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Rail Coach

Vol. I

1957

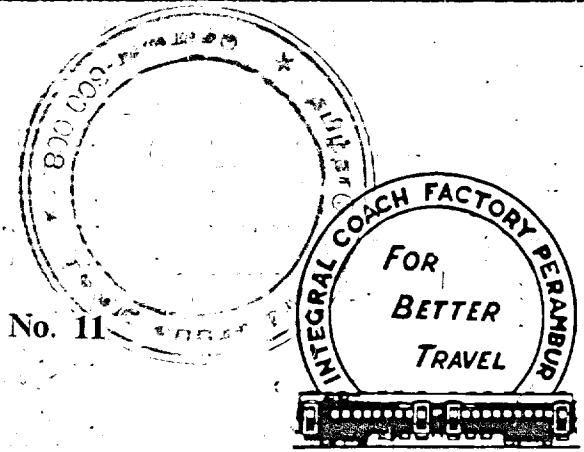
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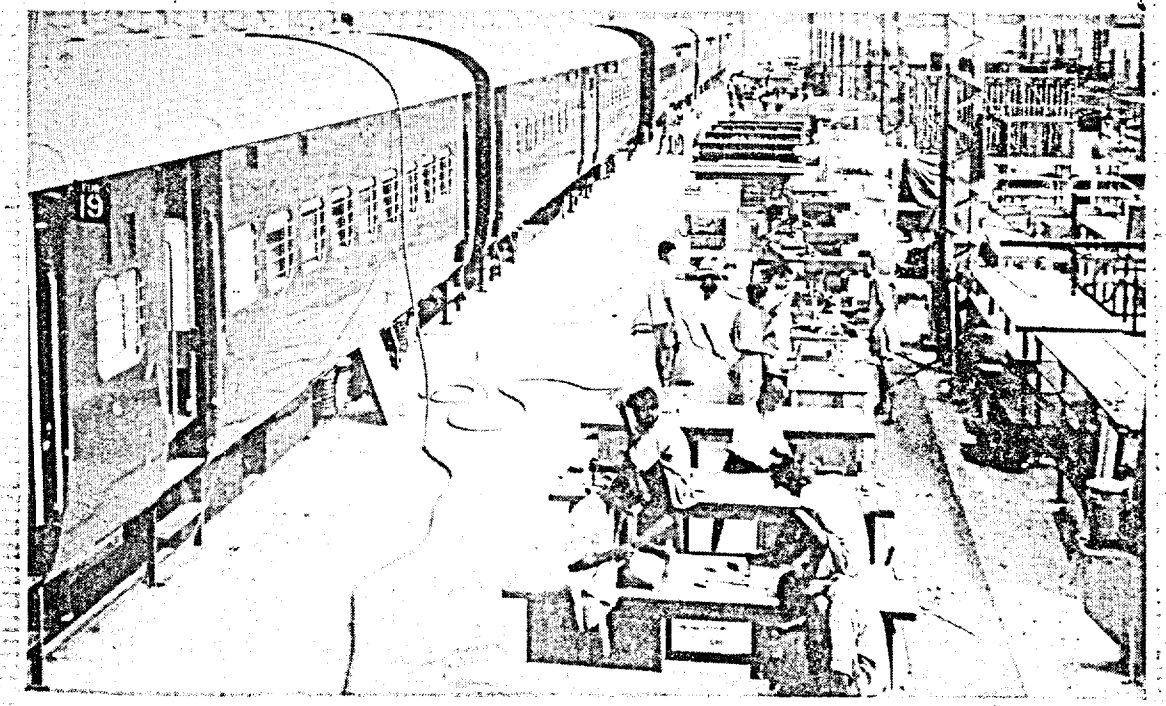
RAILCOACH



VOL. I, No. 11

AUGUST 1957

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The Furnishing Bay in the 'J' Shop

RAILCOACH

Published by the Integral Coach Factory
ISSUED ON THE 15th OF EVERY MONTH

Devoted to all Railway problems, Technical Matters
and other problems of General Interest

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CIRCULATION

The "Railcoach" circulates among Officers and staff of the Integral Coach Factory, General Managers and other important Officers of all Railways in the country, the Union Minister for Railways and Transport, the Union Deputy Minister for Railways and Transport, the Chairman and Members of the Railway Board etc.

