also guided by the physical and geological features of the area. There are eight stations from Ernakulam to Kottayam.

Upper class waiting rooms are provided at all the important stations. Where electricity is available nearby, stations have been electrified at the very outset. For Kottayam station, which is on the slope of a hillock, a design to fit in with the topography of the locality has been adopted, keeping in view the local architecture. As this station will be the focal point for traffic to the hills and to the game sanctuary at Thekkady, retiring rooms, refreshment rooms and other ancillary services have also been provided. At all stations, high level platforms and platform covered ways have been provided.

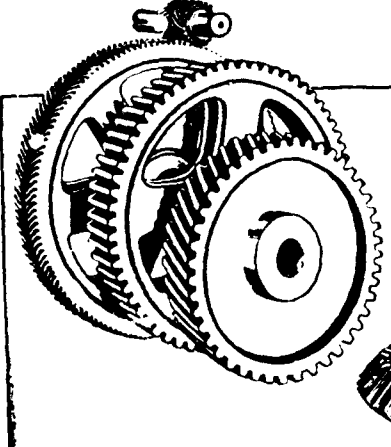
Difficulties of Construction

Due to the high density of population and the low per capita holding of land, the cost of land is high and the people are very reluctant to part with land. Moreover, the area is built up very heavily. Land acquisition was, therefore, a very difficult task and had to be handled most carefully without offending the population and without causing them much inconvenience.

The total cost of land acquired is Rs. 112 lakhs. If the difficult process of land acquisition has been completed without any untoward incident, it is in no small measure due to the co-operation of the Travancore-Cochin Government.

A total of 1,700 lakh cubic feet of earthwork has to be done on the entire line, and of this 1,450 lakh cubic feet has been completed so far. As one of the objects of the project was to employ manual labour, heavy earth-moving machinery was not used. Diesel or petrol lorries were used for transporting earth and manual labour was utilised for loading and unloading.

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Sri T. A. Joseph, G.M., S. Rly., explaining to the members of the Zonal Rly. Users' Consultative Committee, who visited the Project on 23.9.56, the details of construction of the bridge over Ashtamudy Lake.

There were altogether over 400 bridges to be constructed, of which 34 are major ones. These lie across perennial rivers and require deep wells to take the foundation to hard strata. In the case of most of them the foundation had to be taken to 60 and 70 feet below bed-level piercing the deposit of soft clay. Well-sinking was particularly difficult in the Moovattupuzha river and the Ashtamudi lake.

251 Road Crossings

The country through which the rail line passes is criss-crossed by a large net-work of roads. There are, on the whole, 251 road crossings. It has been the policy to provide over or under-bridges across all important roads so that there may not be any traffic congestion at level crossings. The number of road over and under-bridges on this line is 37, of which 11 are between Ernakulam and

Kottayam. This includes one bow-string girder R.C.C. road over-bridge 80 feet span for the main central road within Kottayam town.

It has been the policy to afford the maximum employment to local labour. Most of the heavy works, except deep well-sinking in rivers, had to be done by manual labour. Heavy rock cuttings, all reinforced concrete works, etc., were done in the same manner and produced excellent results. The labour strength, on an average, has been 8,000 per day.

The entire Ernakulam-Quilon line is expected to cost Rs. 6 crores. Of this, the Ernakulam-Kottayam section is expected to account for Rs. 2.35 crores, and the Kottayam-Quilon section the balance of Rs. 3.65 crores.

The following figures would serve to give some idea of the magnitude of the work



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WORLD OF RAILWAYS

ARTHUR L. STEAD

Our London Correspondent

A century-and-a-half ago, there occurred a highlight in railway history in the opening in Britain of the world's very first passenger line—the Oystermouth (later Swansea and Mumbles) Railway, at Swansea, South Wales.

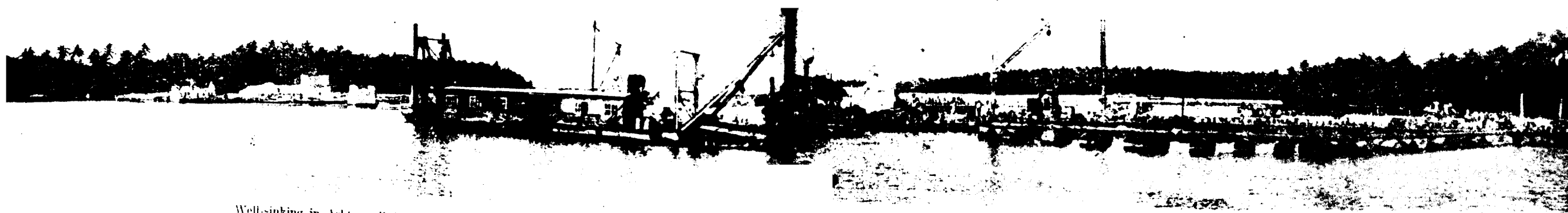
In those far-off days, Swansea was not the busy industrial city it is today, but a leisurely resort of fashion. Its castle looked down upon peaceful green fields and golden beaches. A horse-drawn mail-coach arrived from London daily. The local newspaper, *The Cambrian*, featured lighthearted reviews of comedies running at the local theatre; dwelt optimistically upon the possibilities of early street paving and lighting; and reported somewhat dubiously from time to time on a plan of a local bigwig, Sir John Morris, to build a four-mile long "railroad" around the bay to link Swansea with the seaside resort of Oystermouth.

Came June 22, 1801, and on that momentous morning the good folk of Swansea were thrilled to read in *The Cambrian*: "The Bill for making a railway or tramroad from this Town to Oystermouth has passed both Houses of Parliament." The following week, the Bill received the approval of King George III, and three years later on March 25, 1807—

the Oystermouth (later Swansea and Mumbles) Railway was opened to the public.

Credit for operating the world's first public passenger service by rail often is given to George Stephenson, with his Stockton and Darlington line of 1825. Actually, this honor falls to the Oystermouth system, although it was by horses, and not steam. In fact, the Oystermouth services at Pier C—The "Father of Rail" constructed things with his "public" time, but the Oystermouth system, Stephenson by ~~eighteen~~ years in providing the world's first public passenger service by railway.

The initial meeting of the directors of the "Oystermouth Railway or Tramroad Company", as it was originally styled, was held in the Bush Inn, Swansea, on July 4, 1801, under the chairmanship of Sir John Morris. Construction of the line began in the autumn of that year. In surviving books of the company, there is a journal entry of a payment made to one Benjamin French, for "forming road at Black Pill branch" in December, 1804; and records of payments made to John Evans and Partners for "forming 200 yards of branch road from Black Pill towards the Ynis River".



dredger being utilized for pulling out the 30' long coconut piles from the lake

Well-sinking in Ashtamudi Lake on Piers 2, 3 and 6; which in the latter section

undertaken in connection with the Ernakulam Quilon line, the figures in brackets indicating the quantum of work already completed :

The line involves the construction of 34 major bridges (19) and 374 other bridges (328); 15 road over and under-bridges (17); and 220 level crossings (80).

The line also involves the use of 2,300 tons of girders (800 tons), 12,500 tons of rails and other fittings (8,000 tons) and 28,000 tons of cement (22,000 tons).

Earthwork, bank and cutting 1,700 lakh cubic feet (1,434 lakh c. ft.); concrete and masonry 53 lakh cubic feet (38 lakh c. ft.); well-sinking 6,840 l. ft. (5,800 l. ft.)

Economic Significance

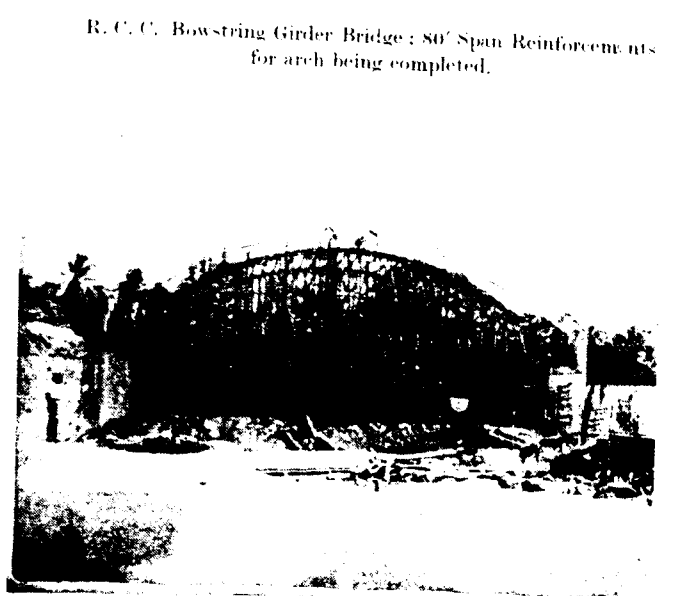
This new line will pave the way for the rapid development of the west coast which forms the hinterland to the Cochin port. As a through North-South rail link, lying on the west coast from Mangalore to Trivandrum, this has great economic significance, forming as it does an arterial railway for the transport of oil, foodstuffs and all other essential needs of the community.

Passenger traffic also will be appreciably heavy as the area traversed is densely populated with an educated and travel-minded population. The existing mode of transport by buses is inadequate and the people greatly welcome the advent of the railway.

Most of the heavy work on the Kottayam-Quilon section is complete, including the major bridges. Important bridges like Ashtamudi and Kallada have been completed and temporary girders have been put in at Ashtamudi. It is expected that Kottayam-Quilon section will be opened by the middle of 1957.

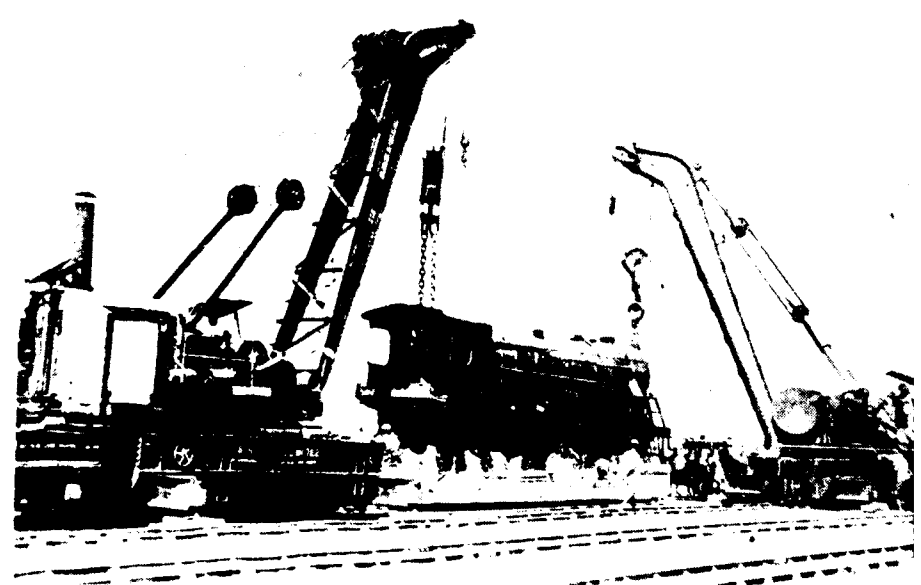


Divers getting up after work on Pier No. 3 in Ashtamudi Lake at a depth of 55' below water level.

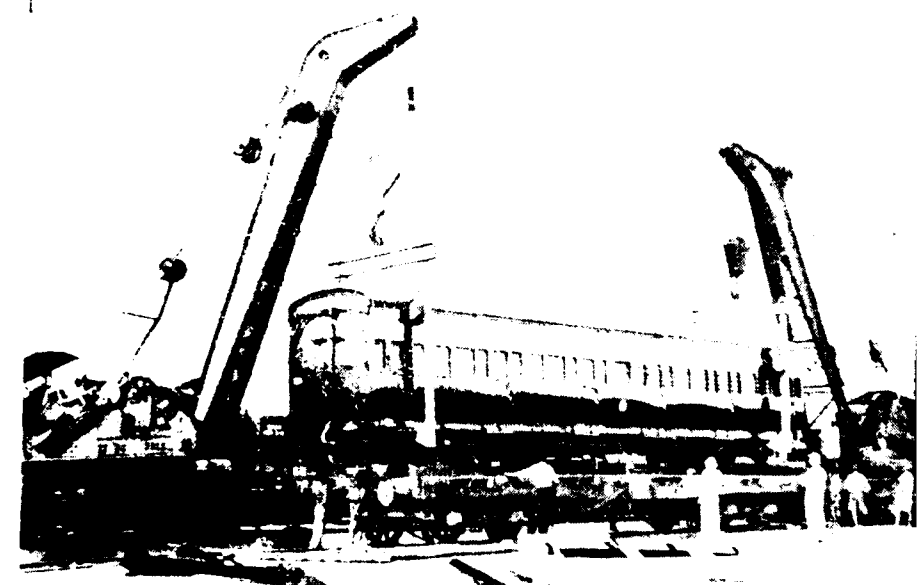


R. C. C. Bowstring Girder Bridge : 80' Span Reinforcement for arch being completed.

Loading of a YG class engine on to a special R.G. Truck with the help of two travelling cranes at Trichy Goods Yard for despatch to Ernakulam



M.G. Coach being loaded on to a special R.G. Flat Truck for despatch to Ernakulam for service in the Ernakulam Kottayam section

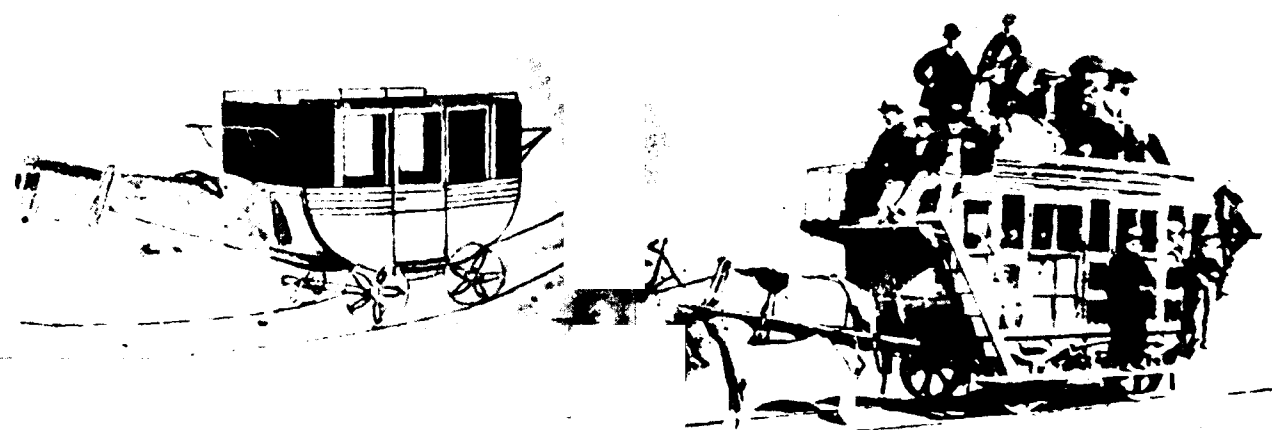
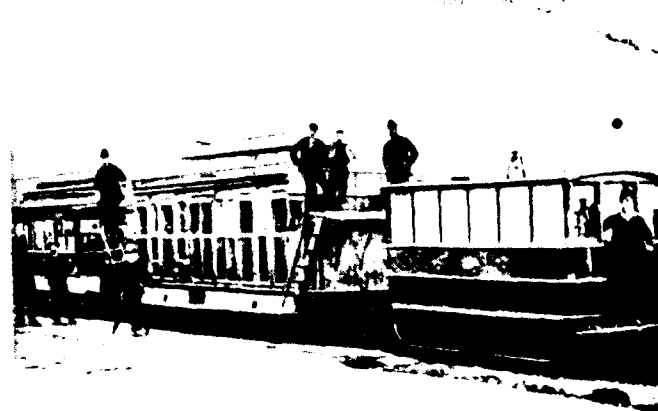


The course of the Oystermouth Railway was from the town of Swansea westwards to Oystermouth, along the seashore. Actually, the line was primarily planned to convey limestone and iron ore from the cliffs at Oystermouth to works at Swansea, the handling of passengers which ultimately became its biggest job really being an afterthought. The first horse-drawn goods train ran over the route in April 1806, but on the receipt of a totally unexpected offer from a contractor to run a wagon or wagons over the line for the conveyance of passengers, a passenger service was begun on March 25, 1807.

The gauge of the Oystermouth tracks was at the outset 4 feet, this later being altered to the "standard" dimension of 4 ft. 8½ in. The original rails were the tramplates of the period, 3 ft. lengths of angle-iron, fastened to granite blocks with dog spikes. Initially, it is probable passengers were accommodated in horse-drawn coaches improvised from mineral wagons, and judging from contemporary reports the journey over the Oystermouth line in those days must have been a thrilling experience.

In a work published in 1808 by the English novelist, Elizabeth Isabella Spence, reference is made to her trip over the Oystermouth Railway: "I never spent an afternoon with more delight than in exploring the romantic scenery of Oystermouth. I was conveyed there in a carriage of singular construction, built for the convenience of parties, who go from Swansea to Oystermouth to spend the day. This car contains twelve persons and is

Passenger train on the Oystermouth Railway (1877).
The steam locomotive "Pioneer" and its
passenger coaches, showing the boiler machinery.



Horse-drawn passenger car of the Oystermouth
Railway from the painting by
J. Ashford, 1819.

Horse-drawn passenger coach, Oystermouth
Railway (1865).

constructed chiefly of iron, its four wheels run on an iron railway by the aid of one horse, and it is an easy and light vehicle."

But there were other views. Richard Ayton, in his book "A Voyage Round Great Britain Undertaken in 1813", wrote: "We made an excursion to Oystermouth, a village near the western extremity of Swansea Bay, in a tram car, a singular kind of vehicle established for the accommodation of visitors to this place. It is a very long carriage, supported on four low iron wheels, carries sixteen persons, exclusive of the driver, is drawn by one horse, and rolls along over an iron railroad, at the rate of five miles an hour, and with the noise of twenty sledge-hammers in full play. The passage is only four miles, but it is quite sufficient to make one reel from the car at the journey's end, in a state of dizziness and confusion of the senses that it is well if he recovers in a week." Which goes to show that, even in those days, railways could not please everyone!

From its initial opening in 1807 until 1826, the Oystermouth Railway prospered, apparently its passenger business actually more profitable than limestone and iron ore handling. In 1826, however, road competition reared its ugly head, the first example of this now common situation ever recorded. A "turnpike" was constructed between Swansea and Oystermouth, and passengers transferred their favours from the railway to the new horse buses. Very soon, the Oystermouth Railway ceased to operate passenger services, and for almost thirty years it lay practically derelict, accommodating only a small quantity of goods traffic.

In 1855, part of the Oystermouth line was relaid with edge rails, and after handling considerable coal traffic, the line was reopened

in 1860 for horse-drawn passenger service. From contemporary records, it would seem that the Oystermouth trains of those days consisted of one or more carriages with one or two horses to each, the throughout trip from Ratland Street Station, Swansea, to Mumbles Terminus at Oystermouth (5 miles) occupying 13 minutes. Seven trains normally ran each way daily, and at busy periods as many as 5,000 passengers were handled a day.

The Oystermouth Railway being the first line in the world to operate a public passenger service, it might have been expected to have taken a prominent part in the early development of steam traction, especially in view of Richard Trevithick's early experiments with the steam engine in the same neighbourhood, and the inclusion in the Company's Act of Incorporation of a provision for the "drawing of wagons or other carriages by men, horses, or otherwise," the "otherwise" obviously hinting at the employment of the steam engine. Actually, it was not until 1877 that steam traction was introduced on the Oystermouth line, by which time, of course, the steam locomotive had travelled far and wide across the globe.

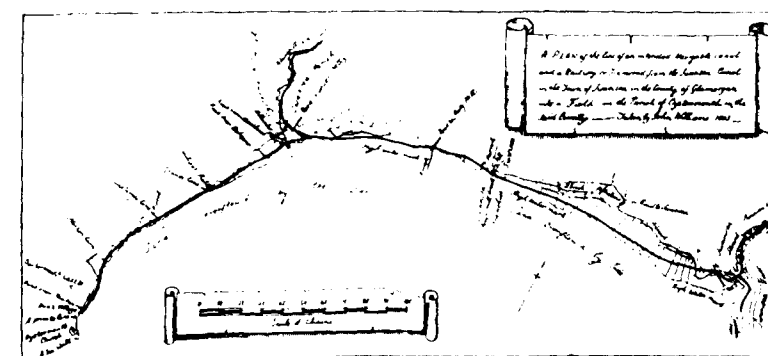
The first Oystermouth steam-driven train was run on August 16, 1877. It consisted of the steam locomotive, "Pioneer", built by Henry Hughes, of Loughborough, England, drawing two cars conveying over 80 passengers at a speed of 8 m.p.h. Although decidedly late on the scene, the Oystermouth authorities managed to make quite a "banquet" of the occasion, dining and wining their invited guests in fine fashion.

In general exterior appearance, the "Pioneer" resembled nothing like the conventional steam locomotive of the period, a distinctive feature being the enclosing of the whole of the boiler and machinery in a stout wooden casing, and the concealing of wheels and side rods by sheet-iron plates, the chimney rising apologetically through the roof of the wooden casing. This odd camouflage was really quite unnecessary, but it persisted for a long time to meet the objections of horsemen using the adjoining highway.

The "Pioneer" had two 6 in. cylinders with a stroke of 12 in., connected direct to four coupled wheels of 2 ft. diameter, on a wheelbase of 4 ft. The boiler had 120 sq. ft. of heating surface, and boiler pressure was 120 pounds per sq. in. Weight of the locomotive in working order was 5 tons.

Regular public service with steam traction began on the Oystermouth line on August 17, 1877, and two years later the undertaking was acquired by a company called the "Swansea and Mumbles Railway Company". In 1889, the "Mumbles Railway and Pier Company" was formed to construct a railway forward from Oystermouth to the Pier Station at Mumbles, this extension of the original Oystermouth line being completed in 1898.

Original plan of the Oystermouth Railway prepared by John Williams in 1803.



Linked up, as it was, at its eastern end with the street tramway system of Swansea, the Swansea and Mumbles Railway handled exceedingly heavy passenger business by its steam trains up to 1929, particularly at weekends and holidays. In this period, the line was relaid with 85 pound steel, and more powerful steam locomotives introduced, mostly 0 4 0 saddle-tank and 0 6 0 side-tank machines. A feature of locomotive working was the carrying of a brass bell to give warning of the locomotive's approach to highway users.

In 1927, the Swansea and Mumbles Railway came under the ownership of the South Wales Transport Company, the present operators of the system, and two years later steam working was replaced by electric traction. Supply is in the form of alternating current at 6,600 volts, converted into direct current at 650 volts in a substation approximately midway along the route, for feeding passenger cars *via* overhead transmission line. Passenger cars are of the tramway type, each seating 106 patrons—48 in the lower saloon and 58 on the upper deck. Trains are formed of one or two cars, so that a maximum of 212 seats can be made available for any journey. The through-

out Swansea-Mumbles run occupies exactly 19 minutes.

Right up to the coming of electric traction, no special signalling or other safety devices were employed on the Swansea and Mumbles Railway. When electricity replaced steam, however, an automatic block signal system was introduced, the signals being set by the car's pantograph touching a contact-maker which energises the signal circuit. At the same time, other light signals were brought into use, to indicate to drivers whether the points at passing loops were securely locked.

At the present time, with traffic almost entirely passenger, about 250,000 train-miles are run each year over the Swansea and Mumbles Railway, and more than 3,250,000 passengers are carried annually. Although this fascinating railway has changed hands several times in the course of its chequered career, a substantial part of the historic Oystermouth Railway of 1801 survives to this day as an independent undertaking. As the very first passenger-carrying line in the five continents, the Swansea and Mumbles ever will occupy a deservedly distinguished and honoured place in world railway annals.



Yadugiri hill—Sri Narayanaswami Temple is situated on the brow of the hill

MELKOTE—CITADEL-TEMPLE OF THE WEST

T. N. SRINIVASAN

In a rugged tableland, encircled by massive dark-coloured hills stands the ancient village of Melkote more popularly known as "*Tirumalaganapuram*". It is a place held very sacred by the Sri Vaishnavites, as it is one of the four most important temples dedicated to Vishnu and specially endogized by the great Vaishnavite Acharya Sri Ramanuja. Though one hundred and eight shrines distributed throughout India from Badrinath in the far-off Himalayas to Anantashayam in the modern Trivandrum in the extreme South are held very sacred to Vishnu and are collectively known as "*Nattattat-tirupattigal*", this great saint chose four important shrines, namely, *Srirangam* near Tiruchirapalli, *Tirumalai* near Tirupati, *Hastigiri*, the temple at Vishnu Kancheepuram and *Melkote* in Mysore State as the most outstanding temples for daily remembrance and adoration by every devout Sri Vaishnavite.

Melkote is a village situated about 18 miles north of the railway station called French Rocks on the Bangalore-Mysore branch line of the Southern Railway. From French Rocks buses ply at set times but most people prefer to start from the city of Mysore itself wherefrom there is a more regular bus service to this place. Leaving the small town of French Rocks, the pilgrim reaches the lovely village of Lakshmi-sagara and turns to the west, passing along the banks of the famous lake *Moti talab* or the *pearl lake*. He now encounters a short climb and reaches Tonnur, properly named as Tondanur in ancient records. It is also known as "*Yadhava-puri*" the town of the cow-herds and it was to this place that Sri Ramanuja came first in his flight from the south. Beyond this place, the ground becomes very rugged and soon the "*Yadugiri Pass*" is passed, which takes the pilgrim to that lovely nestled village of Melkote.

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This place is a pleasant, orderly, clean and peaceful town. It may dream of its hoary past but it has an active present and side by side with the time-mellowed ancient shrines, ruined battlements and dilapidated gateways from which ten centuries look down, we meet such startling modern signboards as "Bus Office," and "Co-operative Bank". The roads, though wide and clean, are still flagged with cobbled stones, bordered by houses that still retain the colour of their age and respectability, for steel and concrete had not permeated so perceptibly into this mediaeval place.

The main attraction that draws the devout pilgrim to this far off place is the shrine of Sri Narayanaswamy. Even as early as 1800, Dr. Buchanan has well described this shrine in his famous travelogue "Travels in Mysore, Canara and Malabar" as "A square building of great dimensions and entirely surrounded by a colonnade. The columns are very rude and only about six feet high. Above the entablature, in the place of a balustrade, is a mass of brick and mortar work and excavated with numerous niches in which are huddled together many thousand images of Hindu deities."

Though this temple cannot claim to possess many of the architectural marvels that similar edifices in that locality, like the temples at Bebur, Halebid and other places can boast of, this shrine possesses an unique record of antiquity and a claim for veneration on account of its association with the great Sri Ramanujacharya. The puranic genesis of this shrine forms the "*Yadavagiri Mahatmyam*," which is called out of the several puranas like the *Narada purana*, *Sri Matsya purana* and the *Padma purana*. Tradition traces that this great deity was once worshipped by Brahma the creator, who gave it to Sanatkumara the great sage, who installed the same at Yadavagiri, consecrating the place with a beautiful vimana known as "*Ananda vimanam*." It is also stated that in the "*Krita yuga*" he was adored by Adishesha, while Lakshmana worshipped him in the "*Trta yuga*" and in the succeeding "*Dakṣina yuga*," it was Sri Balarama that paid obeisance to this great deity.

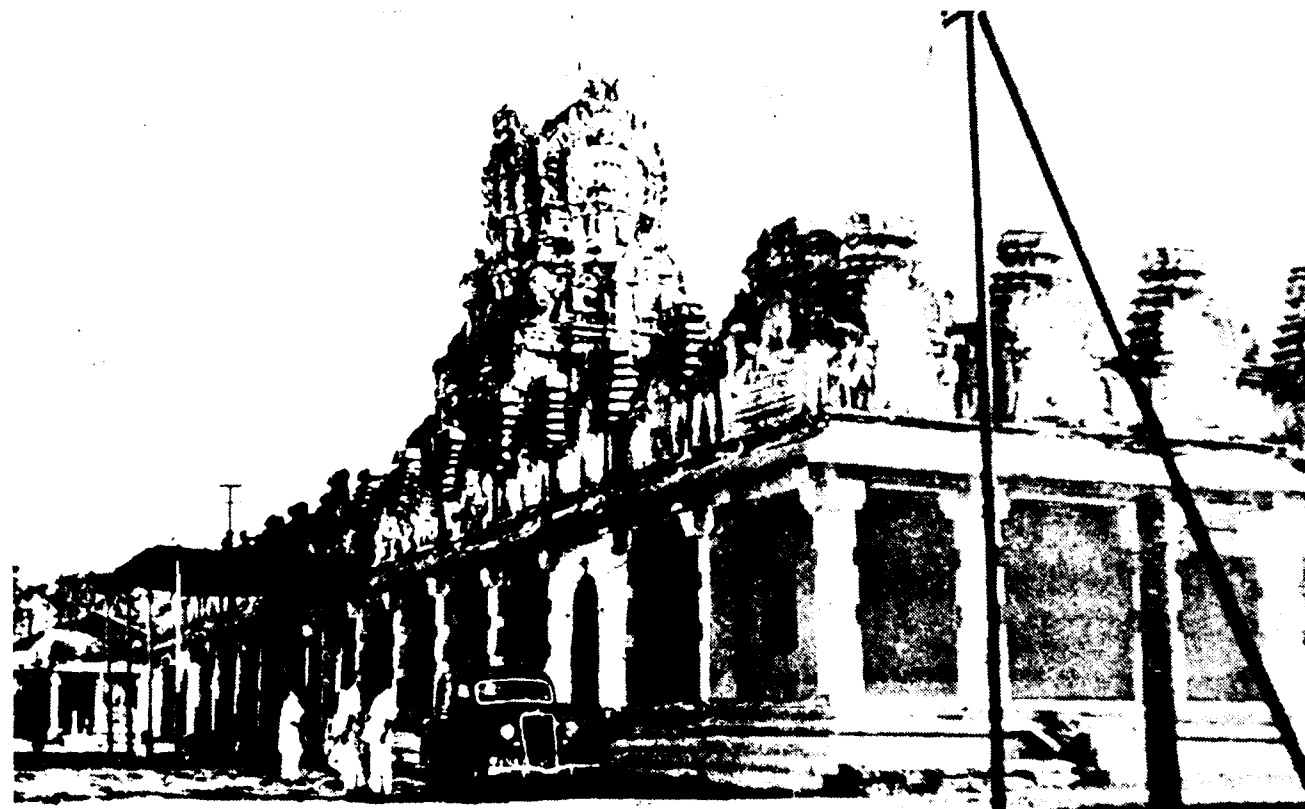
Due to ravages of nature and time, the image of Sri Narayanaswamy installed here was lost in the thick outgrowths of ant hills and thorny bushes. Centuries passed and in fact

even the residents of that locality forgot where the image of the Lord was and how he looked.

But Divine Ordinance had decreed that the resurrection of this image must be left to that great apostle of Sri Vaishnavism Sri Ramanujacharya. Born at Sriperumbudur in 1117 A.D., this renowned personality was drawn into the vortex of the renaissance that was then going on in South India to tide the overwhelming influence of Buddhism, that was fast spreading over this part of the country. Just a couple of centuries before, the young saint from Malabar Sri Sankaracharya did the spade-work to arrest its growth and established on firm footing the tenets of Vedantic religion by his Advaitic doctrine and by his too many esoteric works, which included a learned disposition on the *Brahma sutras* and the *Gita*. But it was left to Sri Ramanuja to erect on the foundation laid by Sri Sankara and it is true that this saint built a really lasting edifice by his fresh approach to the subject by stressing on the aspect of *Bakthi* to the indisputable Lord of the Worlds Sri Vishnu, by his Visishtachaita doctrine.

Ramanuja's strong adherence to Vishnu created hatred in the minds of the rulers of the Chola country and to escape from the dastardly persecutions of Karikala Chola, he had to flee to alien country. So Ramanuja sought the protection of the then Jaina King Bitti Deva, who ruled over the tract of country, wherein was situated the shrine of Sri Narayanaswamy.

It was the time when the entire region was under the influence of the Jaina pundits who held sway both over the people and the ruler for the spread of the Jaina cult. They succeeded in constructing numerous Jaina temples and mutts and it may be well said that even Sri Sankara was unable to influence the people here, as the royal patronage to Jainism was overwhelming. But when Sri Ramanuja fled to this part of the country and sought the protection of King Bitti Deva, circumstances were more favourable. The Royal princess Harihale, the only issue of the king was said to be possessed of *Brahma Rakshas*, which made the king miserable and unhappy. He took her to several places of Jaina cult and wanted the priests to cure her. But all their attempts were in vain. So when Sri Ramanuja reached the court of the king, the first suggestion made by the ruler was the



Sri Narayanaswamy Temple

curing of his beloved daughter. The great saint knew the gravity of the situation and taking advantage of that position demanded that in return, the king should embrace Sri Vaishnavism and help him in propagating that religion in his country. As the Jaiva were helpless in restoring his beloved child to normal conditions, King Bitti-Deva promised all help to this aged saint.

So Sri Ramanuja invoked Divine help and cured the princess by giving her some consecrated *tulasi* leaves and the sacred *virtham* on which she was immediately cured. The king was filled with joy and declared that he would follow the great apostle as his *guru* and embrace Sri Vaishnavism as his religion; thus he became the renowned Vishnuvardhana the great.

Other influences were at work, for the Jaina Priests getting irritated by the loss of their influence over the converted king began to give untold trouble to Ramanuja and his few disciples. At the instance of the king Vishnuvardhana, Ramanuja called all the Jain Pandits, who were more than a thousand in number for public disputation. In the course of a seventeen-day discussion Ramanuja succeeded

in defeating all of them which gave him a free hand to convert most of the subjects of the king to Vaishnavism. This necessitated the saint staying in Mysore for a considerable time.

While living there Sri Ramanuja was greatly distressed about three things: the disappearance of the images of Sri Narayanaswamy and Ramapriya, the utsava image of that deity from the once big temple at Melkote and the fact that, having converted thousands of Jainas to Vedantic Vaishnavism, he had exhausted his supply of *viruman* the white clay that all Sri Vaishnavites used for their caste-mark.

Directed by dreams to pursue his search for these well-cherished objects, Sri Ramanuja prevailed on King Vishnuvardhana to send him to the spot, which indicated the place where once was the temple. The king did more, for he with a large retinue of men and guards accompanied the aged saint and his disciples.

Arriving on the banks of the Vedapushkarani, the saint spent considerable time in prayers and he was given suitable directions by Divine suggestions. So he asked the workmen to dig up a huge ant-hill that stood on the banks

of the sacred Kalyani tank. After many days of incessant labour, the hidden image of Lord Sri Narayanaswamy came out of the excavated hill. This transported the saint to immense joy and strengthened by this success, he asked the men to continue their labours along a line that he marked out with his sacred *tiruthandam*. Here he was able to discover a bed of rich supply of *tiruman*, which was so badly needed for his large retinue. But yet Sri Ramanuja was feeling much grieved as he could not trace the place where the charming *utsava* image lay concealed. This image was created for Brahma and was installed by Sanatkumara. It was worshipped by Rama, Sita and Lakshmana during their wanderings in the south and hence was named as "*Ramapriya*"—Rama's Loved One. Later, the image was given by Sita as a wedding present to her maiden, Kanakamalani. It was this processional image of Ramapriya which was still, after long and weary seeking, unfound.

From the local residents, who had heard it from their forefathers, Sri Ramanuja learnt that the image was carried away by the Muslim marauders that raided that part of the country. Dispirited by his vain search all over the hill for this image, the sage was once again blessed with a divine dream in which he was given full indications that the image was at Delhi in the palace of the Muslim ruler Emmandu (Mahamud). So very old in body, but young, undaunted in mind, Sri Ramanuja set off on a journey to the north, accompanied by a few disciples. Which in those days might have appalled a person who was no less than eighty years of age.

At Delhi, the Muslim emperor, unable to resist the petition of the old man, so gentle yet so undaunted gave orders that he should be allowed to search the royal treasures. What he sought, however was not among the many of the plundered treasures. But the sage was told in another vision that the idol that he was so eagerly searching for, would be seen in the private apartments of the young Muslim princess, Varanandini, "who loved the idol with extreme devotion".

When this tidings was communicated to the king by the saint, the king brushing aside the strict Muslim custom of purdah, led the aged Sri Ramanuja to the apartments of his daughter. Beholding the charming image of the much-sought-for Ramapriya installed on a lovely

pedestal near the bedstead of the royal princess gaily decorated in Muslim fashion, Sri Ramanuja was overwhelmed with grief and tears of joy rolling down the cheeks of the old man, he cried out "Chelva Pillaiye! Varum (செல்வப் பிள்ளை! வர விடு) and to the surprise of all, both Muslim and Hindu, the image of Sri Ramapriya walked across the room and seated Himself on the saint's lap. Sri Ramanuja, forgetting the divine nature of the deity, rapturously embraced Him, just as a loving father would his long-lost son. This accounts for the strange fact that still prevails to this day of calling Sri Sampatkumara as the son of Sri Ramanuja and even fixing His *gotra* as *Haritha gotra*—the *gotra* in which Sri Ramanuja himself was born.

Amazed at this, yet another miracle, the Muslim king readily allowed the image to be taken away by the great sage and also sent him and his disciples back with a grand retinue of armed soldiers and loads of costly gifts. By divine help the saint was able to cover the long distance from Delhi to Melkote overnight. As the sage decided to stay outside the limits of the sacred place till the proper oblation ceremonies for the image were completed, he ordered the troops that accompanied him to return to their place.

But the heart-broken little princess, who had loved the image with inexplicable form of love, coming to know that the image had been carried away, mounted her horse and no miracle assisting her, all alone through foaming rivers and trackless jungles, over wild mountains and wilder gorges, rode for many a day in pursuit of her much beloved object. At long last she reached Melkote to find that the image had already been consecrated and installed in the great temple. But her love surpassed all religious barriers, for she rushed into the Hindu temple to seek the feet of the object that was nearest to her heart. The Great Lord also realised the purity of her love and to satisfy her, received her unto Himself and she was absorbed into Him. From then onwards, her image adorns a coveted place as it is installed over the feet of the standing Lord.

Thus installed by the great Sri Ramanuja by about the year 1100 A.D., this great temple commands the veneration of every devout Sri Vaishnavite. This place now abounds in numerous *tirthams* and other

places of religious interest. The most important is the *Kalyani Pushkarani* as it was at this spot, when Sri Ramanuja was bathing there, he received the news that the Chola persecutor passed away after suffering from a wasteful disease at Woriyur. This tank is flanked with pillared corridors and mandapams in one of which is installed Siddhi Vinayaka.

of the temple. The extensive view from this hill top spreading to hundreds of square miles of the plains below, is interesting and impressive. The image of Sri Narasimha installed here is an imposing figure in the attitude of *Yoga Narasimha* and is considered to be a good bestower of wishes, both mundane and ethereal.



Utsava image of Sri Sampatkumara—more popularly known as "Sri Chelva Pillai"

Starting from the banks of the *Kalyani Pushkarani*, is the most sacred hillock—the *Yadavagiri*. It is about 3,600 feet above sea-level and is crowned with the shrine of Yadugiri Narasimhaswamy. Nicely carved steps help the pilgrim to climb this rather steep hill and as one nears the temple, one is thrilled to see the nicely constructed gopuram

Among the festival that are conducted in this ancient shrine, the most important is the famous "Varamudi Utsavam," which takes place in the Tamil month of *Panguni* on the *Sukla Dasami* day. On that memorable day, the utsava image of Sri Sampatkumara is decorated with a magnificent crown of gold studded with priceless gems of the rarest

The next morning Ramu tried one of the new pants that the dobi brought. Another disagreeable surprise was awaiting him. Contrary to the shrinkage that you expect in a new cloth after a wash, Ramu found the pant very loose even after accommodating his copious belly. It was also hanging loose on the ground two inches below his feet. Ramu did not want to face his wife just then as it was time for the office. It was clear to him now that he could not wear these pants and suddenly an idea flashed into his mind. He did not, however, take his wife's valuable counsel in the matter. He took a bold risk and straightaway walked into Appaji's shop with the two pants. Appaji is Ramu's old tailor friend who mends old clothes. Ramu asked Appaji to restitch them into half-pants for his sons Gopu and Balu. Appaji obligingly charged only three rupees for the four half-pants. All the thirty rupees of T.A. that Rama received was completely expended and Ramu's children got four dirty looking multi-coloured trousers.

Gopu and Balu were delighted at the new trousers and were never bothered about their colour, quality, etc. They wore the "new" trousers and ran into the kitchen in joy to show them to their mother. Ramu thought that the children looked smart in the new half-pants and the money was not after all a waste.

Ramu heard somebody screaming from the kitchen. It was his wife. Before he could gather his wits, she appeared before him. "Is there no end to your foolish actions? Are we so poor as to restitch 'old clothes' trousers for our children? What shall I do but my fate which threw my lot with you?" She was fretting and fuming with anger. Poor Ramu was shivering under his clothes and no words came out of his mouth. The only escape for him was to disappear from his wife's presence.

Ramu was returning from office the next evening. He was sad. He could not understand why these womenfolk forgot to think for a moment that their husbands were after all human beings and they had also feelings and were not wood or stone not to react to the endless taunts and affronts of their wives.

He was however agreeably surprised to see his wife all smiles receiving him very cordially. Ramu thought that this was perhaps a prelude to a request for the purchase of a saree or for a trip to her father's place. His wife brought hot coffee and said that he looked very tired and hot coffee would do him lot of good. Rama raised his head and saw a shining new tumbler and a 'damara' in stainless steel and coffee was steaming inside. The following conversation ensued:

Ramu: "When did you purchase these vessels? Why should you unnecessarily waste money on them when we have plenty of tumblers at home?"

Ramu's wife: "No, my dear. I did not spend even a pie. I got them exchanged for old clothes from the street vendor."

Ramu: "There are no old clothes in our house, which I can think of. Did you not purchase an 'ever silvercup' last week in exchange for my two coats?"

Ramu's wife: "You are always forgetful. Don't you remember the old trousers that you stitched for the children yesterday? The fellow easily consented to part with these two vessels for the trousers. How nice they are. Don't you think it is a good bargain?", she cooed.

Ramu was stunned. He got very angry with his wife and gave vent to his feelings once in his life. He shouted, "Have you got any sense? I spent all the T.A. and stitched them. They were not at all bad, but for slight fading of colour. What was wrong if the children used them for some time?" That was too much for his wife who never encountered such a retort from him in all her 14 years of married life. She screamed aloud, "There is no appreciation for whatever I do in this house. You wasted Rs. 30 on a useless purchase and there was nobody to question, why? Instead of giving those trousers to our servant-maid for her children's use, I was foolish enough to make a good bargain out of them and got these useful vessels. I deserve all this and much more for having interfered into your private affairs." She began to cry. Ramu had sense enough to disappear from the house instantly.

SURVEY FOR NEW LINES

(I)

OPRAIL

THE story of a railway system of a country or a continent is something like a serial story, with each instalment ending with the phrase 'to be continued'.

A railway system in its early stages will start with about 50 to 100 miles of track and a few stations. As time goes on the railway tracks move out into various directions until a vast area of the country is criss-crossed with the steel tracks, over which passenger and freight trains ramble throughout day and night.

In a large country it is almost impossible to provide rail transport to each remote little town or village, yet a time may come, when with the discovery of mineral deposits near an obscure village, or with the setting up of new industrial plants, or even perhaps for strategic reasons, the rail tracks will be laid towards that point and so provide the means of moving raw and finished materials to and from that particular part of the country.

But before the first piece of rail length is taken to the spot where the new line will be built, a detailed survey must be made of the entire project. This survey is usually approached from two main angles—the engineering and the commercial.

To take an example: It is proposed to build a railway line between two points which are already rail-heads, but the country lying between these two points is not served with rail communications, and the only means of passage may be one main road with a number of little byways beaten out by the feet of man and beast. The distance to be covered, if taken as a straight line on the map between the two points, may be only 10 to 50 miles, but it is not always possible to lay down a rail track as a straight line. Ultimately, to provide rail communication over that section, the actual track mileage may be double or more than double, even for a single line system. This is where the engineering survey team comes into the picture.

Perhaps, the first job the survey team will tackle is to study in detail large scale maps of

the terrain to be covered. From these maps they will soon get a general idea of the over-all physical contour of that part of the country where the ground is flat, where there are hills, rivers, streams, villages, etc. But this is not enough, and will not suffice even to draw a tentative alignment of the rail tracks to be laid.

The survey party will now go out to do the actual field work. Man, even in a primitive state, when having to find a way from one part of the country to another, will beat out a path that offers the least obstacles and resistance, so that the distance covered can be done in the least possible time. So, when the engineers out in the field find there are roads or beaten tracks, they consider whether the railway can follow a similar alignment. But during the survey, a detailed scrutiny is made of the territory to be covered.

In this study the engineers carefully note such factors as waterways which may include large rivers down to tiny, trickling streams, or even dry river-beds, whether the terrain is more or less flat, gently undulating, or with perhaps a range or so of low hills. The countryside may be squared out for miles and miles with fields rich with the possibility of various types of good crops. Then again, it may be very dry land, or with profuse forestation. The general nature of the soil and sub-soil is also important to the survey. So mile by mile and section by section, the physical contours of the terrain is examined, as in laying railways the cost has to be considered, and above all, safety. It may be cheaper to align a railway track along a particular path which offers less obstruction and less cost, but in the long run that alignment may not be safer.

Obviously, railway engineers would always like to pat down a rail track on flat country, with the least number of obstacles, but that would perhaps mean a longer meandering railway line of 200 miles or more to connect two points only 50 miles apart as the crow flies. So to make it shorter, it may be necessary

to cross rivers and streams, and for this purpose, decisions have to be taken as to the type of structures that will eventually bridge the gaps and take the rails across. If the country is hilly it may be necessary to bore into a hill and take the track through a tunnel, or a cutting between two hills. If the rails have to pass through thick forests, there will be a lot of tree felling and clearing to be done.

Apart from the foregoing, even though a tentative alignment of track has been plotted, it cannot be accepted without further investigation. A geological expert is then asked to examine the terrain and to report on the sites for tunnels, viaducts, bridges, ghat sections, etc., as to whether the structure to be constructed on the selected sites will be stable from the geological angle.

With the data obtained from experts now available, the survey team can now go ahead to select station sites. Obviously these will be situated as near as possible to towns or villages with big populations, or where new industries are to be located, or special rail transport facilities to be provided. Some of the stations may require yards in certain areas to handle goods trains also, and for this it will mean the acquisition of sufficient land for the laying of yard tracks.

Land acquisition is often quite a problem, as the land required for laying the tracks may have to cut through cultivated fields, or existing buildings may have to be demolished and so on. The owners of the land can create quite a load of difficulties in refusing to part with their property, or stand out for large amounts of compensation.

Throughout every stage of a survey the engineers are also required to consult the local civil authorities, as these can be of immense

help to the survey team, as they progress from section to section.

When the course of alignment has been more or less agreed to, the engineers must now go into more details in the matter of construction. Huge quantities of earthwork will have to be done; the gauge and type of track decided upon to take the heaviest axle load of the nature of traffic to be moved; details of the types of bridges and culverts for spanning waterways; types of station structures; detailed layouts of yards where required; cabins, signalling and interlocking problems, etc. Where steam traction is to be used for hauling trains, the engineers have to ensure that an adequate all-the-year round supply of water is available at certain station for filling up the locomotive tenders.