TERMS

1. Blocks or lay-outs are to be supplied by the Advertiser or will be charged for extra.
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3. Cheques should be drawn in favour of the Editor, "Railcoach", Integral Coach Factory, Perambur, Madras-23.
4. Texts of advertisements are subject to approval by the management.
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Further particulars from

The Editor

RAILCOACH

Integral Coach Factory, Perambur, Madras 23

We have represented for many years Wadkin Limited of Leicester, manufacturers of a comprehensive range of Woodworking Machinery. This range of equipment, due to a recent merging of The Sagar and Bursgreen Woodworking Machinery Companies with Wadkin Limited, has now been very greatly extended and consequently our recent appointment as Sole Agents in India, Pakistan, Burma, and Ceylon for the sale of all Woodworking Machinery produced within the Wadkin Group of Companies has enhanced our opportunity of supplying the Industries in this country with a more varied range of equipment than previously.

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We invite you to write for full particulars for this new range of equipment that we can now offer and such enquiries will receive

our prompt attention.

C. A. O. (R).’s MESSAGE



On the August 15th this year, we are celebrating the tenth anniversary of the attainment of our Independence. This year is also of a special significance to us, since we are celebrating the centenary of our Freedom Struggle launched against the alien rulers in the year 1857. In all humility and reverence, we beg to pay our tribute to the martyrs who sacrificed themselves in that War of Independence, in particular, to the glowing memories of Nana Sahib, Tanya Tope, Mohamed Sirajuddin Shah Khazi, Kir Singh and above all, Ranee Lakshmi Bai, the Maharanee of Jhansi. We cannot also help paying our homage on this great national day, to those noble sons and daughters of the nation who have served and sacrificed their all at the altar of freedom, so that we as a nation, freed from alien domination, may rise to our full stature and take our rightful place in the comity of nations.

The Integral Coach Factory represents a noble and magnificent effort on the part of

independent India, towards the industrial and economic advancement of the country. Since the inauguration of production in this, our Factory Temple, on Mahatma Gandhi’s Birthday, the 2nd October 1955, we, as a happy family of workers, dedicated to the service of the public, have been able not only to reach our production targets, but also “overfulfil” them. In the years to come, we are confident that we would more than fulfil what the Government and the country expect of us.

So, on this great day, let us renew our bonds of love and affection for one another and take a resolve, solemnly dedicating ourselves to the tasks which it is our duty and our rare privilege to perform.

“Jai Hind”

RAILCOACH

(INTEGRAL COACH FACTORY MAGAZINE)

EDITORIAL NOTICE

All contributions must be clearly typed and doublespaced 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 not be returned unless the sender so requires. Intending contributors from outside our Factory, if they intend to get back unaccepted articles and photos, should send a suitably stamped and self-addressed envelope along with the material sent by them.

Contributions should be addressed to the Editor, not by name, and reach him not later than the 25th of every month for consideration for publication in the next month’s issue.