The survey team will also have to prepare estimates of every item of engineering material and stores that will be required for the new line. This will comprise thousands of items of permanent way and structural materials and stores, as well as everything necessary for buildings in the way of bricks, cement, sand, lime, wood and so on. The cost of supervision and labour to be employed for the project must also be worked out.

Within about five months the engineers have completed their survey and are in a position to compile a detailed report on the entire project, so that the General Manager and Heads of departments concerned can be acquainted with the implications of the whole scheme. Along with the Engineers, Traffic Officers have also been completing their 'Traffic Survey', which gives an indication of the potential revenue likely to be earned by opening up the new section. Some idea of the 'Traffic Survey' aspect will be given in the next article.

Subscribers are requested to intimate the Editor of any change of address to avoid non-delivery or mis-delivery of copies.

EDITOR

SOUTHRAILNEWS

18-A Mount Road - Madras-2

UNESCO GENERAL CONFERENCE

The following is the text of a broadcast made by Dr. Luther H. Evans in the National Programme of the AIR on October 3.

"This coming November, India will be host to a very important international conference. On the invitation of the Indian Government, the United Nations Educational, Scientific and Cultural Organisation—UNESCO will hold its General Conference in New Delhi.

Policy-making Body

The General Conference of UNESCO meets every two years. The General Conference is the supreme policy-making body of UNESCO and to its Ninth Session in New Delhi will be coming delegates from the 76 countries which make up its membership.

For several reasons, this New Delhi conference will be something special for UNESCO; it will be the first time that the General Conference has met further East than the shores of the Mediterranean. Secondly, this conference will coincide with UNESCO's tenth anniversary. And thirdly, it will select a number of "major projects" on which UNESCO's efforts and resources will be concentrated.

Agency of U.N.

UNESCO is a specialised agency of the United Nations. Like all of the agencies which make up the United Nations family, UNESCO's activities and policies are defined by its Member Governments whose delegates, at each General Conference, review the work accomplished in the two previous years and determine what its activities for the next two years shall be. The major part of the coming conference in New Delhi, therefore, which will run from 5th November to 5th December, will be devoted to discussing and deciding UNESCO's budget and programme for the two following years, that is 1957-58.

Purpose of UNESCO

The general task of UNESCO was laid down in its constitution. That document defines its purpose as "to contribute to peace

and security by promoting collaboration among the nations through education, science and culture to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms guaranteed by the Charter of the United Nations....."

"Education, science, culture....." These are vast fields of human endeavour which UNESCO is concerned with. UNESCO's experience over the past ten years has shown the need for concentrating on priority tasks. And it is in line with this, as I mentioned earlier, that our General Conference in New Delhi will be called upon to select certain "major projects" for place of priority in UNESCO's programme for 1957-58.

Major Projects

The Executive Board of UNESCO has already given considerable attention to the question and has recommended for consideration as "major projects"—

- (1) Extension of primary education through teacher training in Latin America;
- (2) Scientific research on the problems of the arid lands of the world;
- (3) Promotion of mutual appreciation of Eastern and Western culture values.

These are projects which are of concern not to one country, but to many. Moreover they are fields in which UNESCO has already had considerable experience.

Whatever decisions the General Conference in New Delhi reaches as regards "major projects," the regular activities of the Organization will of course be continued.

India's Part

India has played an important part in UNESCO's work from the start. Education is a good example. The city of Bombay was host to a major regional conference on free

and compulsory education in South Asia and the Pacific in 1952. Studies on different branches of education have been written by Indian educators for publication by UNESCO. The adult education programme of Mysore State proved a practical class room from a UNESCO centre where students from many countries, particularly countries from the West, have been trained as fundamental education leaders. Fundamental education which UNESCO pioneered is proving a useful means of raising rural living standards.

Since 1948, Delhi has been the headquarters of one of our Science Co-operation Offices set up to help in the exchange of scientific information and the encouragement of scientific research in the region. UNESCO's arid zone programme was initiated in 1948 following a proposal by India. And in 1953, the Indian Government acted as co-sponsor with UNESCO of a symposium on the use of the energy of the sun and the energy of the sun in desert regions.

Experts from India

While UNESCO has been able to provide technical assistance for such projects as the Technological Institute at Kharagpur, Bombay, the Central Water and Power Research Station at Poona, and the Scientific Documentation Centre at New Delhi, India has provided experts in many fields to serve on UNESCO missions in many other countries.

A distinguished compatriot of yours, Dr. Lakshmanaswami Madhavan, is Chairman of UNESCO's Executive Board which has benefited much from his wise advice and experience.

There are many friendly ties between India and UNESCO; ties which our conference in New Delhi will strengthen. We shall be coming as partners in a programme for better living, and from closer contact with your country we shall no doubt derive fresh faith and zest for our task.

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UNESCO'S CONTRIBUTION TO UNDERSTANDING AND CO-OPERATION

The following is the text of a talk by Shri K. M. Panikkar broadcast in the National Programme from All-India Radio on 19th September 1956 :—

The United Nations Educational, Cultural and Scientific Organisation, known the world over as UNESCO, is one of the most significant movements of the post-war period. Born out of a recognition that a feeling of world community can grow only on the basis of a common understanding of the intellectual, scientific, and cultural heritage of mankind, the UNESCO during its ten years of activity, has done more to bring nations, peoples, and civilisations together than any other organisation in the past.

Scope of Work

Its activities today are truly universal. It embraces all the major states of the world, and its activities cover practically every area. It is not necessary for me to speak of the ever-widening range of its operations, in the field of education, spread of scientific knowledge, popularisation of culture, etc. But there are two aspects of UNESCO's activity which, in my opinion, are of fundamental importance.

Until quite recently it was normal for most Western Nations to identify civilisation and culture with Europe and with communities tracing their origin to Europe. In fact, it was at one time, not so long ago, firmly believed that all civilisation originated around the Mediterranean and whatever was of value to the human race was the gift of Greece, an opinion the survival of which can even now be traced in much of the writing relating to culture in Western Europe.

If other civilisations, Persia, India and China, claimed to have a civilisation and culture of their own, which would not be wholly overlooked or written off as mere curiosities or at best only for those who are specialists. Their history was not known.

Old Conception of History

In fact, this attitude went even further when it came to the writing of history. History

was conceived as an epic and never-ending struggle between the East and West, in which, the West, it was alleged, stood for progress, civilisation, culture, and the advance of humanity, while the East represented the forces of darkness. In European versions of history this can still be seen. Farther it is assumed that if the countries of Asia are showing signs of advancement now, it is due to the influence of Europe and the penetration of European ideas.

This Europe-centrism in thought has been one of the major maladies of the modern world, creating and perpetuating artificial divisions between peoples, rendering a sympathetic understanding of different civilisations almost impossible. It is only as a result of the great searching of hearts which followed the second great war that the leaders of the time recognised the fundamental importance of bringing together the nations of the world, not in military or political alliances, but in a common understanding of the cultural and scientific heritage of mankind. It was recognised that all living civilisations and cultures, despite different stages of development, deserved respect, understanding and study. The UNESCO has attempted to give practical shape to this ideal.

Aims of UNESCO

The UNESCO was brought into existence for the primary purpose of creating an atmosphere of understanding and co-operation on an intellectual level between the nations of the world. Its principle has been from the beginning one of universality and it is to its credit that it realised from the start that one of its main functions would be to eliminate the prejudices which nations have inherited from the past. It visualised its work not merely in terms of technical assistance, expert co-operation and other forms of assistance to the backward areas but as involving the more basic problem of eliminating prejudice, of bringing home to the people everywhere the contribution of others to the common pool of civilisation. The kind of work which the UNESCO has been doing in this field may be illustrated by one or two examples.

Major Works

The UNESCO has published a set of remarkable Art Albums to make the world familiar with the artistic treasures of different nations. The series includes, the fresco paintings of Ajanta, the painting in Egyptian tombs and temples, the work of Australian aborigines, the frescos of Raphael and Massaccio. This is of course only a beginning. No doubt in due time these Albums will help the peoples in the West no less than the East realise that each people, each region, has artistic traditions of value which add immensely to the richness of our common civilisation.

Equally significant in this connection has been the programme of the translation of non-European classics into Western languages. The last hundred years had seen mainly a one-way traffic in literature. While the masterpieces of Western languages have found their way into most non-European languages, very few in the West are even aware of the great literary treasures of the nations of the East.

Translations

The UNESCO has sponsored a project which seeks to translate into the major Western languages the classics of other languages. So far as India is concerned, the books so far selected cover such widely different works as selections from Vidyapati and Chandida, Silappadhikaram and Manimekalai, Dyaneswari and Tulsidas Ramayana.

Everyone of the national languages of India is adequately represented, apart of course from the classics of Sanskrit. In this connection I might also mention the translation of *Adigranth*, from the *Granth Sahib* of the Sikhs.

The significance of this project can well be imagined when it is realised that the scheme will eventually embrace all the major languages of the world.

One of the major barriers in the way of better international understanding has been the old system of national text books, which perpetuated prejudices and often presented other nations and peoples in an unsympathetic light. Every nation, it would seem, imagined itself to be the chosen race, endowed with special virtues, with special claims to greatness. Necessarily other nations were represented

sometimes as inferior people, without the law, but when that was not possible, their alleged weaknesses were exaggerated so as to convey the impression that one's own nation was in some mysterious way superior to the others.

The creation of this kind of distorted self-image, it would appear, was mainly through text books used in schools and colleges. The UNESCO realised from the beginning that there was but little possibility of lessening national prejudices without tackling the evil at its source, in the text books used in educational institutions. No doubt it has not been possible to bring about a radical change in this matter within the short time that the UNESCO has been in existence. But through discussions and seminars, the UNESCO has undoubtedly brought an awareness of this problem to those interested in International welfare.

Another major project which seeks to eliminate this kind of national or regional prejudice and tries to picture humanity as a whole is the work which is now being done on a cultural and scientific history of Mankind. This is one of the most ambitious schemes which has so far been undertaken by the UNESCO, for it seeks to present the story of mankind, not from the point of view of Europe, Asia or Africa, but of humanity as a whole. The scheme itself is truly universal.

Method of Work

Its work is organised and controlled by a Commission, which includes scholars from all the major countries of the world. It seeks the co-operation of the leading scientists, historians, sociologists, archaeologists, researchers in anthropology everywhere. Equally the team of author-editors contains scholars from different countries. The President of the Commission is a Brazilian scholar of eminence. Its Secretary General is a Swiss historian.

Among the members of the Commissions are scholars from the Soviet Union, China, and the countries of Asia. The general editor of the volumes is an American historian of outstanding achievement. The joint authors of the final volume are from America, Europe and Asia. It will be noticed that so far as is humanly possible every effort has been made in the production of this work to eliminate national and regional prejudices.

The Scientific and Cultural History of Mankind is the first co-operative effort on a global scale to present the story of man's advancement, through ages. Its main characteristic is that the problem of cultural and scientific development is approached not from the point of view of any region, race or groups but of humanity as a whole. It is the first serious attempt to break down the inherited prejudices of peoples making exclusive claims to culture and scientific contribution by showing in the first place that our life today has its roots not only in this place or that, but in many different places, that what we know as civilisation is the inheritance of mankind as a whole, though groups might not be able to share its advantages fully today.

This doctrine of the equal entitlement of all people to the cultural and scientific heritage of the world, that everyone everywhere is entitled to share equally in the achievements of different peoples is a fundamental assumption of all the UNESCO's programme. But UNESCO equally recognises the wide disparity that exists in the level of education and equipment in different parts of world making it difficult if not impossible to realise in practice the doctrine of equal entitlement without an extensive scheme of preliminary work.

Educational Programmes

Much of UNESCO's work is, therefore, concentrated on educational programmes. In Latin America, in Africa, in the Islamic East and in Asia generally projects of adult education, popularisation of scientific knowledge, organisation of museums, exhibitions, production of literature for neo-literates are sponsored by the UNESCO in co-operation with national governments and semi-official organisations. Most notable in this connection is the UNESCO's work on fundamental education.

From 1946 this has been one of the most important of UNESCO's activities. The immediate purpose of fundamental education as visualised by the UNESCO is to develop an integrated system by which education becomes an effort to promote personal development and community progress, that is, not merely to give instruction but to adjust the individual to the environment.

UNESCO could indeed claim world leadership in fundamental education, as its constructive centres in this field are spread right round the world, in Haiti no less than in the Philippines, in Mexico no less than in India.

Obviously much of the work of the UNESCO has to be of a preparatory kind, of popularising ideas, of conducting enquiries, of providing machinery of co-operation, of securing the free flow of information, of demonstrating the value of proposals through pilot projects and so on. It is only through the member states that the work of the UNESCO can be made really effective.

But the enquiries and the studies that the UNESCO has so far directly undertaken are of the highest importance not only because they provide the material on which the states can base their policies, but also because many of the less advanced states are not sufficiently equipped to undertake scientific studies on such problems. To give only two examples, the social implications of industrialisation in the predominantly rural economies of South-East Asia are undoubtedly complex and may, if not handled carefully, spell much misery and lead to large-scale tension.

These communities, suddenly thrust into a technological age, may find themselves facing problems of social adjustments for which they are not adequately equipped. Traditional bonds which united societies in the past will inevitably break down. Moral values will change. The relations between urban and rural areas will be subjected to violent fluctuations.

It is of primary importance that the problems of a coming industrial revolution should be studied in advance and measures taken to mitigate its evil effects. But the countries of South-East Asia, even the most advanced, do not possess the necessary experience for undertaking such an enquiry. A research centre on this subject is soon to be opened in India.

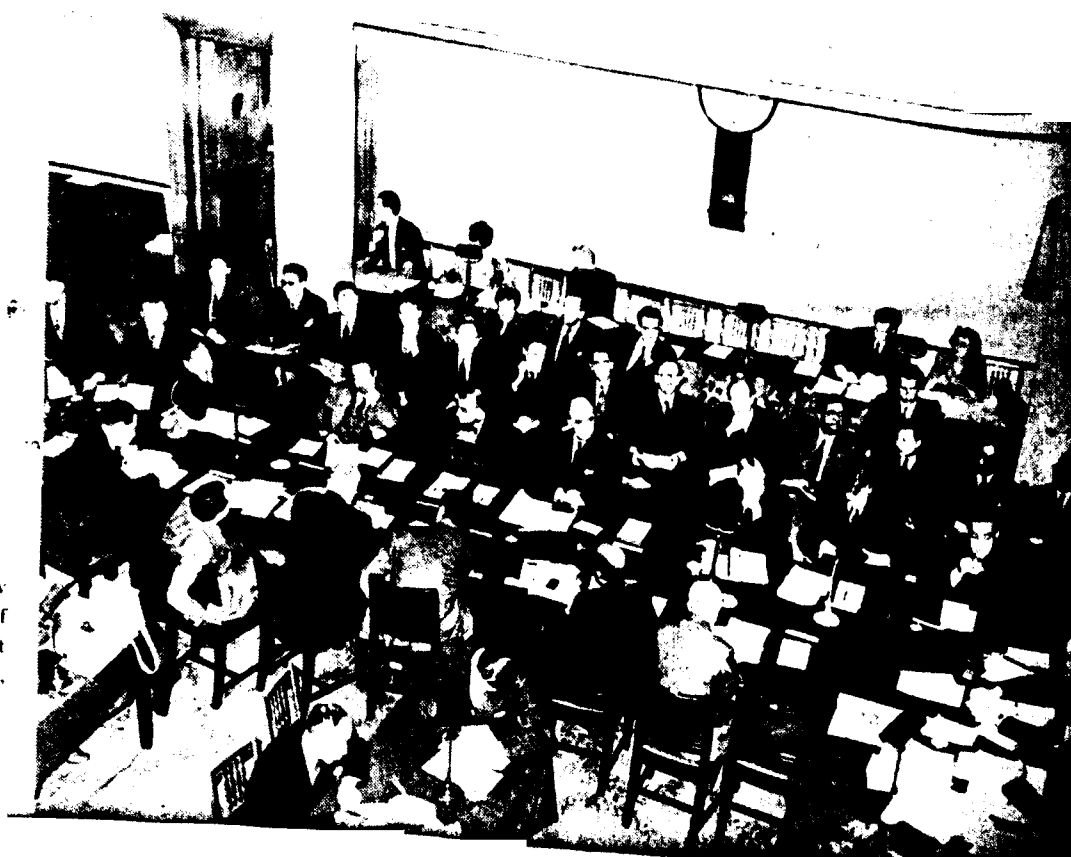
Work on Arid Zones

A second and equally interesting example is the work on Arid Zones. Over a fifth of the world's area is today unproductive and uninhabitable. What an immense addition to



General view of the public session held during the U.S. National Commission of the UNESCO, in Cleveland, Ohio.

[Courtesy USIS]



The preparatory commission of UNESCO as it met in London, in July 1946.

November 1956

UNESCO'S CONTRIBUTION

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world's wealth and resources there would be if through scientific research these vast areas could be brought into use. Generally speaking, the states within the Arid Zone or others like India with a part of its territory encroached upon by deserts do not themselves command the variety and extent of scientific skill necessary for systematic research on this problem. As early as 1946 the UNESCO set up its advisory committee and Arid Zone research in order to organise co-ordinated work in different allied sciences such as hydrology, plant and human ecology, wind and solar energy.

The service that the UNESCO renders to member states especially in the under-developed portions of the world deserve special mention. In the great fight for literacy in backward areas UNESCO leadership assists State Governments with expert technical advice, literature, etc. It sends out missions to help to establish, organise or develop the teaching of social sciences at University level.

It has set up fundamental educational centres, one for Latin American countries at Patzcuaro in Mexico and another at Sirs el Layyan, in Egypt for the countries of the Middle East. It has organised advisory services on audiovisual aid in education the most notable example being the one undertaken in Colombia in South America.

Mission Assignments

In October 1955 there were as many as 160 experts from different countries on mission assignment to assist national governments, there were 84 projects in operation in 41 countries and no less than 253 projects had been completed. In fact in every sphere of cultural and scientific activity, UNESCO seeks to bring about co-operation between states and to make

available expert service through documentation, local studies, and trained personnel.

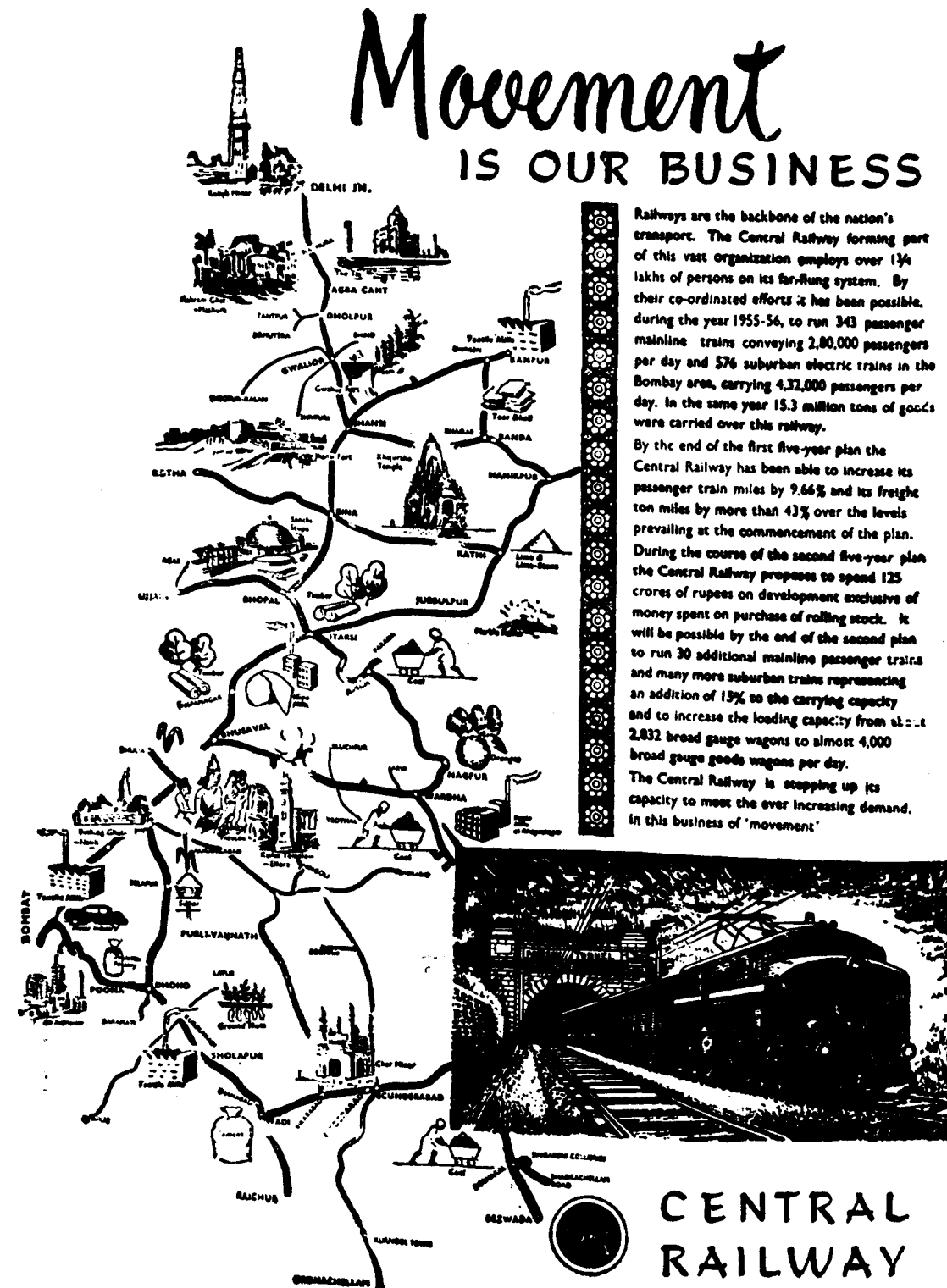
It will be seen that of all the international organisations which were created in the period which followed the last War, the UNESCO has undoubtedly been the one which has worked with the greatest sense of universality. Its work has been based on a set of principles in which race and colour prejudice has no place and culture and science are considered the equal inheritance of all.

The UNESCO believes in the equal entitlement of all, to the achievement of all in the field of science and culture, and to attain this noble ideal it has set itself to work in some measure directly, through its own projects but also to a much greater extent by placing its organisations and skills at the disposal of national governments. The national governments themselves have come more and more to appreciate the services the UNESCO is in a position to place at their disposal, and more and more governments are setting up national commissions to co-operate with the UNESCO.

One World Ideal

Much of course remains to be done. No institution even if it had at its disposal unlimited funds and all the talent it wanted could ever claim that the problems of mankind, have all been solved. All that can be claimed is that the UNESCO has gone about its work with a burning faith in the ideal of one World and with a frank realisation of the difficulties it faces in its work. Its achievements, though not spectacular, have been of fundamental importance, even if they have but helped to remove a few of the obstacles that stand in the way of an understanding between races and peoples, the UNESCO can claim that it has achieved something of lasting value.





been installed and electrically-connected instruments are used to operate which, the co-operation of the operators at the two ends of the block is required.

In Taiwan (Formosa) the Two-way Communication Block System is used with Soshin block instruments. The Taiwan Railways are, however, fast introducing the Automatic Block on their heavily-worked sections.

Train working on the Indonesian Railways is based upon Time Table and telegraphic train orders. No block instruments are in existence. Shifting of crossings and overtakings are arranged by telephonic exchange of information between the stations, immediately followed by telegraphic confirmation. The time-table and operation are based upon the principle that there is not more than one train at a time between two stations, even in the same direction.

Philippines

The Railways in Philippines have behind them a history of combined Spanish and American influences. There are two principal Railway Companies operating: The Manila Railroad Company on the island of Luzon and the Philippine Railway Company on the two islands of the Visayan groups, viz., Panay and Cebu. The Manila Railroad Company is state-owned and is the larger and more important of the two. 'Line Clear' and 'Authority to Proceed' are given to the driver and conductor by means of train staffs at stop stations and certificates attached to rattan or bamboo hoops at non-stop stations. Although the trains are run in accordance with schedule, normally it is necessary for the station masters to agree, by telephone, on the sequence for the admittance of trains into the block sections. When the telephone gets out of order, train operation loses its flexibility. If the telephone is in working order, the station masters as a rule can agree on changes of "meets and passes" (crossings) for trains running late except when express trains are involved. In the latter case, the Chief Train Dispatcher at the Central Station in Manila intervenes to direct and approve the changes. To facilitate this method of train working, two telephone wire circuits have been provided: one for station to station calls and the other for inter-communication between the Chief Train Dispatcher and the Station Masters. In addition, telegraphic is used at important stations.

Thailand

This country, formerly known as Siam, was free from foreign domination at any time except for a brief spell during the last war when it was occupied by Japanese forces. The Railway System in Thailand is, therefore, self-developed and the Thai language is used for railway operation including telegraph. The trains are run according to the principle of Absolute Block system. The track is divided into short block sections and these sections are spaced by station limit areas or joined up according to station classification. A train will not be permitted to enter a block section unless it is clear of obstruction not only up to the end of that block section but beyond it for an "adequate distance." Communication between stations is carried out by telegraph instruments with recording tape. Trains running use the Telegraph and Ticket methods. "Line Clear" must be obtained by telegraphic messages before the station master can fill up the block ticket and hand it over to the engine driver. If communication fails, a Caution Ticket is given to the Driver and the trains must not exceed 12 1/2 miles per hour.

Tape recorder used for block working.





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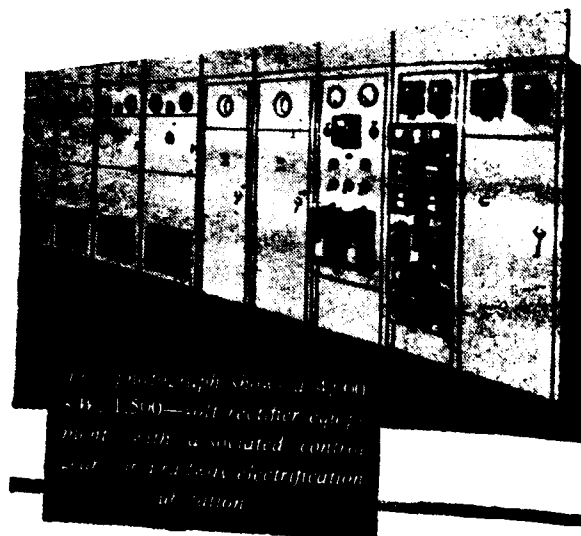
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This photograph shows a 3,000 V.D.C. 1,500-hp rectifier equipment with associated control gear for railway electrification.

RAILWAY BLOCK SYSTEMS

(II)

T. S. PARTHASARATHY

Deputy Chief Operating Suplt. (Coaching)

AS the Indian Railway systems were originally being worked by British Companies, they inherited the same train working methods and signalling and interlocking practices that were used on the British Railways. Hence the almost universal adoption of the Absolute Block System, the Adequate Distance and other British methods on the Indian Railways even to this day. Fundamentally the same methods are still in use in the eastern countries such as Pakistan, Ceylon, Burma and Malaya which were formerly under British rule. When, however, single line sections or double line steam or electrically-operated sections reached the saturation point, the Automatic Block System was introduced as on the Rangoon-Kemmendine Section in Burma and electrified lines in India.

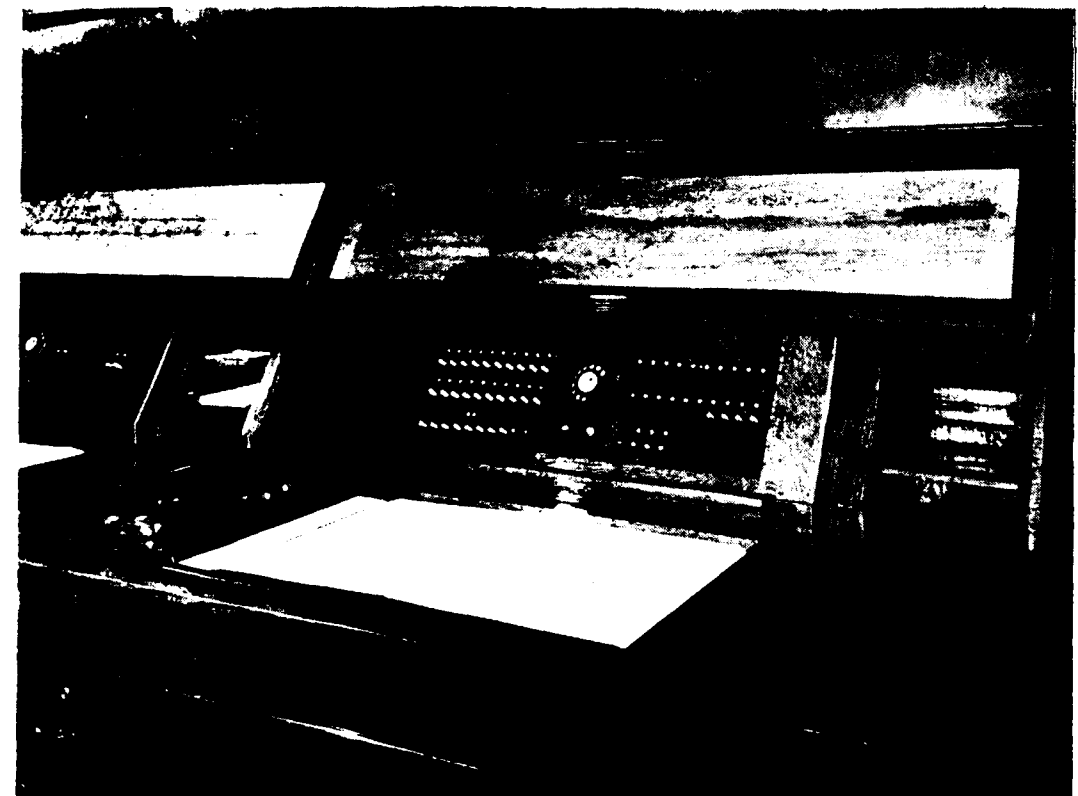
Even in China, on the single line, the Absolute Block System is widely used but

electric tablets or electric train staffs are employed. In the event of a failure of the block instruments two systems not in use in India, viz., the Pilot and Telephone System and the Pilot Block System are used. On the double line, the Two-way Communication Block System is used. The block instrument, equipped with telephone and electric bell, gives the following indications by means of an indicator arm :

- (1) No train in the block section and
- (2) A train in the block section.

In the event of a failure of the block instruments, the telephone system is substituted and in some places, the Time Interval System is also used. In a few heavy traffic sections of double line, the Automatic Block System is in use. On one of the double track lines in North China, the Lock and Block System has

Typical Single Dispatcher's Desk with graph holder.





The Indian Railways are a vital part of our economy—expansion of trade and commerce is made possible by the Railways. And in the future the Railways must bear an even heavier burden of transport, to carry up towards prosperity.

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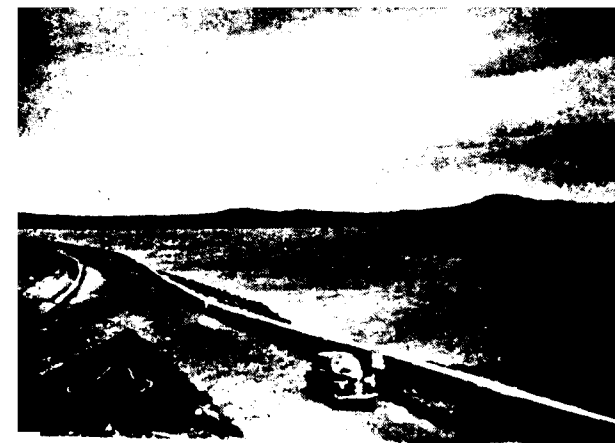
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View of the catchment area of the dam

METTUPALAIYAM railway station has long been well known as the terminus of the broad-gauge line from Coimbatore City and the starting point on the Nilgiri mountain railway which climbs up to Ootacamund, 7,000 feet high. It is also the exporting station for the valuable products of the Nilgiri hills, including potatoes worth crores of rupees. Fresh importance has been gained by Mettupalaiyam as the station nearest to the magnificent dam and reservoir built recently at a cost of many crores of rupees at Bhavanisagar, a new township mainly inhabited by employees of the engineering establishment. A good motorable road, 23 miles long, runs from Mettupalaiyam to Bhavanisagar through beautiful rural area facing the blue hills. There is an efficient bus service from the railway station on this route.

The vast artificial lake formed by the gigantic dam, 5½ miles long, on which a fine road is laid and adorned by a lovely Ganesh

BHAVANISAGAR TOURIST SPOT AT THE FOOT OF THE NILGIRIS

P. R. VENKATARAMAN

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Entrance to the dam—the Kotagiri mountain can be seen in the background

Temple and an Inspection bungalow towering in the centre of the scene, and the artistically laid-out gardens and avenues behind the tall dam, are attracting an increasing number of visitors.

This is an achievement of Indian engineers applauded by foreign experts, and a credit to the young national Government of Free India. The sight of life-giving water gushing through the sluices with thunderous noise into the irrigation channels, gladdens the hearts of cultivators of paddy, cotton, tobacco and other crops over several miles of land hit by subject to draught and vagaries of the clouds.

Bhavanisagar is an ideal place for picnic parties and tourists. There is a cafeteria



Single Line Block instruments (token type) are in use on heavy traffic sections and have proved to be safe and efficient. Block working is carried out entirely by instruments and bell signals and there is no phone conversation between the two station masters.

Double lines also use the Telegraph and Ticket method but Lock and Block instruments are fast being installed. The Thailand Railways are also considering the installation of C.T.C. for hilly sections between Utaradit and Lampang (100 miles) and between Kaeng Koi and Pak Chong (35 miles).

In Viet Nam, which follows the French method, single track operation is effected according to Time Table. Crossings are indicated in the Time Table and shifting of crossings are worked out by exchange of telegraphic communication between stations. Protection of trains running on single track lines in the same direction is effected by time interval between two trains.

One significant factor in train operation in the Far Eastern countries is that by long tradition, the staff have developed such a sense of responsibility that on busy single line sections, as many as 20 trains are run each day in 24 hours without the provision of block

instruments. Comparative accident statistics show that this practice has in no way made travel less safe than in countries where allegedly fool-proof block instruments and a plethora of signals have been provided.

In Western Countries

In the European continent and in the United States of America very advanced systems of working trains are naturally adopted and three objects are generally kept in view:

- (1) To avoid the handing over of a tangible token to the driver of a train.
- (2) To permit at least goods trains to follow passenger trains into the same block section (Permissive working) and
- (3) To use block instruments and signals connected with them to keep trains "moving" and not to "stop" them frequently.

In the light of these principles, let me now examine the block systems in some of the European countries and in U.S.A.

Switzerland

Trains are worked either on the Manual Block System or on the Automatic Block

System, only one train being permitted into a block section at any one time. The normal authority for despatching a train is the Time Table. Sometimes, especially in the case of late running of trains, this is supplemented either by a telephone or telegraph message. Furthermore, the movement of trains is regulated by means of visual signals. No block instruments are used and no tangible authority is issued to the driver to proceed to the next block station.

Italy

Trains are operated according to the principle of space interval based on the Absolute Block System except in Automatic territories where permissive working is allowed. The block working methods fall under two main categories (a) manual and (b) automatic. The manual block system is further classified under three heads (i) Telegraph Block; (ii) Single Despatching System; (iii) Lock and Block. Both Telegraph Block and Single Despatching systems are used on light traffic sections. While the terms "Telegraph Block" is self-explanatory, the latter system, viz., Single Despatching is unique in Italy and is therefore explained below, the typical illustration being the Terni-Salmona Line.

The operation is done by the "Single Despatcher" who is considered as the "Chief of the Line." He has a selective telephone system by which he can call all stations and other necessary posts. The movement of trains over the section is directed personally by him with the aid of graphic time-tables, on which graphs indicating the actual movement of trains are recorded. No train is allowed to start from its terminal station without the express orders of the Despatcher, but at intermediate stations, trains are despatched by the chief of the train (guard) unless contrary instructions are given in time by the Despatcher. All station points are locked in their normal position and no change is permitted without the Despatcher's orders. The keys of the point locking device are locked by a control key which is kept in the safe of the station agent (who is, usually, an outsider working on commission basis). Telephone communication between the Despatcher and station agent or the guard is always recorded and in the event of failure of telephonic communication, operation is done by the guard strictly

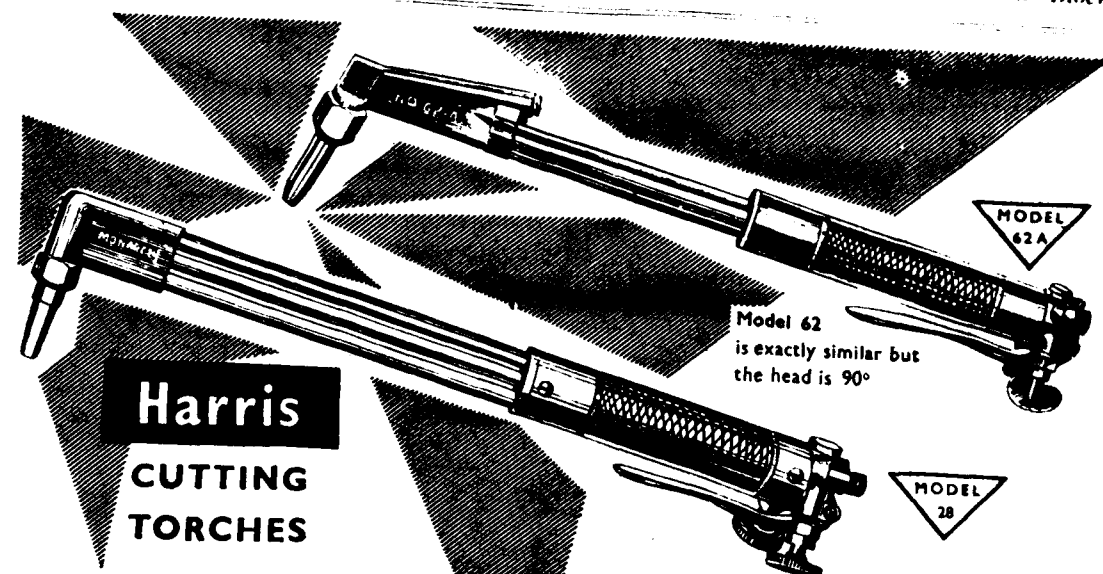
in accordance with the time table, thus allowing crossings and overtakings to be done only at the places mentioned therein.

The Lock and Block System is employed on sections with heavy traffic. The block instruments are of the Italian State Railways standard type. Each instrument has two Commutator handles called "Requests" (is line clear?) and "acceptance" (line is clear) respectively. The handles are in the normal position when the block section is unoccupied. A train can be despatched from a station only when the process of request and acceptance is complied with the next block station through the respective block instrument. The last stop and first stop signals are interlocked with the block instrument in such a way as to ensure that one train only can occupy the section at one time after the necessary authorisation is received from the block station in advance. The system is not unlike the Lock and Block System worked on the Double line between Madras and Arkonam with Syke's instruments.

Germany

In Germany, train operation is based on the Absolute Block system which allows only one train in a block section at any one time. The system in its simplest form of application is observed with the help of train messages which are exchanged by telephone and tape recorders which store verbal orders for three hours, after which they are erased. The more elaborate systems employ block instruments (Siemens and Halske type) for train working on both single and double lines. Each end of a single line block section is provided with a block apparatus and when one of them is blocked, the corresponding one in the other station is unblocked. One station has the permission to let a train start whilst the other station is locked and blocked. When entering the block section, a train passes the insulated rails, causing the interruption on the circuit of the signal arm which goes automatically to the danger position, preventing another train from following. The apparatus can be used on double lines as well as on single lines. On the busy four-track quadruple line on the Koln Bridge, with two tracks on each side of it, reversible block working has been adopted to ease the bottleneck.

(To be continued)



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Workers' camp at Bhavanisagar

providing meals and refreshments to visitors. It is appropriate to the spirit and beneficence of the Project that an idol of Goddess Bhavani - a tributary of the famous Kaveri - is installed at the foot of the great dam.



Visitors to the hill stations on the Nilgiris will be well-advised to break journey at the Mettupalaiyam railway station and pay a visit to Bhavanisagar, before climbing the mountain.



Idol of Goddess Bhavani at the foot of the dam
[Photos by author]



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THE HOUSE OF SAUD SAUDI ARABIA

K. S.

Modern Rails reach out into desert, giving reality to Ibn Saud's favourite dream. Despite drift of sand the road operates at capacity hauling freight and passengers between Persian Gulf and the old King's capital of Riyadh.

IBN Saud, King of Saudi Arabia, around which Arabian American Oil Company has built a multimillion dollar empire, died in November 1953. The death of King Abdul Aziz Ibn Saud just a fortnight before his seventy-third birthday closed a great chapter in the history of the Arabian peninsula. Islamic renaissance of Shaikh Muhammad Ibn Abdul Wahhab in the middle of the eighteenth century laid the foundation of a new dispensation in Arabia, which has flowered in our own time into what may fairly be called a golden age of peace, piety and prosperity. The like of it will never be seen again. Already during the last years of the aging monarch, wearied by the great burden he had carried so long,

the spiritual impetus which had carried him to the summit of his achievement was seen to be weakening under strange influences, hitherto rigidly excluded from his country. A process of secularization was setting in, on which there could be no going back; and wealth had hastened a moral and material transformation, which none could have believed possible but 20 years ago. The new wine had been poured into the old bottles with consequences on which only the future could pass judgment.

Coming to the throne in his fifty-second year (for he was born on the day of his father's capture of Riyadh in January 1902), he has the great advantage of considerable experience in the arts of war and peace.

Photograph taken at a banquet held in honour of Prime Minister Nehru, by His Royal Highness Crown Prince Faisal, Prime Minister of Saudi Arabia, at Riyadh, Capital of Saudi Arabia, on September 25. On the left of the Prime Minister are seen : H.R.H. Crown Prince Faisal ; Dr. Syed Mahmud, Minister in the External Affairs Ministry (India) ; Mr. Raghuramiah, M.P. ; Dr. Ansari, M.P. ; Mr. S. Dutt, Foreign Secretary, Government of India ; Mr. M. K. Kidwai, Indian Minister in Saudi Arabia.



The King starts with an advantage which his father, preoccupied with other matters and perhaps too trustful of his subordinates, never enjoyed: personal knowledge and experience of the grave defects which have developed in the administrative machinery of the country owing to the lack of skilled workers. And, it is not without significance that the two Arab countries which have provided the bulk of the recruits to the Saudi administration have themselves in recent years been seeking by revolution, happily in both cases peaceful and virtually bloodless, to root out the weeds of corruption, dishonesty and inefficiency which had so long disgraced them in the eyes of the world—the conditions which could no longer be ignored when they led to the defeat of the Arab armies in the struggle over Palestine.

Old Ibn Saud, foreseeing his unruly nation's need of cohesive rule, had long ago sworn his sons to give their allegiance to Saud, their oldest living brother. So now, in Khuzam palace on the desert's fringe, the house of Saud, and its retainers rallied to a new leader. The court they were forming was a curious mixture of ancient practices and modern needs. Its symbols were falcons, with which desert kings still hunt, and Cadillacs, which they park tread deep in costly carpets.

By custom attuned to the rigours of camel transport, each official guest coming to visit King Saud at Jeddah was expected to stay three days: the first for audience, the second for entertainment, the last for leave-taking. From afar, to take the new king's measure, came envoys of Egypt, Lebanon, Syria, Jordan, Qatar on the Persian Gulf, even a delegate from 2,000 German Moslems. From nearer at hand, to seek his favour, came the sheiks and plain men of the tribes; old Ibn Saud subdued to unite the kingdom.

Like his father, in the strict Islamic faith which forbids liquor and tobacco even to foreign guests, King Saud was also like the old king in his eagerness to meet the challenge of modern society. Ibn Saud had made a good start towards modernization. Today, where once there was only trackless sand, there are

roads, a railroad, a radio network; agricultural experiment stations. Formidable problems remain: Education in a land still 95% illiterate, health among a people plagued by ancient scourges of eye and skin, the development of agriculture and finding of water in a land still able to feed only seven persons per square mile.

Through the country boasts only 200 miles of surfaced roads, it continues to be one of the best Cadillac markets in the world. In a country which must import half its food, the most noteworthy farm development project operated on 1,800 irrigated acres at Al Kharj oasis, near Riyadh primarily for the benefit of the Royal family tables.

A few roads, waterworks at Riyadh, Mecca and other places, some hospitals, a few public buildings and the 350 mile railway that Arabian American Oil Company built to connect Saud's capital with the Persian Gulf are some of the constructive achievements that one can find to list to the regime's credit.

The fountain of Arab chivalry has been mixed with oil; where virtue reigned on a scale which some may have thought exaggerated, wealth has become the substitute.

Accepting the invitation of His Majesty King Saud during his visit to India last year, the Prime Minister of India visited Saudi Arabia during the period from September 21 to September 28. They resolved to promote co-operation between the two countries in every field on the basis of the following principles. Adherence to the declaration made by the Bandung Conference which laid down the principles which should govern international relations such as respect for fundamental human rights and the purposes and principles of the Charter of the United Nations, respect for the sovereignty and territorial integrity of all nations, recognition of the equality of all races, abstention from intervention or interference in the internal affairs of another country and refraining from acts or threats of aggression or the use of force against the territorial integrity or political independence of any country.

THE JAPANESE NATIONAL RAILWAYS

R. T. SHAHANI

HISTORICALLY speaking, it may be stated that the first Railway in Japan was opened to traffic on 14th October, 1872, between Tokyo and Yokohama, a distance of 15 miles. In this respect, the Railways in Japan had a later start by about 20 years so far as Railway concerns are concerned and about half a century compared with the British Railways.

There have been considerable fluctuations in the operation of the Railways in Japan. Starting with state ownership in the first instance, the Railways veered to private enterprise at a later stage. The pendulum is turning full circle and now there is an increasing tendency to revert to state operation once again. The switching over to private enterprise was a result of the inability of the Government to finance the construction of new lines in a satisfactory manner. In the middle stage, say round about 1881, a Company by the name of Japan Railway Company came into operation. Considerable Railway activity of a private nature was initiated by this Company. Simultaneously, the Government went ahead with the construction of the main line between Tokyo and Kobe, which was completed in 1889.

For four years from 1897 onwards, there was a big economic slump in Japan and this caused serious repercussions on the Railway Companies. The problem of lack of standardization in the equipment and Rolling-stock caused further difficulties. In 1906, Government Railway Nationalization Law was enacted and the main lines were nationalized as a whole. Seventeen private Railway Companies including the Japan Railway Company were bought over by the State. The operating mileage thus stood at 4,444.

During and after World War No. 1, say from 1912 to 1926, the volume of traffic carried by the Japan Railways increased approximately fivefold so far as passengers and twofold so far as freight traffic was concerned. There was simultaneously an improvement in equipment, in the facilities offered to the public, in the Rolling-stock resulting in increase in train speeds, etc. In 1925, the Japanese Railways took a momentous decision and almost overnight adopted automatic couplings on the

one hand and introduced electrification between Tokyo and Numazu. It is interesting to note that from the point of view of time, the Japanese electrification is almost concurrent with our own venture on the Central Railway on the Bombay Division.

The economic depression of 1930 had as much influence on Japan as on any other country in the West. Railway operation was affected to a very great extent and traffic revenues registered a decline from 1928 onwards. At the same time, as in many other European countries, the competition from the highways became increasingly more severe with the result that the Railways had to devise special methods to improve its own working with a view to ensure its own survival.