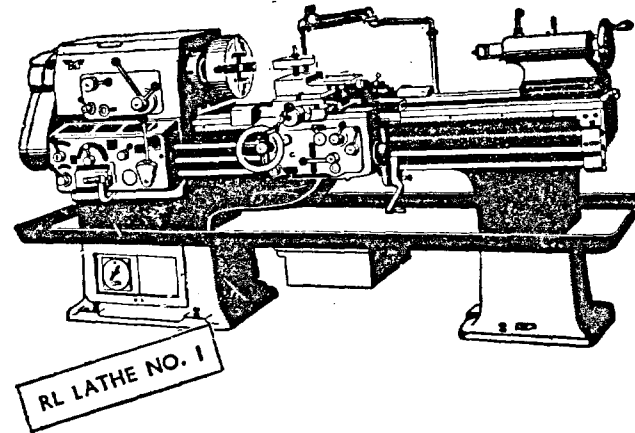
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Annual Subscription ... Rs. nP.
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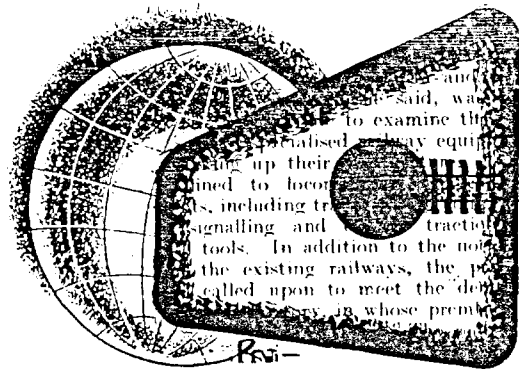
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FROM THE EDITOR'S DESK

This August we celebrate a double event. We celebrate the 10th Anniversary of the attainment of Independence and the Centenary of the freedom struggle. It is now well-known that the first struggle to free ourselves from foreign yoke was launched in 1857. That freedom struggle was no doubt put down, but the people who laid their lives low had not died in vain, as the struggle was carried on by their illustrious sons and daughters, culminating in the attainment of freedom in 1947. It is only fitting that at this juncture our thoughts should turn to those who launched the first freedom struggle against great odds. The mighty resources at the disposal of the foreign rulers did not deter our brave ancestors from giving expression to their passion for freedom. We, who enjoy the fruits of their sacrifice and are better equipped, have a duty to perform. In fact it is our privilege to use the facilities at our disposal to the best advantage, consolidate the freedom gained by us and in turn make Bharat a better place to live in for the succeeding generations. So far as we of the Coach Factory are concerned, our duty to the nation is clear and that is to provide better travel conditions with an eye on economy. We are confident that in the discharge of this duty of ours, we of the I.C.F. family would not be found lacking.

In conclusion, we wish to invite the attention of our readers to the inspiring message of our Chief Administrative Officer and an interesting article about the freedom struggle by our popular District Controller of Stores, Shri A. V. Sugavaneswaran.



NEWS AND NOTES

Measures for Economy in Railways

The Railway Board has set up an economy committee with additional members of the Railway Board, the Director in charge of Finance and the Joint Director in charge of the Efficiency Bureau as members.

Each of the Zonal Railways will also have a counter-part of this committee with a senior officer in charge.

Even before the appointment of this Committee, the Railway Board had taken various measures to effect economy in Railway expenditure. Action has been taken to ensure that constant vigilance is exercised to get the most out of the Railways' existing assets and resources of men and equipment.

Apart from the stoppage of works connected with "prestige buildings", a review has been undertaken of all works sanctioned, but not yet started. The object is to go ahead only with those which are inescapable in the light of the prevailing circumstances, and to prune to austerity scale those which are ultimately to be executed. Although all works to be undertaken under the Railway plan have been strictly scrutinised, a review will be made with a view to eliminating or modifying any item which may possibly result in economy.

Apart from the pruning of projects, the Railway Board Committee's attention is being given to streamlining of office procedure, reduc-

ing correspondence and returns and exploring ways and means of generally reducing work and raising the standards of efficiency in offices. The justification for the continuation of the sanctioned posts in the light of the present circumstances is also being examined.

Similar economy committees on the Zonal railways will undertake detailed work in the "field". Efficiency "cells" have been set up on the Zonal Railways to carry out "sample checks" of projects to find out whether these have been properly planned and whether they are being executed with an eye on the need for the strictest economy not only of money, but also of essential construction materials which are in short supply.

Railway Track and Bridges

The Railway Board has proposed to all State Governments that a standing committee of engineers should be set up in each State to keep under constant review matters affecting the safety of railway track and bridges against floods and heavy rainfall.

It has been proposed that each committee should consist of representatives of the zonal railways serving each State, and of the State Public Works, Irrigation, Forest and Local Self-Government Departments.