From 1931 to the outbreak of World War in 1939, the Japanese placed the Railways almost on a war footing. The National Railways were accordingly geared up to this task. What happened thereafter is well-known history and the aftermath of the War revealed that a considerable amount of damage had been done to the Railways, particularly as the result of air-raids from the allied countries. Serious shortages of important materials, such as coal were observed. There was also terrible inflation. On the other hand, it may be stated to the credit of the Japanese Railways that whereas the average production in building industries suffered considerably, the Railways put up a very good show during and after the World War. The morale of the Railwayman reached a high level.

This was followed by a period of serious financial deficits so far as the Japanese Railways were concerned. At this crisis again, the Japanese rose to the occasion. The ability to make important decisions would appear to be a characteristic national feature with the Japanese. On June 1, 1949, the Japanese Railways, which were hitherto Government-operated, became, by the end of June, a public corporation under the name of the Japanese National Railways. The object was to operate the Railways' financial position, while maintaining at the same time the public nature of its enterprise as far as possible. One of the most important results of this was an enormous cut in the personnel in September



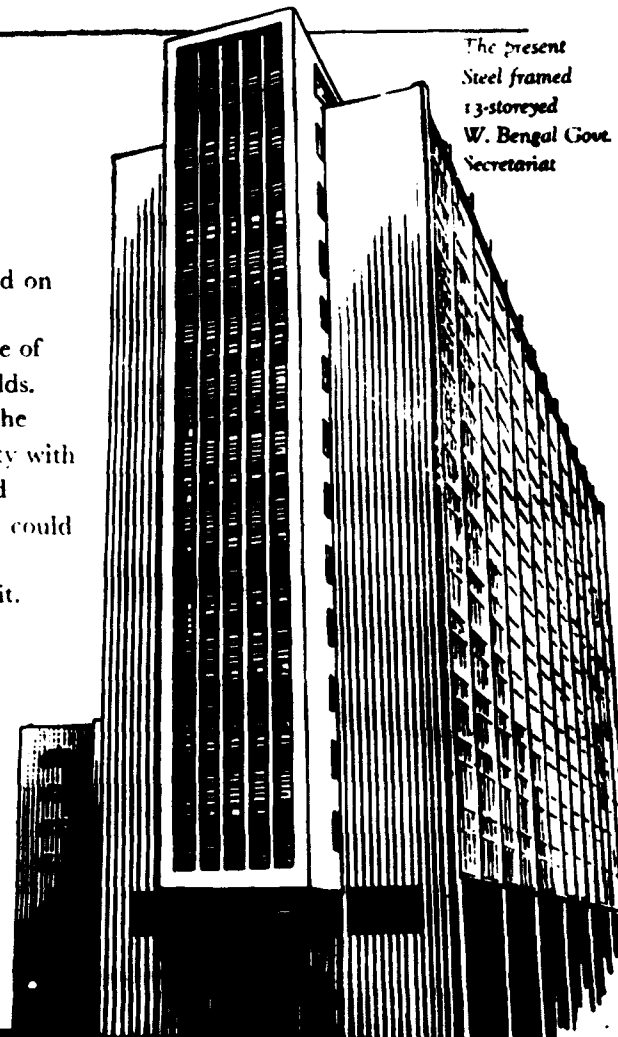
"Where now the city stands,
there was once naught but the city's site." OVID

Calcutta

On August 24
1690, when Job Charnock stood on
the banks of the Hooghly, he saw
before him a depressing landscape of
mud hovels, swamps, and paddy fields.
On that very site has risen in the
course of the years a pulsating city with
heavy industry, modern transport and
busy docks—a metropolis which could
have made little progress but for
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Scene before the old Secretariat—17th century



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JAPANESE NATIONAL RAILWAYS

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1949, inspite of a very stiff opposition from Railway trade unions. It is understood that nearly a lakh of men and women were thrown out of employment by a stroke of the pen at this stage. Thereafter, the Railways have shown a certain amount of resilience. During the years 1953-1954 the flow of passengers and freight traffic have shown an increase of about 4% when compared with the previous year.

Unfortunately, for Japan, disasters of nature play an important role. In the summer of 1953, there was a serious typhoon which swept a large part of Japan, and the Railways suffered damages amounting to 8,900 million yens. This was one of the heaviest casualties experienced in the history of Japanese National Railways. Another event, which took place soon after, was the inundation of the undersea tunnel connecting Kyushu and Honshu by heavy floods, paralysing traffic for a number of days.

We might now give a brief sketch of the Japanese National Railways, as they are today.

One of the most trying periods of life for the Japanese was the time following August 6, 1945, when Hiroshima was given its first taste of atomic bombing. While the morale of the country in general received a severe jolt, the Japanese Railwaymen stood up to the task of running the Railways. The boy stood on the burning deck may well be said of the Railwayman.

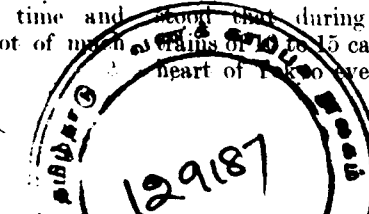
At the present moment, the four islands, which constitute Japan, carry over the entire network of the Railway lines of 20,000 kilometers, about ten million passengers and half a million tons of freight per day. This is largely possible because of the Japanese respect for time. It is a famous boast on the Japanese Railways that passengers never bother much about their watches; they rely entirely on the time-table furnished by the Railways. The Japanese passion for time may be further gauged from the fact that the electric clocks on the major stations are fitted with the second hand also. The arrival and departure of trains is computed correctly almost to a second. This is in general contrast to the easy-going attitude which many other Asiatic countries adopt towards time and regard it as something which is not of much consequence.

The Japanese Railways have a staff of 450,000. In other words, the Japanese, within a small area, run their Railways with about half the staff which we, for example, have on the Indian Railways. This staff is responsible for handling of heavy passenger traffic, which brings in over 50% of all operating revenues. It has been ascertained that, on an average, per day 9½ million passengers are carried by 10,000 trains. Here, in passing, a word may be said about the modern Rail Cars which are an important feature on Japanese Railways of today. The Japanese quickly took the cue from many European countries and realised that for unremunerative branch lines, excellent fast schedules could be operated by means of rail cars. The Express trains have interesting names, taken after some of the well-known birds, such as "Swallow", "Pigeon", "Seagull", etc. The annual passenger-kilometer mileages of over 80,000,000,000 is surely the heaviest passenger traffic of a single Railway in the world. Incidentally, it may be stated that the Japanese with their adoption of automatic signalling, track circuiting, and on certain sections, elimination of the Ball Token system have increased the single line capacity to as much as 60 trains per day, which is one of the highest in the world.

For the visiting tourist, the Japanese will go all out to entertain as also to welcome him. The Japanese are aware of the fact that the tourists mean considerable earning so far as the national income is concerned. For this purpose, no expenditure is spared in making the stations most attractive, and the Rolling-stock equipment as upto-date as possible. The present Tokyo station can boast of beautiful hotels, lounges, bars and all possible amenities which any passenger can desire within the precincts of a Railway station. More than 70,000 foreign tourists visit Japan every year and this number is likely to increase. There are trains in Japan which have stewardesses operating on every single coach, attending to the comforts of the travellers on the same lines as air-hostesses on the Indian airways. No, the Japanese are not sparing in their efforts in looking after your comforts.

Talking of electrification, this is now very much on the increase. At present, it is understood that during the rush hours, electric trains of 10 to 15 cars come into and out of the heart of Tokyo every two minutes on various

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lines, making a total of 3,000 trains per day. Some of us get bewildered by the suburban trains which we, for example, run on the Western and Central Railways. Compare this to the performance of the Japanese circular suburban trains in the vicinity of Tokyo. Besides, schemes for high speeds are very much on the anvil and the Japanese go as far as 250 kilometers (150 m.p.h.) on some of their electric sections.

According to the present schemes, the Japanese want to replace their steam trains by electrification on the one hand and diesel rail cars on the other. Here again, a cue has been taken from some of the foreign countries, which have already experimented with diesel rail cars successfully. It is understood that 200 modern diesel rail cars equipped with hydraulic torque converters have been put into service in 1953. Another 200 were ordered in 1954 and more are expected to be put into service in the years to come.

The following figures should be of interest to Railwaymen so far as the operation on the Japanese Railways is concerned. 160,000,000 tons and 40,000,000,000 tons kilometers (25,000,000,000 ton-miles) - this is the annual performance of freight service on the Japanese Railways. With a total number of 106,000 cars and a total capacity of 1,730,000 tons, the Japanese Railways attain an average hauling capacity of 23.100 tons kilometer per ton load capacity, which is understood to be one of the most efficient in the world. The average haul is 260 kilometer which compares favourably with many European Railways. The major items of freight are coal, lumber, cement, grains, iron and steel. Coal, which is literally the black diamond, brings about 1.5th of the revenue of the Railways.

A word about the marshalling yards in Japan. These have been completely modernised and function almost like some of the major yards in the U.S.A. The equipment of electrical or hydraulic retarders is a common feature in the principal marshalling yards. Most of the yard work is done automatically. The use of radio telephony is an interesting feature. The provision of relaying information about goods trains from one yard to another by

teletype equipment, advance preparation of shunting memo or switching lists, as they are called in Japan, are factors which lead to considerable improvement in the performance. This point brings down the delays in marshalling yards, because the time actually taken in marshalling trains is curtailed considerably. The average time spent by a wagon in the principal yards in Japan today is about 6 hours, which is very much responsible for improving wagon turn-round.

Competition from the roads has, however, caused havoc to many South-East Asian countries like Formosa, the Philippines and Ceylon. The Japanese realised this and quickly developed their own network of buses and trucks as supplementary service to remote communities and to expedite movement in heavy traffic areas. They also developed direct rail-cum-bus connections and through services on the highways in collaboration with the Railways. The buses guarantee the operation schedule and are considered one of the most reliable means of road transport in the country. The Japanese National Railways own 1,500 buses and 1,000 trucks and carry 100,000,000 passengers and 9 lakhs tons of freight a year, respectively.

One of the most important features which impresses us in this study is the willingness of the Japanese to learn from every possible country in the world. In Japan, you will notice a variety of different systems which have been tried out in different parts of the world. The Japanese have a large research section on the Railways and they send out the representatives to study the different aspects of Railway working in various parts of the world. These are examined in the light of local conditions prevailing and if they are considered to be suitable, immediate decisions are taken and the plans put into practice without delay. An instance in question is the adoption of automatic coupling in the year 1926 mentioned above. This is a step, which other South-East Asian countries have been chary in taking even now. The role played by research is of tremendous importance so far as the Japanese National Railways are concerned.

TRADITIONS OF THE SERVICE

ONE OF THE SPECIES

WHEN the Empire on which the sun never set was in the hey-day of its glory, that portion of it which both in a metaphorical and a literal sense had more than its share of the sun was our own country as every school boy knows. And what to a large extent made that sun shine so brightly and for so long here was the efficiency of the Indian Civil Service, the reputation of which extended beyond the borders of this country and which was in every sense superior to the home civil service of the United Kingdom or the colonial service of the various colonies. Services like the Indian Police, Engineering, Forest, Education and the Railways partook of the traditions set by the old Indian Civil Service. With Independence, while doubtless the old Indian services are reshaping themselves to be more in consonance with today's needs, many of the old and good traditions are still being preserved.

Now what are the traditions that have been the cause of so much genuine praise in many cases in the past? Is it possible to capture the essence of these laudable qualities and record them so that the shifting sands of time while rubbing out much that may be outdated and bad may not in error erase too, these valuable traits, that have been the quintessence of a great Empire in its greatest days? I think the answer to this question has been ably given by one of this tribe who is now retired (Mr. C. J. Moloney). He has recorded that essentially this tradition could be stated as three things which were just 'not done' - 'One did not accept favours, direct or indirect, from those over whom one was set in authority; one showed neither official favour to one's friends nor official disfavour to one's enemies; and one did not shuffle on to a subordinate responsibility for one's own mistakes.'

In his analysis of the extent to which these "don'ts" were strictly adhered to by European Officials, in India vis-a-vis their counterparts in the U.K., he is fair enough to say that these codes of conduct were observed better by servicemen in India than those in the U.K. It is only fair to add that the author, speaking about the Indian members of the service of the time also observes, that all Indians were not the 'toiling masses', and "that among these Indians there were many who were intellectually the equals or superiors of the European and that Indians could not be expected to remain indefinitely in the relationship of administrative school boys to administrative school masters." In illustrating this statement he quotes one of his own experiences under an Indian chief a person of massive intellect under whom he served for a period of five years. (The late Sir P. Rajagopalachari, Indian Member of the Governor's Council.) "He was to make an important speech in the Legislative Council on a matter on which I was supposed to have some special knowledge. He asked me to draft an argument. I did my best and heard him deliver the speech. He did not make use of even one of my points; and his speech was the most effective I have ever heard. He turned the house from blank opposition into complete agreement. Then he wrote to me a charming note of thanks for the trouble I had taken. And I do not think that he wrote ironically. The plain fact was that I had not his brains nor anything like them."

After reading this passage by one European member of the old civil service in an article to a high class English magazine (Blackwoods) in 1940 when the question of the transfer of power to Indian hands was in so many people's minds, it is difficult to say as to who was really the greater of the two persons concerned in this episode and it also gives a vivid insight into "the traditions of the service."



LAMP SHADES

V. S. SHANTHALAKSHMI

THERE is a real joy in making things for your home with your own hands. We are all alike in wanting many things, which, for the time being at least, we are unable to buy. But really how gratifying it is to exert our own mastery over materials, especially to produce a slightly something out of next to nothing. And where a piece of handiwork shows thought predominating over material, it has been aptly said, there is art.

Lamp shades are one of those useful things that you need for your home, and I am sure that you want to make one or two for your house sooner or later. These are of endless variety in material, style, colour, and trimmings. But silk, paper and plastic are the usual materials used. The material for a lamp shade must, to be sure, be selected to suit both the style of the lamp and the nature, furnishings and colour scheme of the room in which the lamp is to be placed.

Practically any kind of silk may be used, only let it be durable. Be sure to look through it at a light before selecting it. Avoid one that creates either glare or gloom or that casts an unbecoming shade on the face. Warm colours are usually better than cold. If it is for a room of dark furnishings, let the lamp shade lend a note of vivid colour. If the room is already bright with colour, the lamp shade may be of a neutral tone. Then too, the larger the shade, the less intense should be its colour.

Having made your selection, get a lining for the frame, of silk the same colour as the outer cover, or a lighter shade. If the outside cover is of very thin silk, or you wish to combine three shades of the same colour, get also enough silk for an interlining. The wire frame must be of the same size and shape which you want the shade to be. Silk tape the same colour as the lining, and a finishing gimp will complete the materials needed.

Wind the tape tightly and smoothly all around the bottom wire of the frame, finishing by fastening it with the tack stitch. Cover the top wire in the same way. The supporting

wires are better also covered, but this is not necessary.

Cut the lining material one inch longer than the measurement of the greater circumference, that is, the bottom wire, of the frame (twice this circumference if the material is to be pleated), and two inches deeper than the height of the frame. Pin one edge smoothly to the bottom wire, being careful to keep it from slipping or wrinkling. Seam the ends; then stretch the piece of goods tightly to the top wire, distribute the extra fullness evenly and pin it in place. Sew both edges, with the overcasting stitch, to the binding tape on the top and bottom wires; then cut off all surplus material excepting about one-fourth inch of edge to give strength.

If you are using an interlining, cut the material for it into two pieces, each being two inches deeper than the cross wires and one-half inch longer than one-half the circumference of the bottom wire. Take one piece thus cut and sew one end of it to a cross wire. Then pin it along top and bottom wires, stretching it on the outside of the frame. Next sew the other half piece of material by one end to the same cross wire and finish the seam neatly. Pin it along the top and bottom wires. Seam the two ends and cut off the surplus material, turn back the edges into a narrow hem, and overcast with small stitches. Last of all, sew it at top and bottom, overcast back the edges and cut the material off close.

• For the outside cover, cut the silk, as for the first lining, one inch longer than the measure of the larger circumference and two inches wider than the depth of the frame. Beginning one inch from the selvage edge, stretch the selvage up the first cross wire and pin it to the binding tape. Stretch it straight over to the middle of the next section. Pin it smoothly up and down the side wires, running the straight of the goods perpendicular with the wire and distributing the fullness evenly. Pin firmly to the next side wire in the same way, and continue thus over each section. Seam the ends and cut off any surplus material. Turn a small hem at top and bottom, making



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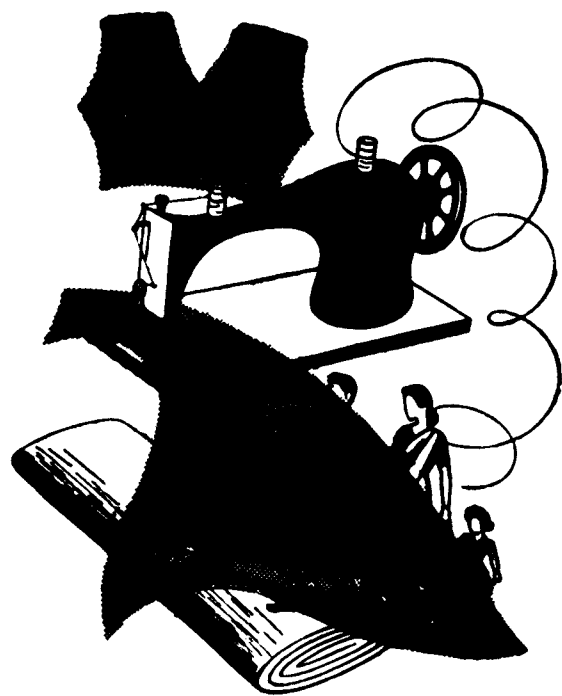
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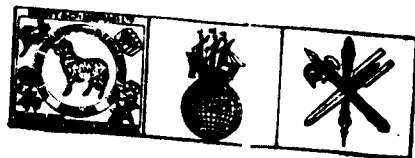
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BY. 809

MEDICAL

BRONCHIAL ASTHMA

DR. L. R. PARTHASARATHY, M.B.B.S., D.M.R.,
Asst. Surgeon I. Railway Hospital, Madras

HIS face conveys considerable anxiety and panic. He is unable to move. He cannot talk or even show signs. His chest gets distended and fixed. He holds his head back between his raised shoulders. His respiratory muscles get rigid and stiff. He struggles for every breath. He sweats. In short, the pale face of the person tells a tale. The tale is one of dreadful torment and agony.

He is suffering from Bronchial Asthma.

Unless one sees his suffering, one can hardly imagine what it is. Unless one experiences it, one can hardly have a full appreciation of this breath-struggle.

The air in the atmosphere that is so free, so unrationed and so uncontrolled and let loose by divine dispensation seems to deny itself to the asthmatic. That is how the patient feels. He feels he is alone, severely alone, in this world of riches, men and women and pleasures. He has no interest in anything, anything literally in the world except to have his normal breathing faculty restored. He values nothing else except the free breathing.

Bronchial asthma is caused by spasm of the smaller divisions of the bronchi, the branches of the trachea.

The causes of bronchial asthma are generally based on allergic conditions. Allergy is a modified sensitiveness to a substance, introduction of which into the body may cause a variety of symptoms, one of which is this asthma.

The allergic substances may be anything like food, drug, pungent odours, fumes, paint, etc. Physical exertion, excitement, emotions, changes in weather, bathing habits are also frequent causes.

The onset of some of the cases could be traced to some infectious disease, whooping cough, measles or pneumonia in childhood and influenza or severe bronchitis in adults.

Often cases of asthma have been thought to be recurring bronchitis and later diagnosed as asthma.

Generally the attack sets in all on a sudden in the early morning hours, waking the patient from his sleep with what is called dyspnea, i.e., difficulty in breathing. There is choking, coughing and wheezing. The wheezing would be quite audible without the use of stethoscope.

The cough is dry, hard and exhausting. When the condition of the patient improves, the cough produces some thick sputum. Later there is liquefied sputum coming out.

The asthmatic patient is subject to the influence of climatic changes. A climate with increased humidity and frequent changes in temperature may cause the development of respiratory infections.

The diagnosis of bronchial asthma is done based on the clinical features. Clinical diagnosis in this illness is fairly simple. The diagnosis may be confirmed by laboratory examinations of blood and sputum.

As regards treatment, caution must be observed at the outset against self-medication. One should not allow a writer of attractive advertisements of "magic cures in 24 hours" to be his doctor. By indulging in the acts of self-medication, one puts himself in the place of a qualified specialist who is required by law to have a minimum of four years of medical studies and a year of hospital training. Obviously the result will be risky. Therefore, the patient must put himself to the attention of a doctor.

For an immediate relief, adrenalin is very effective.

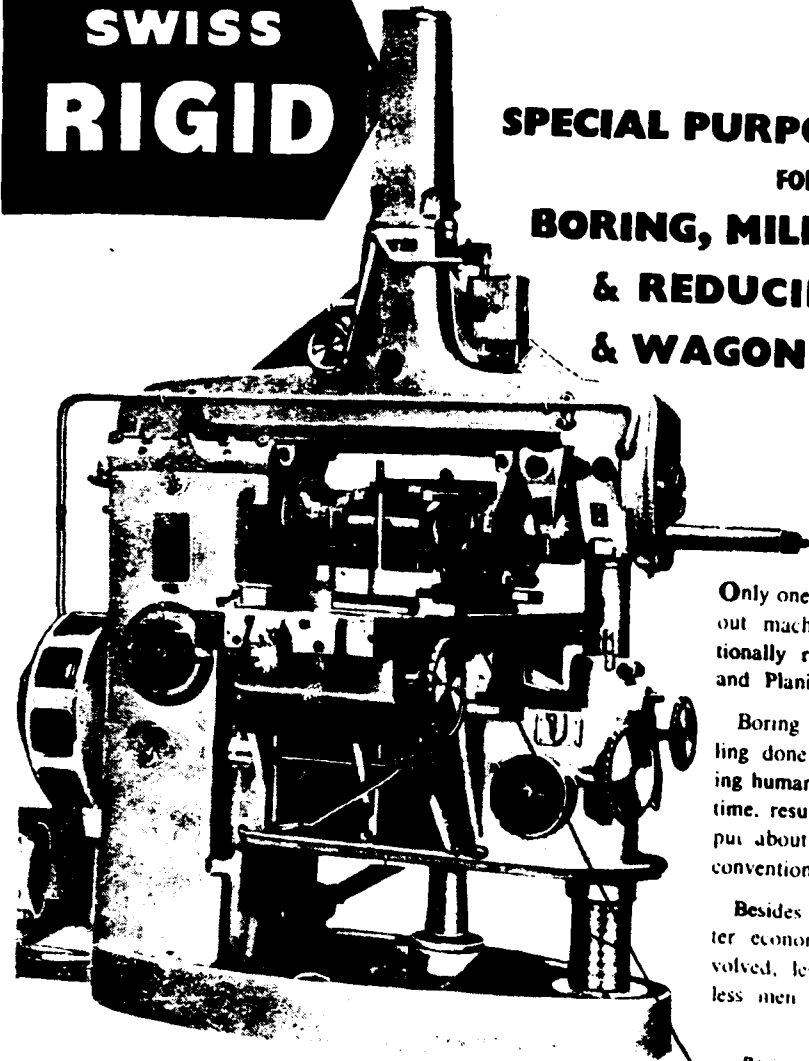
Epinephrine, Ephedrine, Calcium, Acetylsalicylic acid, Atrophine, Stramonium-containing powders are used in the treatment strictly under the direction of qualified medical men.

Equally important is the avoidance of exciting factors. If patients are deprived of certain foods for a long time, vitamins should be supplied. Tomatoes and oranges are not advisable for asthmatics. So it is necessary to substitute with vitamin C.

(Continued on page 65)

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the edges even with the wires, and run a gathering thread through each. Pin and overcast the bottom hem to the base wire, then pin and overcast the upper hem to the upper wire in the same way, being careful that the gatherings are even. Sew any trimming you choose gimp edging or silk braid around both the upper and lower rows of gathers, with short stitches on the right side and long stitches on the wrong side of the frame. Or you may finish with a fancy hand-stitching in place of the bought trimming.

You can also try an applique shade some time. Cut out a unit (a bunch of flowers, or a single flower, a bird or a basket or some such decorative pattern) from a gay design in silk, cotton or linen printed material. Lay it on the plain material you have selected for your lamp shade and affix, or applique it in place with a fancy stitch. A motif in cretonne applied in this way on pongee with wool yarn would be very attractive.

Plastic is used the same way as silk. But paper shades are done a different way. You need parchment paper for this. But since genuine parchment is expensive, an imitation known as parchmented paper can be bought and will do quite as well for this purpose. You can even parchmentize paper yourself, if you like, by rubbing the sheet (it must be a sheet of thick, fine stationery paper) on both sides, thoroughly, with linseed oil thinned with turpentine. Leave it until quite dry, then tint it, if you like, with either oil paint or sealing wax paint. When the paint is dry apply a thin coat of white shellac to the right side of the sheet.

The parchment shade, like the silk one, is made over a wire frame. Paint the frame with white oil paint or enamel and allow it to dry completely. While it is drying, make a pattern for your shade. Lay the frame on a sheet of newspaper and roll it along, tracing the lines made by the top and bottom wires. Cut along the lines you have traced and you will have the pattern from which you now cut

the parchment paper. In cutting it allow an extra half-inch at all edges.

The decoration of the shade had better come next. This can be done in many ways. You may block-print or stencil your chosen design on the shade using India ink for outlining. Jap-a-lac for solid black parts and transparent coloured paints for the rest; be sure of the last, for opaque colours will show up black under the light. Or you may trace a design on the shade taken from a book, magazine, wall-paper or cretonne, painting in the colours yourself after the tracing is done. Or you can glue maps, old prints, silhouettes or motifs cut from figured paper or cloth, to the shade.

You can give a lacquer finish to the shade, enabling it to be cleaned when necessary with a damp cloth without making it wet. To do this, make a pan of boiled laundry starch of such consistency that when cooled it is about as thick as heavy cream. Be sure that the painted or glued design on the shade is entirely dry before applying the starch. When the latter is quite cool brush it quickly and lightly over the outside of the shade, covering all parts thoroughly yet without going back over any part already covered. The starch, when dried, will have formed a thin, transparent, protective film over the surface of the shade. Now give it a thin, even coat of white shellac and leave it for eight hours to dry thoroughly. Finally give it a coat of transparent varnish; this will lend luster to the colours.

Fit the parchment to the frame and sew it in place with the buttonhole stitch, about half an inch long, to the base and top of the frame. Fasten the side edges with three or four paper clamps. Finish off the edges top and bottom, with narrow gold (or any other colour) braid, taking short stitches on the right side and long stitches on the wrong side.

Now, there you are: what a beautiful shade you have got for your drawing room standard lamp!



burned down to a layer of red hot embers, which was level with the ground on either side. The heat of the fire on the surface was carefully measured and found to be 1,067 degrees. The heat given off by the glowing embers could be felt by those who stood up to a distance of 65 feet away from the burning pit.

Now along comes the fire-walker. After saying some prayers, he steps into the glowing fire, walks, and reaches the other end of the pit in three quick strides. The time taken for these three strides as measured by a stop-watch was 1.3 seconds. The fire-walker's feet were then examined by the scientists and they were found to have no burns or blisters. The fire-walker then said he could walk any distance in such a fire without being burned. The scientists then asked him if he would walk around in the fire-pit, but he refused and said that he could only walk in a straight line.

The next day the length of the fire-pit was increased to 20 feet and the heat was raised to 1,364 degrees because of a wind. The fire-walker, after saying his usual prayers, walked across the hot embers in six steps

which took him 2.3 seconds. This time his right foot had a few blisters, and red marks were found on his left foot. He then refused to walk the fire-pit again saying that his failure was due to a loss of faith.

One of the scientists now removed his shoes and socks and suddenly walked across the burning embers in four rapid strides. His feet had marks of redness but no blisters. Two more amongst those present did the same thing, and although their feet were slightly burned, they said they felt no pain, nor did they feel uncomfortable.

Now, we can ask ourselves, what is the secret of fire-walking? It does not seem that it is in any way magical or miraculous, and it would seem that even you and I can do a bit of fire-walking if we can step lightly and very quickly over the glowing coals or hot stones. But be careful and don't rush out and call all your friends to see you do the wonderful and amazing trick of fire-walking, as you never know, you may get badly burned, and want to jump like the monkey on hot bricks.

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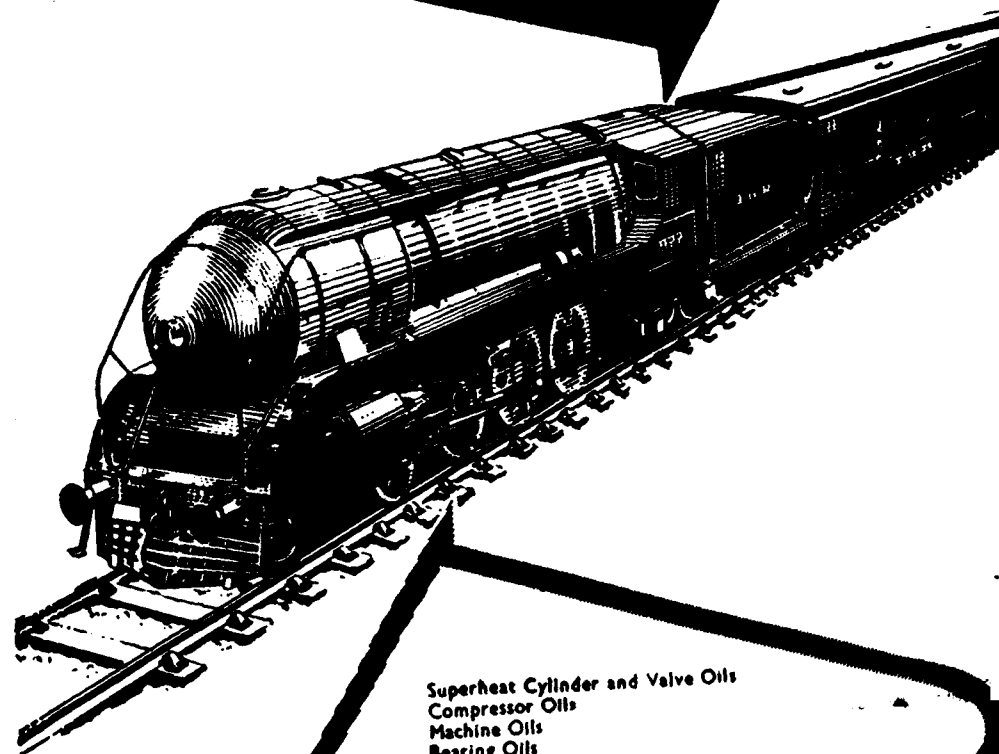
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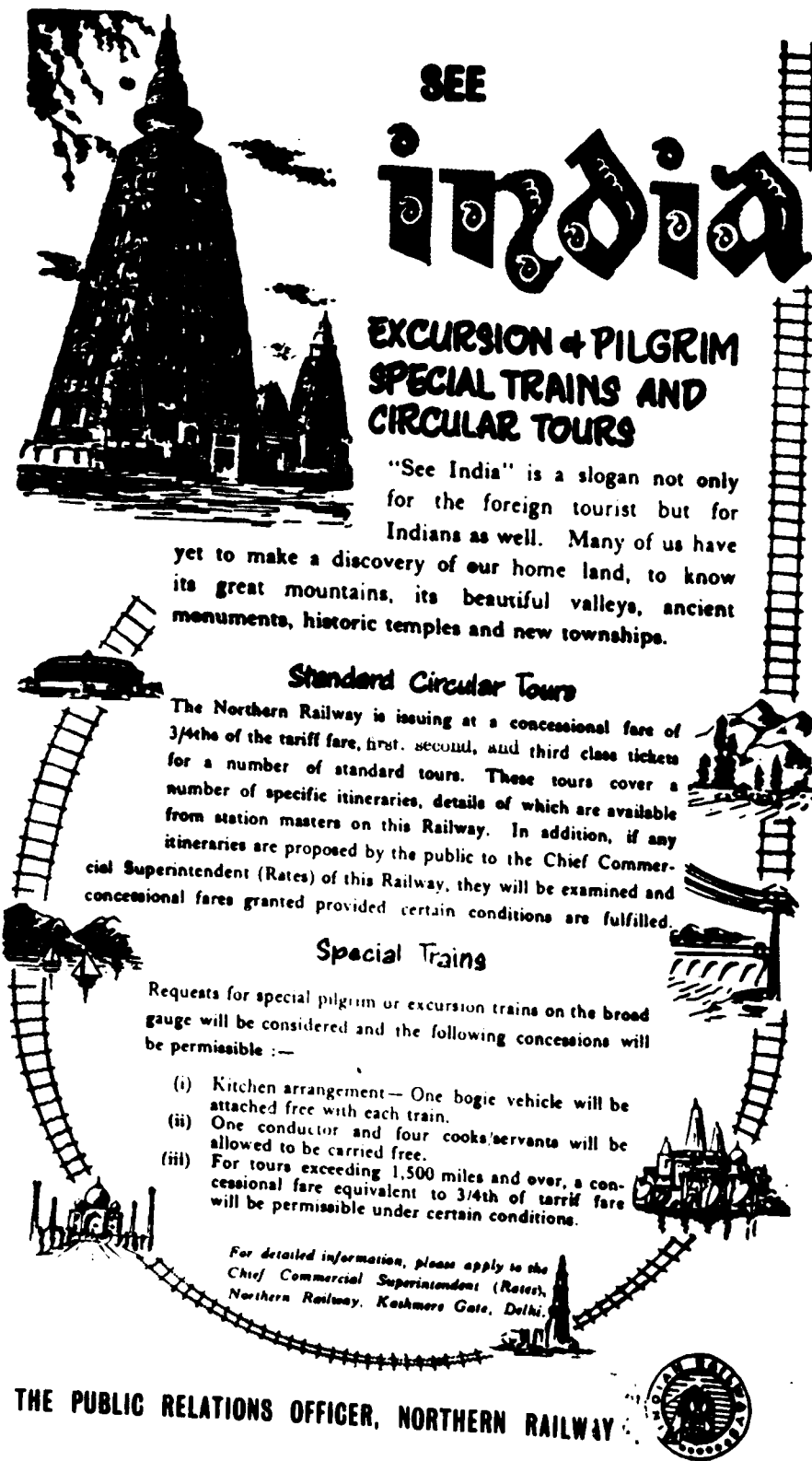


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THE PUBLIC RELATIONS OFFICER, NORTHERN RAILWAY

Fire-walking

IF you were asked to walk bare-footed over a bed of burning coal or wood, I am sure you would never try it. But it is said there are yogis and fakirs, and those who call themselves magicians, who can do this amazing trick, and without their feet being burned or blistered in any way.

If you have ever seen this fire-walking trick actually done, you must have wondered if it was due to the men who do it having some miraculous or magical powers. So, let us see what more we can learn about this mystery of fire-walking.

It is not known exactly when this strange rite of fire-walking was first practised, but it is believed to have started here in our own land of India over 4,000 years ago. It is still practised in many other parts of the world, either to ward off evil spirits, as a sort of rite handed down amongst certain tribes of people from one generation to another, or is done merely as a trick to show that somebody has magical powers.

Even today, if we happen to see somebody walk over a bed of glowing coals we think this is something mysterious and fearful. And although so many of us who learn science, do not quite believe that fire-walking can be done because of mysterious or magical powers, we still puzzle over it and ask many questions. Is it a trick? Why doesn't the fire burn the feet? Can science tell us how it can be done? These are some of the questions we may ask.

There are two well-known types of fire-walking: one is done on heated stones, and the other on hot embers of coal or wood. Walking on hot stones is practised in a number of islands found in the Pacific Ocean—Hawaii, Fiji, the Society Islands, Cook's Islands and several others in Polynesia. Walking on glowing coal or wood started in India, where it is still done, and is also practised in such widely-scattered places of the world such as Trinidad in the West Indies, Natal in South Africa, and in Japan.

Now, we can ask: how is the actual fire-walking done? The performance is different from country to country and tribe to tribe, but it is usually a short walk by a person over a layer of hot stones or coal, or pieces of burning

wood. The distance walked over the glowing embers is from 12 to 60 feet, but when hot stones are used the distance is about 12 to 15 feet. The record so far known is 60 feet. The test is to walk over the hot stones or coals on bare feet, and when done, the feet should show no marks of burns or blisters.

Since the knowledge of science has been spreading rapidly all over the world, this rite or trick of fire-walking is no more thought of as something magical or miraculous or awful, as scientists are now studying why the feet do not get badly burned or blistered after they have come into contact with hot stones or burning coals.

Some people who are studying the art of fire-walking by actual experiment, say that it can be done by lighting wood down the centre line of the pit first. By the time the wood at the edges has reached its maximum heat, the embers in the centre, on which the performer will walk, has begun to cool. So when he walks rapidly over the glowing embers in the centre, which are cooler, his feet are unharmed. Another way by which it is said that fire-walking can be done, is by applying a heat resisting chemical to the soles of the feet. Still others say that the performer is hypnotised, or has deadened the feelings of his feet by taking some medicine.

Another explanation given by the scientists is what they call the 'spheroidal state' of liquids. Drops of water dancing on a hot surface are an example of a liquid in the spheroidal state. This means that the drops are not quite round in shape, but slightly flattened. The drops are kept moving, and prevented from coming into direct contact with the hot surface by the steam that is always forming under them and tries to escape. You must have noticed how little drops of water strike and shoot away when you pour cold water on to, say, a hot iron plate. Although the scientists think that this is an explanation, they are not yet quite certain. So it still remains a bit of guesswork on their part.

A very respectable group of scientists in London once watched this trick of fire-walking done by a fakir from India. A trench was dug 4 feet wide, $12\frac{1}{2}$ feet long and 15 inches deep. Into this was put a ton of firewood—seven tons of oak logs, and a load of charcoal. This was set on fire, and seven hours later the fire had



Shri V. S. Muruges and Shri S. Raman (runner and winner, respectively) in the Fifth Open Table Tennis Tournament, Rayapuram Railway Institute, on 15th October

Shri P. V. Rajagopal, DEN RPM, who presided over the Finals is seen addressing the gathering. On his left is Smt. Rajagopal, who distributed the prizes, and Shri M. A. Uthappa, Chairman of the Institute is on his right



BOOK REVIEW

"OIL LIFESTREAM OF PROGRESS"

Published quarterly by the California Texas Oil Company Limited, New York, on behalf of the Caltex group of companies.

Oil is the most versatile of all raw materials. It is universally used, and almost unlimited in performance and function. And, curiously enough, the oil we use today was formed millions of years ago.

In those remote times, the warm shallows of the seas abounded with many minute forms of marine life. They died and their remains sank to the bottom. Through the centuries, quantities of these tiny remains were washed into hollows in the ocean beds by tides and currents. They received decent burial when they were covered by the silt washed down from the land. Given the right amount of heat and pressure, oil pockets formed in the accumulating silt and were absorbed by porous rocks, as sponge absorbs water.

As the earth cooled, it shrank and the surface buckled and cracked. In the course of evolution, ancient seabeds became hills and mountains. Some oil was trapped in folds of rock. It seeped through to the surface and that is how man first found it.

Noah caulked his ark with pitch, just another name for bitumen or asphalt. Bitumen was also used as mortar in building the Tower of Babel. The Egyptians used thick crude oil as axle grease for their chariots. Red Indians rubbed oil on their bodies to relieve pain and drank it as medicine. Because it oozed from the ground the Romans named crude oil, "Petroleum", from petra (rock) oleum (oil), the name we use today.

Only a very small percentage of oil comes up to the surface. Like an iceberg, the greater part of liquid gold is hidden deep down in the bowels of the earth. It is widely distributed, being found in many countries, in North and South America, in Russia and Central Europe and the Far East. Today, those pools of oil trapped millions of years ago, form part of the great oil reserve.

How do we know where to look for it? In the early days of oil exploration men tried to find it with divining rods. Today, geology holds the key to the secret. Experts use science to "see" below the surface and guide the drillers to likely sites. Aerial photographs are studied for signs of promising rock forma-

tions. Geologists study rock samples to see if they reveal fossil remains of the small creatures from which oil may have been formed.

"Drill here and here", the expert will say—but he gives no written guarantee. He cannot exactly pin-point a pool of oil. The best he can do—and that best is a marvel of skill and science—is to tell the driller where oil is most likely to be found. The drill alone gives positive proof.

In 1859, an enterprising American, Edwin Drake built a crude wooden derrick and began to drill for oil. After two months, he found it at a depth of only 69½ ft. This was the first well ever drilled! Today, wells can be drilled to a depth of more than four miles and derricks may be as tall as a 20-storey building.

Oil is everywhere. It is on the highways, the seaways, the airways; it is fuel, lubricant, solvent and illuminant. Oil is found at work wherever wheels turn and machines hum. It is the fuel which keeps the world on the move. It has revolutionised food production. Most of the world's food is grown and transported with the help of oil-driven machines. Disinfectants, fumigants, fertilisers come from oil.

In your family medicine-chest there is probably a bottle of "Mineral Oil". Our old friend "Rock Oil" again in a modernised purified form! About the house you may find cold cream, lipsticks, perfume, facepowder, hair-tonic--ointments all these contain oil products.

Varnish and wax, polish plastics and paint, dyes and fabrics, rubber and drugs, widely different as they are, are all linked together by Oil.

In the short space of three years India has leapt forward into the Age of Oil. Two refineries already at work in Bombay, are operated by the Burmah-Shell Oil Company, and the Standard Vacuum Oil Company, and the third the Rs. 12 crore Caltex Oil Refinery, now rising near Vishakapatnam will go on steam early in 1957.

The oil holds an important position in India's Five-Year Plans and it is quite necessary that the public must be kept well informed of the progress and the use of Oil Industry in India from time to time. The Magazine under review, a quarterly publication of the Caltex Group of Companies, not only deals

COURTESY

G. S. RAJU

COURTESY is nothing but good manners. Behaving with others, not rudely or harshly, but in a courteous manner, be the person a wealthy man or a street beggar, is courtesy. A readiness to oblige others by doing small acts of courtesy is the essence of this quality. One who is lacking in his quality and is unwilling to do a good turn to another, however trifling it might be, is guilty of rudeness, which is just the opposite of courtesy. If we are asked for some information by a person, who is badly in need of this, it should be our duty to help him with the information. Even if we cannot supply him with the information, we should not turn our backs upon him rudely, but should tell him courteously that we are not in a position to help him. This is courtesy.

Courtesy presupposes the quality of modesty and humility. To be courteous it is essential that one should be modest. One who has a high notion of one's own self and looks upon others with contempt cannot possibly be courteous. It is very easy to be courteous. Courtesy does not cost one anything, nor does it demand any great sacrifice. A slight exertion on one's part, or it may be some inconvenience, will be all that is necessary for a man to be courteous. Opportunities for the exercise of courtesy present themselves to us every moment of our lives and in every place, whether in a train, on platform or outside our duty hours. Courtesy is a quality which lends charm to a person. Just as one likes to look at a beautiful thing, so one likes to mix intimately with a courteous man. Courtesy is even more valuable than beauty, for while the latter is not permanent, the former lasts as long as a courteous man is alive. Good and refined manners make such an impression upon our minds that long after the person in whom we noticed them, has gone away from our presence, we retain a vivid recollection of his manners and feel eager to have him in our company again. A man may be very learned, but if he is not courteous his learning is as good as useless, for he cannot be agreeable to those with whom he comes in contact. On the other hand, an illiterate person, if he is courteous in his behaviour and is of an obliging disposition, wins the love and affection of his fellowmen.

such is the magic influence of courtesy. A man who is courteous by nature, finds joy and delight in acting courteously towards others. He is conscious that by being courteous he adds something, however little, to the comfort and convenience of another.

It has been stated above that to be courteous one has also to be modest. Great men who are as a rule modest, are in consequence characterised by courteous behaviour and good manners. The following is told of George Washington, the hero of America. One day as he was passing along the road, a Negro lifted his hat to him. Washington, with whom the Negro could stand no comparison in status, at once returned the Negro's salute by lifting his own hat. After this incident, a friend of Washington remarked to him that it was not necessary for a man of his position to return the greeting. To this Washington replied that he could not allow a Negro to surpass him in courtesy.

Courtesy does not require much training. If one is modest and has the desire not to be rude to others, one can easily be courteous. The little training that is necessary for being courteous can be had at home. A man must learn to be courteous by first showing courtesy to his parents and elders, and by treating his equals and inferiors, such as the servants of his household, with kindness, and if need be, by making slight sacrifices of his personal comforts. If he gets into the habit of acting thus in his own home, he is sure to be courteous to outsiders.

As it costs nothing to be courteous and it is easy to be courteous and as we derive love, praise and gratitude from those to whom we are courteous, it should be our firm determination to be of good manners. We should never lose sight of the fact that while an unkind word or a rude behaviour wounds the feelings of a person, a kind or courteous behaviour may act like a balm upon his heart and for this good turn, we have not to make any great sacrifice.

Let us Railwaymen, therefore, make it a point to be courteous to our customers, the great travelling public while on duty or not.

MADRAS REGIONAL VOLLEY BALL TOURNAMENT

A. B. KRISHNASWAMY

SLWT (Sports)

THE fifth Madras Regional Volley Ball Tournament was conducted at the Indian Railway Institute grounds, Rayapuram on the 3rd, 4th and 5th September, 1956. As many as nine teams from all over the Rayapuram Region participated.

The combined Madras team played the finals against Podanur 'B' team and won the match in straight three sets. The winners team captained by Law officer Rangachari who though 41, displayed youthful spirit and energy was an inspiration to the players, did not encounter any strong opposition from their opponents. They had the advantage of

Winners and runners up: Shri T. M. Rangachari, Law Officer, is fourth from left (standing)



BRONCHIAL ASTHMA

(Continued from page 59)

The patient should avoid the specific allergens to which he is sensitive, but it is definitely necessary to avoid strong odours which may irritate the respiratory tract and induce an attack of asthma.

It may be desirable in some cases for an asthmatic patient to change residence to a dry warm climate in high altitude.

In conclusion, I would like to say that one must cultivate healthy and active habits



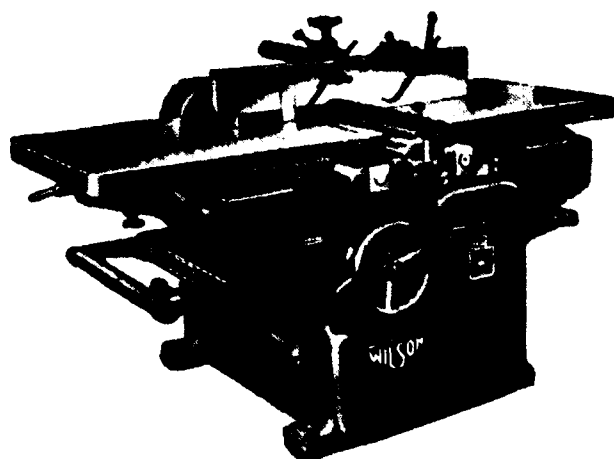
continued combined practice throughout the year which proved that combined practice is very essential for team work. Further they had the advantage of mustering in their team the star players of Southern Railway like Ranganathan, Palaniswamy and Balram Menon who had the honour of playing against the Russian team when they visited Madras last year. Their team mates Ranganathan and Palaniswamy were brilliant and impressive throughout at the net and were strongly supported by Balram Menon and Rangachari whose game in defence was first rate. Palaniswamy was outstanding for his smashing strokes. Mr. Kantha Rao Naidu, I.O.W., Rayapuram, presided and his daughter Miss Savitri gave away the prizes.

and create in himself sufficient amount of resistance.

If one has a healthy and cheerful outlook towards things around him and does not entertain a distaste or hatred to anything, probably he may not have any allergens to worry him!

Calm and cheerful attitude towards life and its problems seems to be more vital than anything else for a healthful living.

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OUR COMMERCIAL NEWSLETTER

Earnings

The approximate earnings on originating traffic for August 1956 compare as under with those for the corresponding period of the previous year :

	(Figures in thousands of Rupees)	
	1955	1956
Passengers ..	1,39,57	1,54,33
Other Coaching ..	37.27	39.93
Goods ..	1,98.31	2,06,67
Sundries ..	8.14	8.49
Total ..	3,83,29	4,09,42

Compensation Claims

The following is an analysis of the position regarding compensation claims for the month of August, 1956 :—

Number of compensation claims received during the month of August, 1956 ..	4,041
Number of claim disposed of and the amount paid during the month of August, 1956 ..	4,043
	Rs. 2,17,898-15-9
Number of claims outstanding at the end of the month ..	3,795
Number of days taken to settle a claim ..	36 days.

Decker

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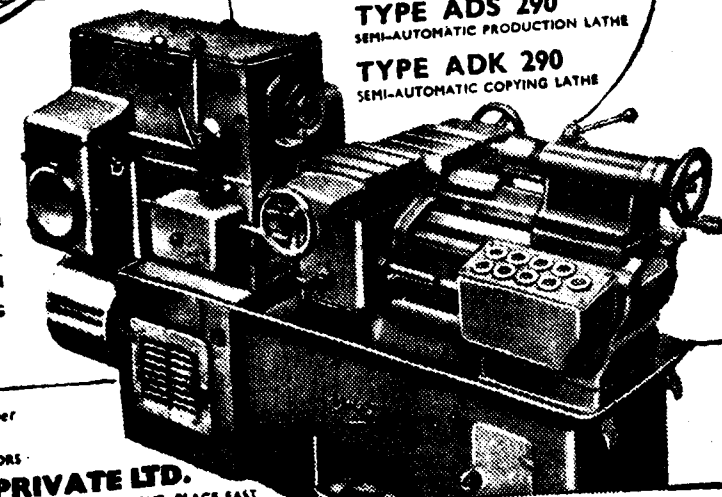
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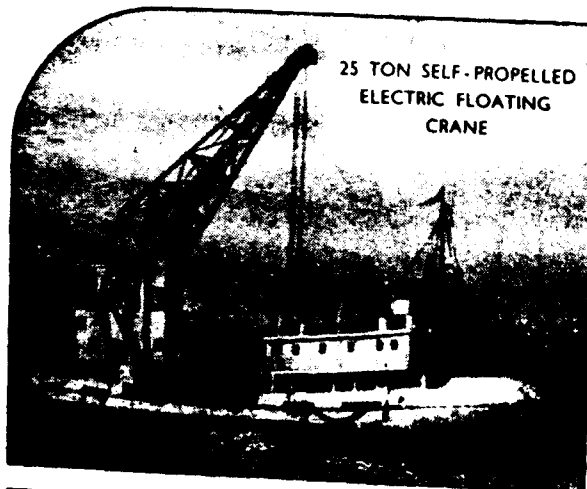
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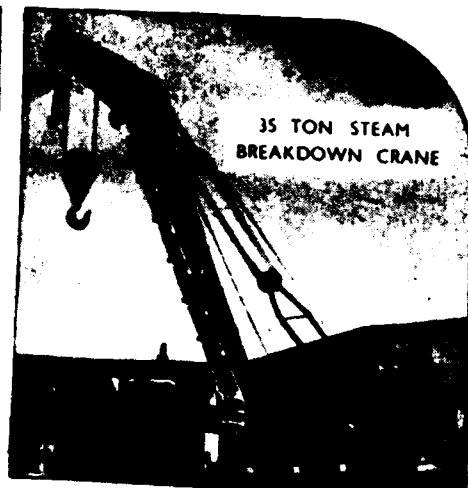
1, ROYAL EXCHANGE PLACE, CALCUTTA-1. SHOWROOMS: 13A, GOVT. PLACE EAST



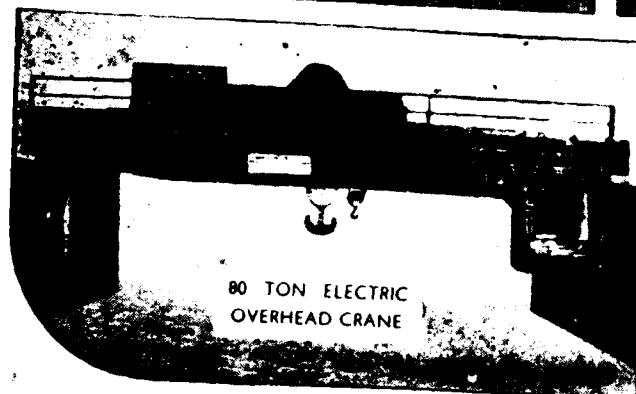
Cranes of all Types for all Purposes



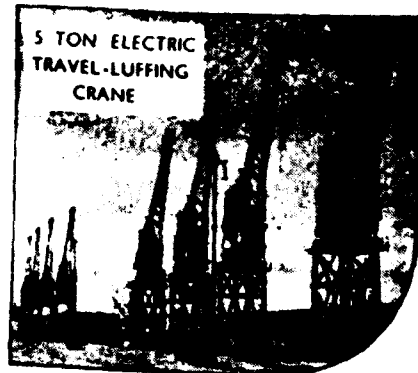
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NEW III CLASS WAITING HALL- CUM-BOOKING OFFICE AT GUNTUR

An up-to-date 3rd Class Waiting Hall-cum-Booking Office was opened at Guntur on Saturday, 6th October 1956 by the Hon'ble Justice Sri K. Subba Rao, Chief Justice of the Andhra High Court. There was a large and distinguished gathering present, including judges of the High Court, prominent officials and non-officials. After prayer, Sri C. Srinivasa Rao, Divisional Engineer, Bezwada, welcomed the gathering.

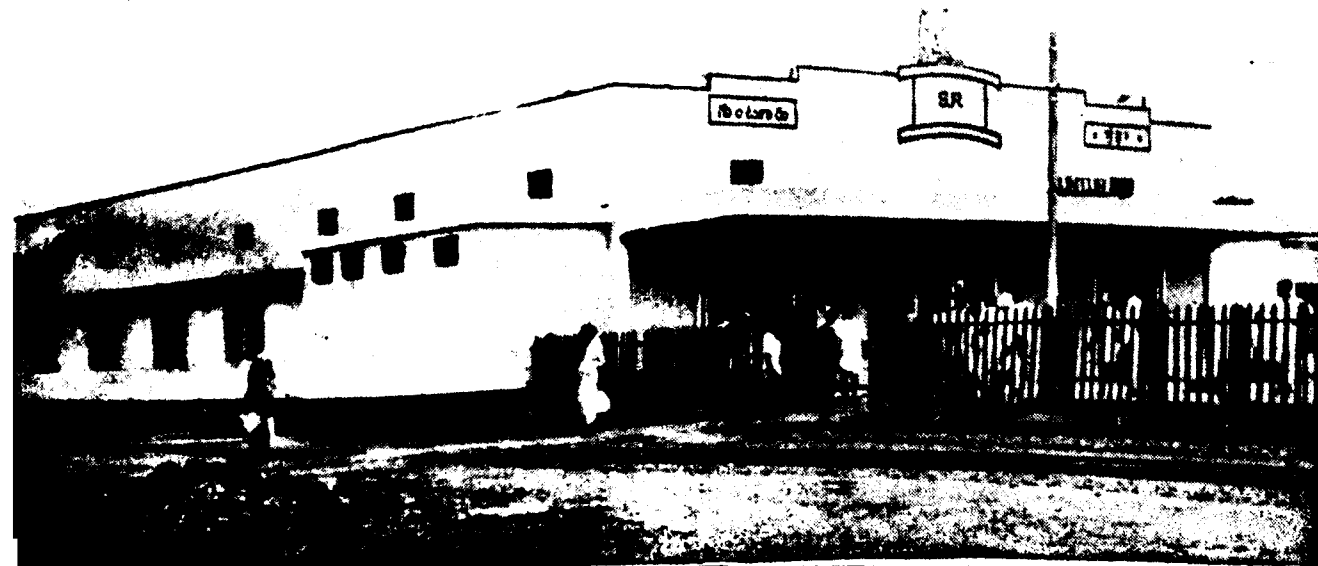
Inaugurating the new Waiting Hall, the Chief Justice said that he did not get an opportunity so far to thank the Southern Railway authorities personally for the excellent arrangements made by them during the inauguration of the Andhra High Court at Guntur to cater to the needs of the public by introducing very convenient trains for them to attend the High Court in time and return home after their work. "Our constitution," he said, "guarantees a Welfare State of equality for all. There can be equality in prosperity and poverty. It is easy to pull down but difficult to build up. I am glad that the Railways are following a policy of equality for all classes of passengers. The present Janata Express trains constitute an example of that policy. It affords a psychological background to us of what is going to come. I believe that the policy of the Railways is to have eventually

only one class of travel and that one "First Class" in all respects.

This new Waiting Hall that is being opened by the Southern Railway today at Guntur is yet another instance of that policy of the Railways. This waiting hall is new not only in construction, but also in model. It contains a Booking Office and all the other amenities that we can possibly think of, such as a modern Refreshment Stall, a good Cloak Room, a Luggage Office, up-to-date sanitary arrangements, etc. I must congratulate the planners of this new building for not only giving adequate attention to utility, but also for not neglecting the architectural aspect.

It is not enough that the Railway administration gives us good things. We must deserve them. The passengers using this beautiful waiting hall must help the Railways in keeping the place neat and clean. I would even suggest the appointment of one or two persons by the Railways to move about in this beautiful waiting hall, to help the passengers to use the amenities provided properly through gentle persuasion.

Guntur is a great commercial town. It produces tobacco, chillies, turmeric and many other commercial crops. Till now this town did not have a good building which it richly deserves. I must congratulate the railway authorities for planning to provide a good station building at a cost of about Rs. 10 lakhs. I understand that the work will be completed



by about 1958. When I get an opportunity to visit Guntur in 1958, I expect to find here a beautiful station in the place of the present structure, bustling with life."

Sri C. V. B. Menon, Divisional Commercial Superintendent, Bezwada, proposed a vote of thanks. The function came to a close with the singing of "JANA GANA MANA."

INDIAN RAILWAY INSTITUTE, HUBLI

The Indian Railway Institute Hall at Hubli was packed to its capacity on the evening of 26th August, 1956, when a Tamil Drama "Puvahum Thenralum" (Storm and Breeze) was staged by the members of the Dramatic Branch. The audience were treated to an excellent fare of entertainment for over three hours, and the drama written by Shri Gomathi Swaminathan, popular play wright of Tamilnad, kept them engrossed in suspense and laughter throughout. Shri S. Rajagopal, District Engineer, Hubli, presided on the occasion.

Shri R. Jagannathan, District Traffic Superintendent, who was among the officers present, spoke in very appreciative terms of the theme of the drama and also of the high histrionic talents of the actors whose performance, he said, was easily comparable to that of professionals. He had a word of praise for the Vani Orchestra, who provided music for the play, and also for the band of workers behind the stage. He wished that the Dramatic Branch of the Institute should provide the members with such entertainments very often.

Sri R. V. Subramaniam, Honorary Secretary of the Dramatic Branch, while thanking those who co-operated in the staging of the play successfully, specially mentioned the kindness of Shri Gomathi Swaminathan for having permitted enactment of the drama by the Institute and the encouragement given by Shri S. Rajagopal, District Engineer and Chairman, Indian Railway Institute, Hubli, who was leaving Hubli on promotion as Regional Engineer to Mysore.

TAMIL SANGAM, GUNTAKAL

The Sixth Anniversary of the Tamil Sangham, Guntakal, was celebrated on Saturday the 15th September at the Indian Railway Institute Hall; Sri S. Ganesan, District Engineer, Southern Railway, Guntakal, presided.

Sri K. Sundara Raman, Secretary, welcomed the gathering and presented the Annual



Sri S. Ganesan, District Engineer, S. Rly. GTL, addressing the gathering

Report. Messrs. R. Suraj of Madras, P. S. Narayanan of Anantapur and many others addressed the gathering.

Messages of greetings were received from Sri C. Rajagopalachari, Sri O. V. Alagesan, Deputy Minister for Railways, Government of India, Sri B. Gopala Reddy, Chief Minister of Andhra, Sri T. S. Parthasarathy, Deputy COPS (Coaching, Southern Railway) and many others. Rajaji in his message said that there might be no isolation between the Tamil and Telugu people and that the two languages and the culture of the two people are very close to one another.

The dance recitals by Kumari Girija, Vijaya, Vasmathi, Chandra Prabha and Ratna and the Tamil Drama "AVARGAL ANBU" were much appreciated by the audience.

RETIREMENT OF R. SRINIVASA IYENGAR, CHIEF CLERK, STATISTICAL BRANCH

There was an enjoyable party got up on 26th September by the staff of the Statistical Branch on the eve of the retirement of Sri R. Srinivasa Iyengar, Chief Clerk of the Office of Statistical Branch at Madras.

Sri Srinivasa Iyengar who was retiring after a service of over 35 years, of which 30 years were served at Trichy and 5 years at Madras, was complimented on his impartiality in

dealing with the staff, his helpfulness to staff and the high degree of efficiency of the work of which he was in charge. His valuable guidance in reference to the compilation of the special statistics required by the Railway Freight Structure Enquiry Committee also came in for special mention.

The function was presided over by Sri M. K. Krishnamachari, Statistical Officer; Messrs. C. E. James, Surendranath, Krishnan and Thomas Jacob all took an active part in the proceedings.

EAST AFRICAN RAILWAY STATISTICIAN VISITS SOUTHERN RAILWAY

In the September issue of Southrailnews the visit of Mr. Ashtiyani of the Iranian Railways to the Statistical Branch of the Southern Railway to learn of the procedures and latest statistical developments was reported. Another senior Railway Officer from a foreign country visited the Statistical and Operating Branches of the Southern Railway to learn the latest developments in the compilation and utilisation of statistics on this Railway and certain aspects of railway operation so that similar procedures could be introduced on his home railway on his return from this country. This Officer, who was at our Statistical Branch between the 20th August and 12th September, 1956, Mr. H. M. Gordon, a Sr. Traffic Officer of the East African Railways and Harbours, was deputed by the General Manager of his Railway for the purpose.

Mr. Gordon on leaving this country has written to the Statistical Officer of our Railway thanking him for all the assistance that has been given to him and expressing the hope that his study at the Statistical Branch at Madras would enable him to organize a similar efficient and competent Statistical Branch at the East African Railways and Harbours.

SOUTHERN RAILWAY BHARAT SCOUTS & GUIDES (CENTRAL DISTRICT)

Area Rally of Madras Units at Perambur

On the eve of the transfer of Shri S. Krishna Rao, the former Secretary of the Southern Railway Bharat Scouts and Guides, Central District, to Olavakkot, a Farewell Rally was arranged at Perambur at 5 p.m. on 21st August, 1956.

Shri S. Chaudhary, District Commissioner, presided. Shrimathi S. N. Hoskote, State Commissioner (Guides), Sarva Shri N. G. Hoskote, Asst. State Commissioner (Scouts), H. C. Krishnappa, State Secretary, G. B. Ambrose, State Organising Commissioner and others. On the arrival of Shri Krishna Rao, he was received by Shri V. Narayanaswamy, Honorary Secretary. The Scout flag was hoisted by Shri Rao and the Units present were reviewed by him.

The president in the course of his speech made mention of the services rendered by Shri Rao as Secretary. He faced all the difficulties bravely and bore the brunt of all difficulties experienced in the formation of an infant organisation. He was a model Secretary in mind and manner. Thereafter, the President introduced the new Secretary Shri V. Narayanaswamy and stated that his great qualities of leadership will further develop the progress of the organisation.

On behalf of the Central District Boy Scouts, the President garlanded Shri Rao and said that what the Central District was losing in Shri Rao by his transfer, the Olavakkot Division would be gaining as he was sure to begin a branch of the Scouts Organization in the new place.

Shri Krishna Rao made a suitable reply. He thanked the organisers. He said that the Scout promise and laws were like the prayer "Ram Nam" and requested all the Scouts to bear them always in their minds. He exhorted the Scouts to do their best without caring for the results.

A vote of thanks was proposed by Shri P. N. Ghatikachalam, Assistant Secretary.

AREA RALLY OF THE ANGLO-INDIAN RAILWAY SCHOOL GROUPS, BITRAGUNTA

An Area Rally of the four groups, namely, the Scouts, Guides, Cubs and Bullbuls of the Anglo-Indian Railway School was held on Friday the 31st August at 3-30 p.m.

Sri M. Ranganathan, Assistant District Commissioner (Rovers), Central District, was met by Sri V. G. Samuel, Scout Master, and led straight to the Flag Stand where the 4 groups were assembled.

He unfurled the Bharat Scouts and Guides' Flag and took the Salute during the march past. After an inspection of the groups they broke up and he spent an interesting 15 minutes with each group, instructing and playing games with them.

After Tea, both the Guest of the evening and parents and friends were entertained at a Camp Fire.

Sri Ranganathan declared the Camp Fire open while the Rev. Father Bruggeman spoke on the value of the movement and requested parents to see that their children joined it.

The Camp Fire items were both instructive and entertaining. A novel feature was a tableau of the First Five-Year Plan supported by verse and colourful costumes.

With a vote of thanks and a short prayer read by Sri Ranganathan, the Rally ended amidst applause and cheers.

SOUTHERN RAILWAY INSTITUTE, GOLDEN ROCK

Under the auspices of the Southern Railway Institute, Golden Rock, "Muthamil Muzhangum Minram" organised by the Railway Employees of Golden Rock put on boards a drama "Anbin Thunnam" on the night of Sunday the 16th September 1956. Shri M. M. Parthasarathy, Works Manager and President of the Institute, along with Shri T. V. Madhav, Personnel Officer and Vice-President of the Institute, attended the function. Shri K. Viswanathan, Mechanical Engineer (Progress) and Secretary of the SRAA T.P.J. Region Golden Rock, was also present.

The function was largely attended by the employees. Before the closing of function both the President and Vice-President gave a short speech congratulating the drama party and wished them all success.



The President at the Flag post

SOUTHERN RAILWAY BHARAT SCOUTS & GUIDES, CENTRAL DISTRICT, GUNTAKAL

The area Rally was held on Sunday, the 23rd September, 1956, under the esteemed Presidentship of Shri K. Raghavendra Rao, M.S., DMO Guntakal, at the Indian Railway Institute Grounds, Guntakal.

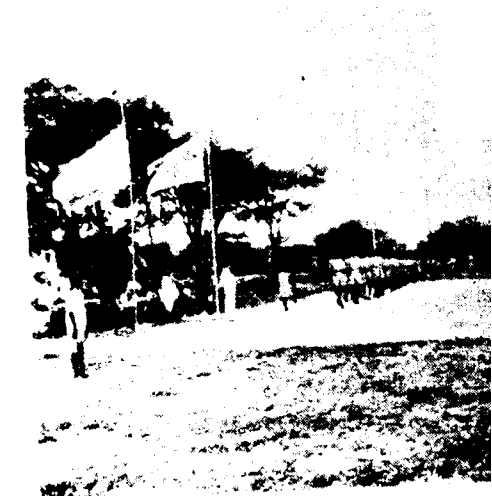
About 110 Rovers, Scouts, Cubs, Bullbuls and Scouters representing 6 units of the area took part in the Rally. On arrival the boys were entertained with tea by the Indian Tea Board with light refreshments.

At 4.15 p.m. the flag was unfurled by the President and he took the salute of all the units at the march-past. Smart turnout of the youth at the march-past presented a gala sight.

All the Units rallied round the flag staff and entertained the public present with various items of interest. The Rovers with their display of scouty nature and with the pioneering stunts demonstrated the utility of various projects constructed by them.

The scouts gave very interesting items of drills and gymnastics. The cub special, an item by the A.I.R. School, Guntakal and the Bullbul, Action song and Gammi, by I.R. School were greatly appreciated.

Lastly while blessing the children the President spoke encouragingly on the keen interest evinced by the Scouters of the area in bringing the Rally to a success and appealed to the scouters and general public that scouting is the only organisation with full scope for public service and good citizenship. Sarvasri Govinda Rao and Subbarayala, Teachers, Indian Railway School, also spoke on the occasion.



March-past



"Project" by Rovers, IRU/GTL

Cub Special by AIR/GTL



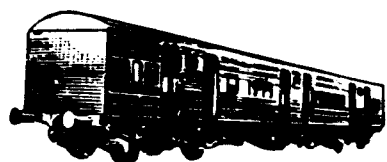
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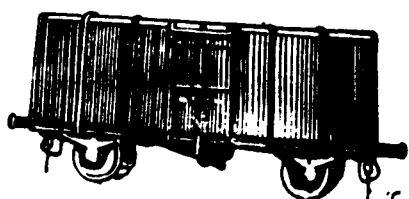
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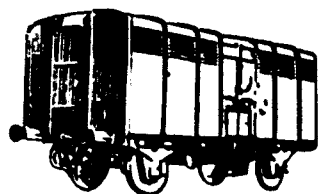
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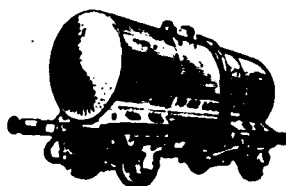
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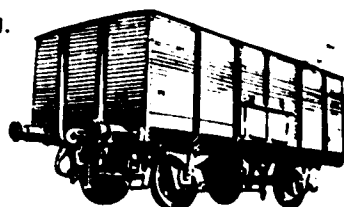
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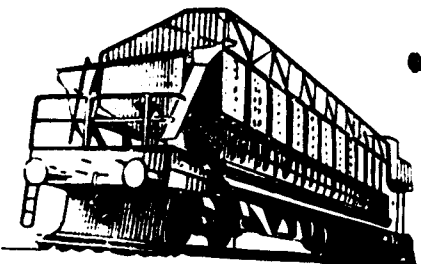
'T.P.R.' WAGON



'M.B.O.C.' TYPE WAGON
LOADED ON A 'BFR'
TYPE WAGON

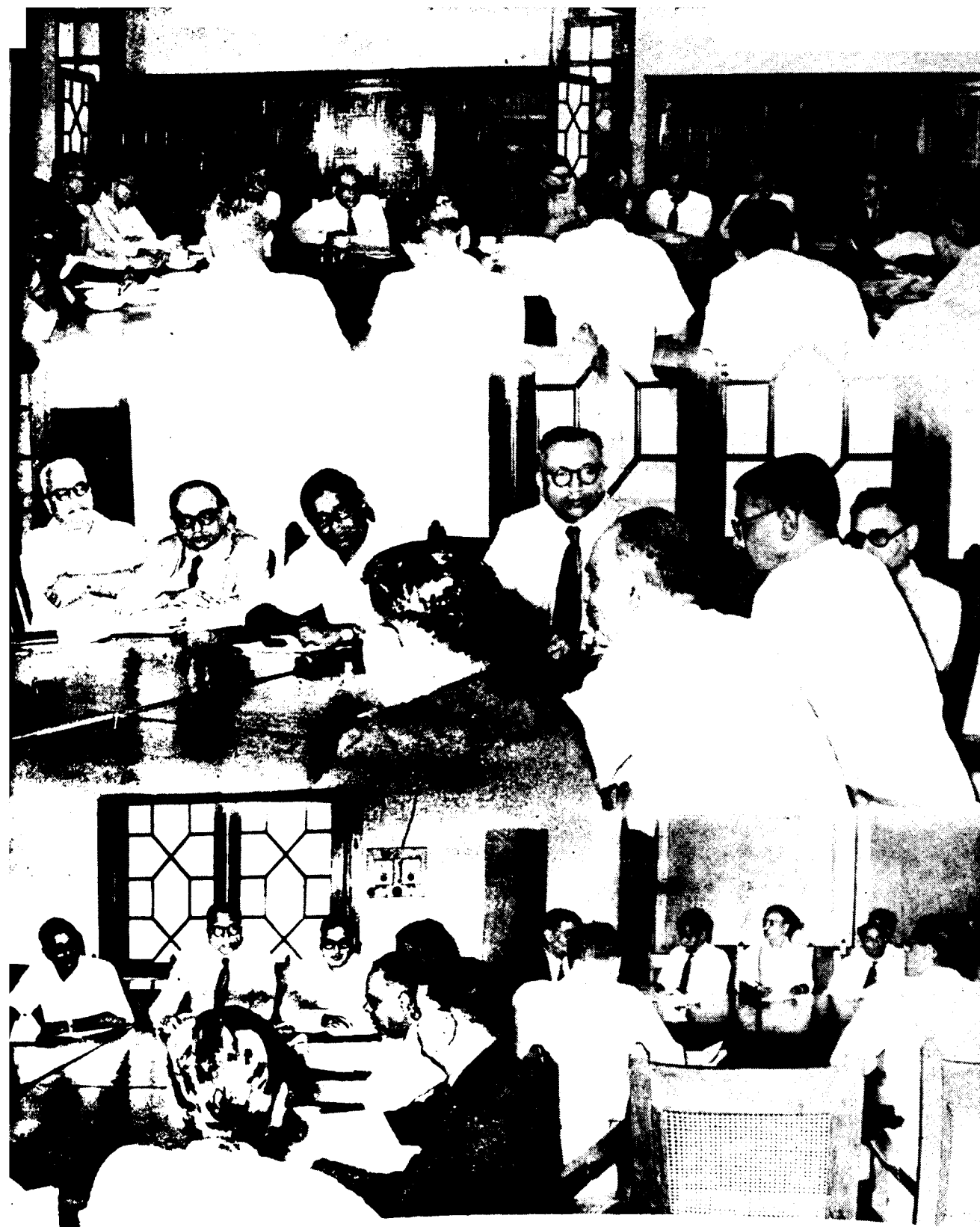


'O' TYPE WAGON



'HOT COKE' WAGON

MSWC-6



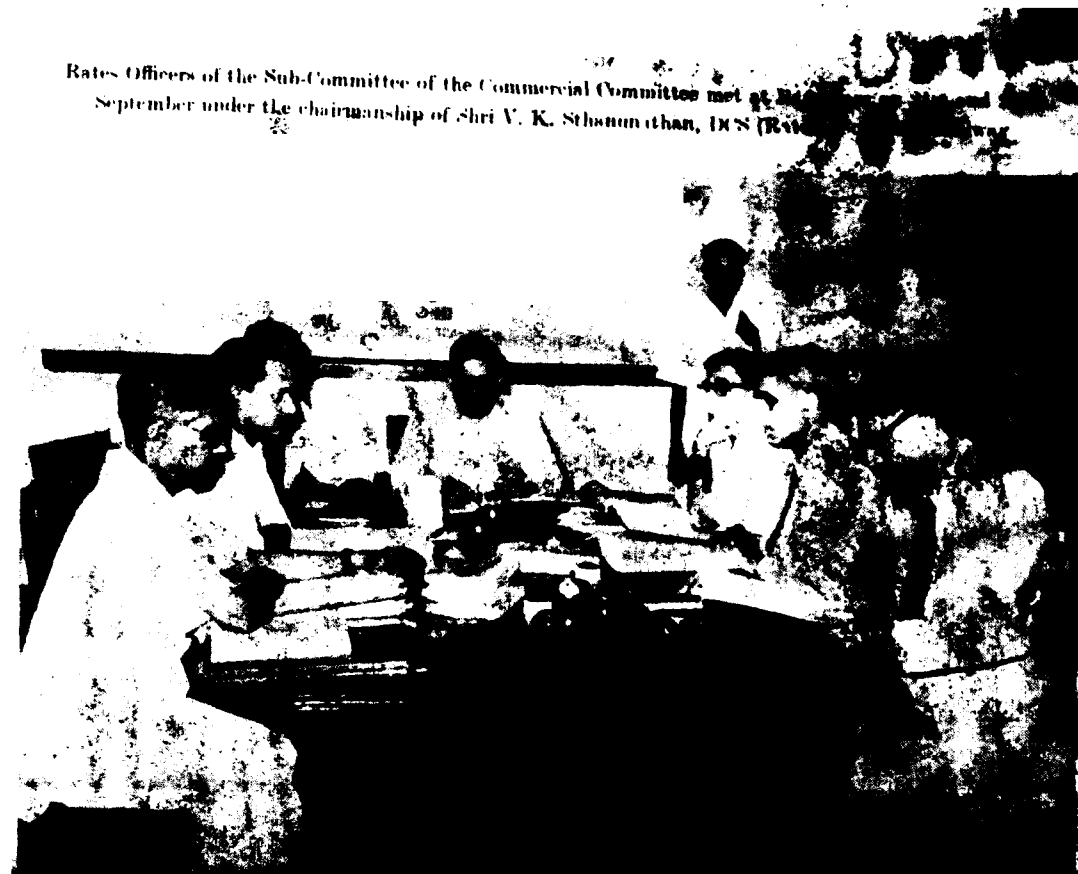
Press Conference held by Shri T. A. Joseph, G.M., Southern Railway, on 19th September

(Photo: P. S. Vellachalam)



Indian Railway Conference Association Commercial Committee Meeting was held at Bangalore from 21-9-1956—Group Photo of Staff

[Photo: P. S. Vedhachalam]



Rates Officers of the Sub-Committee of the Commercial Committee met at Bangalore in September under the chairmanship of Shri V. K. Sthanuathan, DCS (Rly.)



Meeting of the Commercial Committee of the IRCA held at Bangalore Cantt. from 21-9-1956, under the chairmanship of Shri S. K. Mukerji, CCS, S. Railway. Shri S. R. Kalyanaraman, Additional Member (Commercial), Rly. Board, is also seen participating in the deliberations.

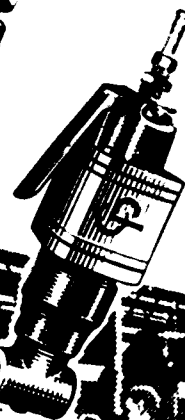
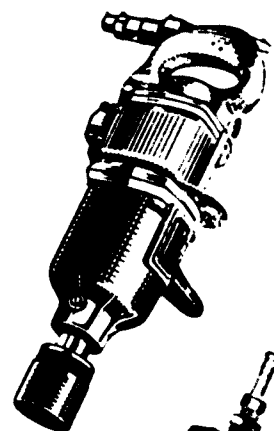
[Photos: P. S. Vedhachalam]

Another view of the same committee showing (left to right), Shri Mazumdar, CCS, S.-E. Railway, Shri Anandmohan, CCS, E. Rly., Shri S. R. Kalyanaraman, Additional Member (Commercial), Rly. Board and Shri S. K. Mukerji, CCS, S. Rly. and Chairman.



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Accounts Officers' Forum at New General Offices, Madras. Shri Penn Anthony, Dy. FA & CAO, speaking (28-9-1956).

Shri A. A. Muthuraman, AAO, seen speaking on the occasion



FESTIVAL OF LIGHTS



Deepavali, the festival of lights is celebrated all over India. Firing sparklers and crackers is something children look forward to during Deepavali.



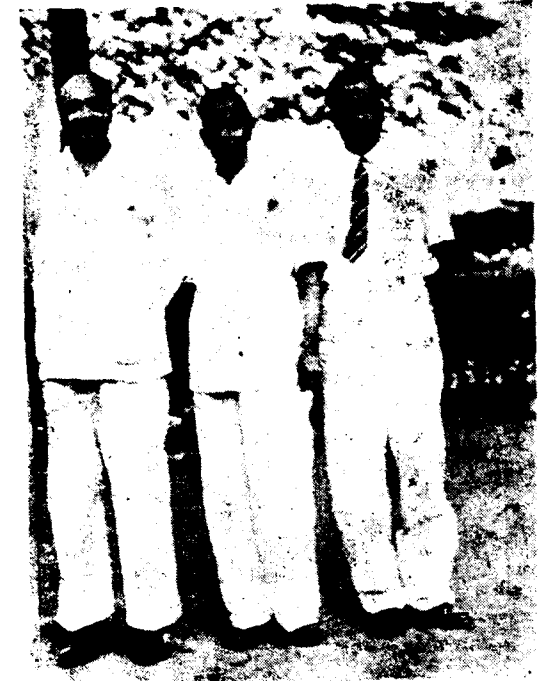
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Chi. P. R. Mohanaragam, FA & CAO's Office, Madras and Sow. Sulochana Bai were married on 7th September 1956.



Shri K. P. Mushran, Member (Staff), Rly. Board (left) with Shri Sundararajan, DGM (P), S. Rly. (centre) and Shri G. N. Nair, DTS/SBC. The photo was taken when the member visited Bangalore City recently.



Chi. G. Balaguru, son of the late B. Govindaswami, J.P., M.C.H. of Singapore, and Sow. Rukmani, daughter of Shri M. Ranganathan, ACS/TPJ were married at Kumbakonam on 7th September 1956.



The harvest comes home ...as planned

Our distribution of fuel oils and lubricants to the remotest agricultural areas, helps India's farmers to do this vital job. Shell petroleum chemicals such as aldrin, dieldrin and erdrin help to protect vital crops and so increase the effective

The harvest has indeed come home... for the First Five Year Plan's increase in agricultural production was estimated at 7.6 million, whereas the *actual* increase was about 11 million tons. These figures are a tribute to the achievement of Indian farmers. The Second Five Year Plan aims to diversify and increase further agricultural production. And once again, the success of the Plan will depend upon the capacity of India's farms to feed her growing population.

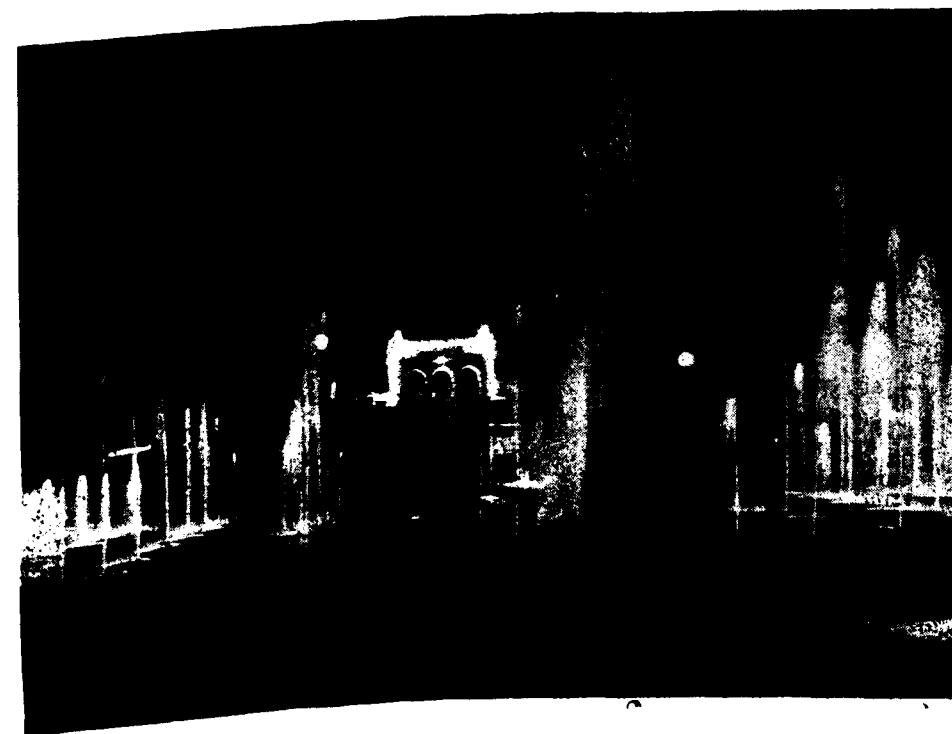
yield per acre. 1,631 Burmah-Shell up-country storage depots and godowns, with a total capacity of 4,26,00,000 gallons, ensure that vital petroleum products can be made available wherever and whenever they are required.

BURMAH-SHELL...IN INDIA'S LIFE AND PART OF IT



DUSSERAH IN MYSORE: The famous Mysore Band—a part of the state procession

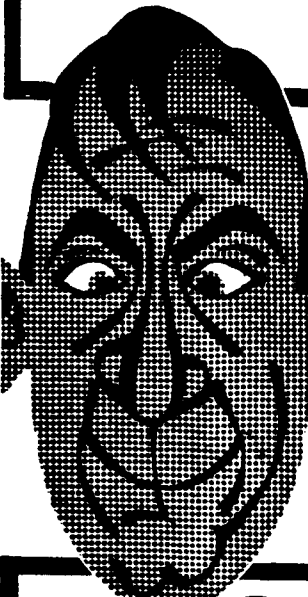
Fountains in Brindavan Gardens at Krishnaraja Sagar



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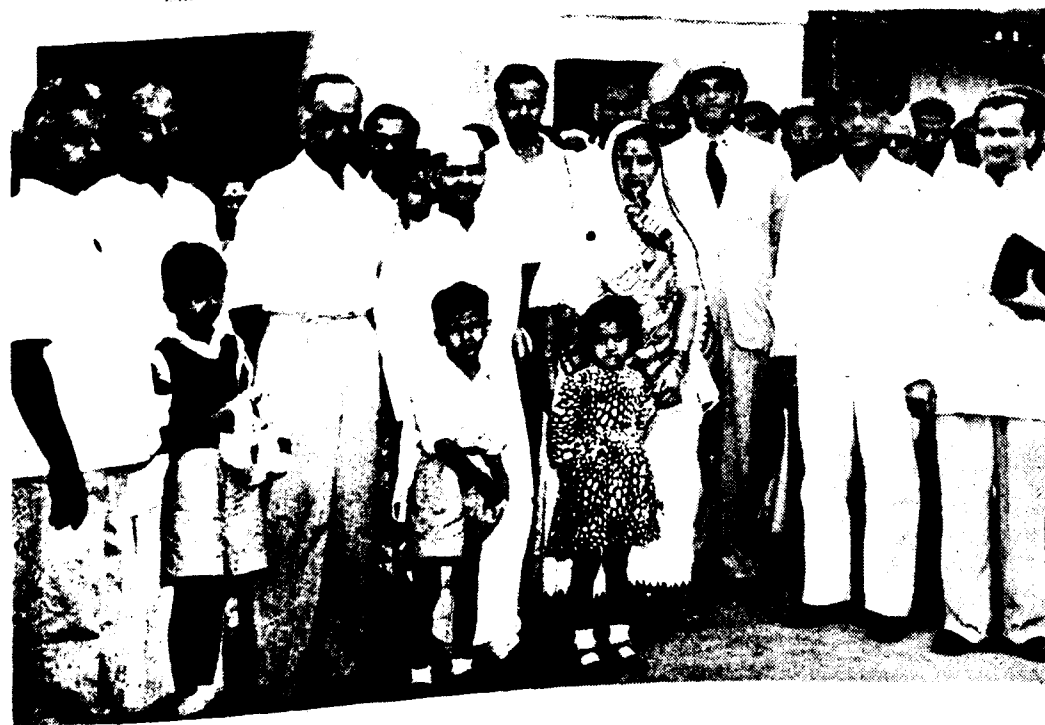
In the case of mass production, producing the merchandise, wrapping it in quantities so large, the production costs are cut. In order to produce in large quantities, the manufacturer should sell in large quantities and that is where advertising plays its important part. Through the means of advertisement, the manufacturer can tell many more people about his product than if he employed thousands of salesmen to call at every house. When more people know about the product, more of them purchase it and this means a lower price because of large-scale production, and cost of each item comes down. Advertising helps both the public and the manufacturer and because 'Southrailnews' accepts only Advertisers of repute, you can place reliance on what you say in its advertisement pages.

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Entrance to the decorated pandal at Ernakulam South Station

Shri Lal Bahadur Shastri and party detraining at Ernakulam South Station





The audience seated in the pandal at Ernakulam South Railway Station



The train starting from Ernakulam South Railway Station for Kottayam



Shri Lal Bahadur Shastri pulling the lever for the starting of the Train from Ernakulam South Railway Station



Shri Lal Bahadur Shastri, Minister for Railways & Transport, arriving for the dinner at Kottayam station

SOUTHERN RAILWAY TENDER NOTICE

The REGIONAL ENGINEER, Southern Railway, Mysore, invites SEPARATE SEALED LUMP-SUM-CUM-PERCENTAGE TENDERS for the following works up to 16-00 hours on Friday the 16th November 1956 : —

Serial No.	District	Name of work	Total approximate value of the contract	Earnest money to be paid
1	Bangalore	Bangalore—Construction of Staff Quarters (Storeyed type) 28 units type II (2 blocks of 12 units and 1 block of 4 units) and 4 units type III (1 block of 4 units) with RCC slab roofing	Rs. 1,57,200	Rs. 7,860
2	Bangalore	Bangalore—Construction of Staff Quarters (Storeyed type) 56 units type I (3 blocks of 16 units each and 1 block of 8 units) with RCC slab roofing	1,33,000	6,650

2. The tender should be submitted in the prescribed form obtainable from the Office of the Regional Engineer, Southern Railway, Mysore, on production of a receipt for the sum of Rs. 10 (Rupees ten) only paid to the Regional Accounts Officer, Southern Railway, Mysore or Divisional Accounts Officer, Trichinopoly or Chief Cashier, Madras or to any Station Master on the Southern Railway towards the cost of each form. In no circumstances, will the cost of the tender forms be refunded.

3. The tender form is not transferable.

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

5. Tender forms will not be issued after 15-00 hours on Monday the 12th November 1956.

6. The earnest money shown above should be paid in advance to the Regional Accounts Officer, Southern Railway, Mysore or Divisional Accounts Officer, Trichinopoly or Chief Cashier, Madras and the receipt issued by him should be attached to the tender. No demand Draft or Cheque is to be attached to the tender.

7. The earnest money will not be accepted after 15-00 hours on Tuesday the 13th November 1956.

8. The tenders will be opened at 12-00 hours on Saturday the 17th November 1956 at the Office of the Regional Engineer, Southern Railway, Mysore.

9. The Regional 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.



Earl and Countess Attlee, during their recent tour, visited the ICF. They are seen here with Shri C. D. Ellicott, Dy. COS/ICF (extreme left), Shri K. Swarup, Dy. CME/ICF (fourth from left) and other officers

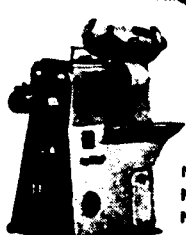


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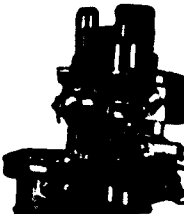
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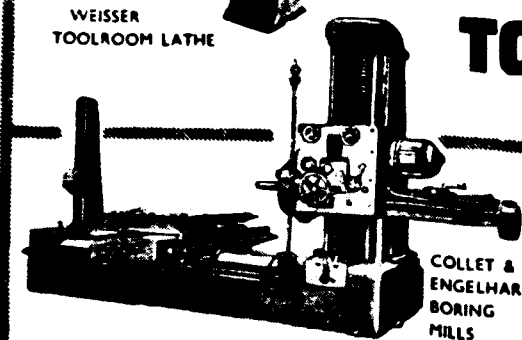
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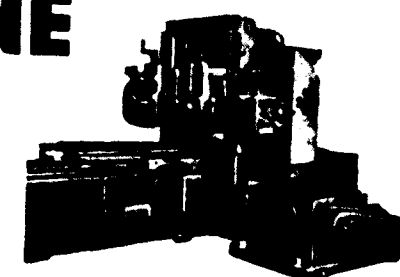
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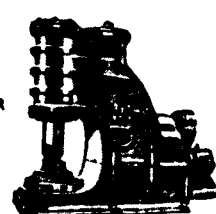
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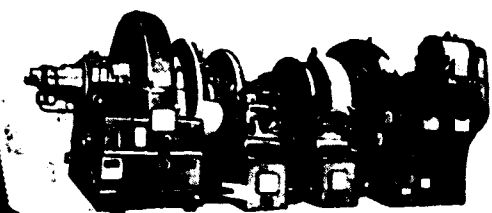
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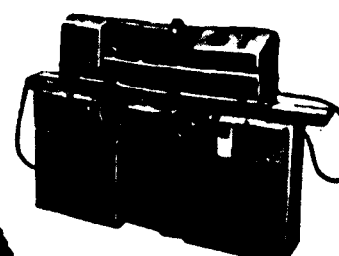
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SOUTHERN RAILWAY

TENDER NOTICE

The Divisional Superintendent, Southern Railway, Trichinopoly, invites SEPARATE SEALED TENDERS FOR EACH OF THE FOLLOWING WORKS TO REACH HIM NOT LATER THAN 12 NOON ON 9TH NOVEMBER 1956.

Serial No.	Name of work	Total approximate value of the contract	Earnest money to be paid
		Rs.	Rs.
1	Construction of Type I Quarters for Class IV Staff (46 units) 30 or 38 units in Trichinopoly Goods Yard Colony and 16 or 8 units at Trichinopoly Junction	70,600	3,530
2	Construction of 8 units Type II Quarters and 3 units Type III Quarters for Class III Staff at Trichinopoly Junction	40,300	2,015
3	Proposed extension of the existing III Class Waiting Hall and proposed masonry latrine in lieu of the existing sleeper latrine at Vallampadugai	10,600	530

2. Tenders should be submitted in the prescribed forms obtainable from the Office of the Divisional Superintendent, Works Branch, Southern Railway, Trichinopoly, on production of a receipt for the sum of Rs. 10 (Rupees Ten only) for each tender paid to the Divisional Accounts Officer, Southern Railway, Trichinopoly or to any Station Master on the Southern Railway towards the cost of each form. In no circumstances will the cost of the Tender Form be refunded. The Tender Form is not transferable.

3. The tenders submitted should be clearly addressed to "The Divisional Superintendent (Works Branch), Trichinopoly."

4. Tender forms will be issued up to 15 hours on 8th November 1956.

5. Earnest money as above should be paid to the Divisional Accounts Officer, Trichinopoly, NOT LATER THAN 12 NOON on 5th November 1956 and the receipt submitted along with the tender. No Cheque or Demand Draft, etc., should be attached to the tender.

6. Tenderers are required to submit INCOME-TAX CLEARANCE CERTIFICATE.

7. The tenders will be opened at 14.00 hours on 9th November 1956 at the office of the Divisional Superintendent (Works Branch), Southern Railway, Trichinopoly.

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

SOUTHERN RAILWAY

TENDER NOTICE

1. THE CHIEF ENGINEER, SOUTHERN RAILWAY, MADRAS-3, invites LUMP SUM, CUM-PERCENTAGE SEALED TENDERS FOR THE CONSTRUCTION OF STAFF QUARTERS AT OLAVAKKOT as per particulars below up to 12.00 hours on Monday the 19th November 1956.

Type of Quarters	No. of Units	Total Approximate Value	Earnest Money
Type II	100	Rs. 1,50,000	Rs. 22,500

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

3. The tender form is not transferable.

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

5. Tender forms will not be issued after 15.00 hours on Tuesday the 13th November 1956.

6. The earnest money for the tender mentioned above should be paid in advance to the Chief Cashier, Southern Railway, Madras-3 or to the Divisional Accounts Officer, Trichinopoly and the receipt issued by him should be attached to the tender. No Demand Draft or Cheque is to be attached to the tender.

7. The earnest money will not be accepted after 15.00 hours on Wednesday the 14th November 1956.

8. The tenders will be opened at 12.00 hours on Tuesday the 20th November 1956 in the Chief Engineer's Office at Madras.

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



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