The subject of achieving maximum co-operation between railways and the State

Governments in regard to safety of railway track was discussed at a meeting of the State Chief Ministers with the Railway Minister held in New Delhi on June 5, 1957.

Each State Committee will meet at frequent intervals and its members will exchange information about schemes envisaged by any one department and likely to affect the working or safety of the assets of another department and discuss the consequential safe-guards to be adopted.

The committees would evolve a procedure for obtaining and broadcasting by the departments concerned, to officers in other department, warnings or forecasts of heavy rains, floods, storms as well as the actual heavy rainfall recorded.

The committees would also evolve the procedure for inducing public co-operation in promptly conveying to the department concerned any unusual occurrences. They would assess whether water-ways, protection works, etc., provided by any department in a particular area severely affected by floods have proved to be inadequate and whether improvements are needed for the future.

The Railway Board has requested the General Managers of all the Zonal Railways to get into touch with the State Governments concerned immediately and see that these committees are constituted and start functioning very early.

Prevention of Railway Accidents

Shri Jagjivan Ram, Union Railway Minister, told Pressmen in Hyderabad on June 27 that the Government of India have decided to form Co-ordinating Committees consisting of Public Works, Irrigation and Railway Engineers, in all States to look after the maintenance of tanks and condition of track, etc., to prevent recurrence of train disasters.

Referring to the condition of bridges in the Central Railway section, Shri Jagjivan Ram

said though, according to the engineers, they were strong enough, Government were taking precautions. They had increased the number of patrols. Their real difficulty was that the tanks, belonging to private persons, had not been maintained properly. Sometimes, a tank which was some miles away from the track breached, and the track was weakened. The cost of employment of patrols was certainly high. There was a proposal to entrust local village panchayats with the responsibility of patrolling in the concerned area.

The Union Minister said they could not cancel slow services in order to speed up trains, which meant less stoppages at some stations. That would evoke protests from the local population. It would be possible, however, to implement the request to reduce the running hours of the Hyderabad-Waltair passenger from 26 to 19 hours. The question of running another fast train between Hyderabad and Waltair would also be examined.

Referring to the lack of punctuality in the running of trains, Shri Jagjivan Ram said that they had to be cautious during the monsoon period. There were also certain other factors which affected the speed of trains in the Secunderabad section of the Central Railway. The maintenance of the track had not been so satisfactory. Engineering works had been taken up and they would have to be carried out almost all through the year in one section or the other.

Shri Jagjivan Ram said that the electrification of the Madras-Villupuram section of the Southern Railway would be taken up during the Second Plan period.

Parcel Transit on Railways

A system of tagging "tell-tale" labels on railway parcels has been introduced as an experimental measure to facilitate enquiry into cases of delay in transit and adoption of remedial measures.

A tell-tale label indicates the dates of despatch and arrival as also of transshipment at junction points in the transit of a parcel package from the booking station to the destination station.

The labels are collected from the packages at the destination points and the delays are analysed for taking necessary corrective action. It has been enjoined on the staff at the forwarding and repacking points as well as at the receiving ends to ensure that proper entries are made on the labels.

Delays in the transit of parcels chargeable at higher rate have been pointed out as a source of annoyance to the public. These tell-tale labels will tell the true tale and make it easier to take remedial action.

The system of tagging such labels on parcels moving between selected pairs of stations has been introduced on the Eastern, South-Eastern, Southern and North-Eastern Railways.

New III Class Coaches

Third Class sleeping berths to be provided in the proposed new sitting-cum-sleeping coaches will be fitted with two-inch thick pliofoam cushions covered by rexine.

This marks a break with the century-old tradition of providing only wooden benches for Third Class passengers. The new sitting-cum-sleeping accommodation is being introduced on eight pairs of trains and the dates from which the service will be introduced will be announced in due course by the Railway administration concerned.

On the Broad Gauge system, the sitting-cum-sleeping third class coaches will have a separate luggage room, with a collapsible door and a seat for an attendant.

A special conductor will be in charge of each coach, to regulate the occupation of the coach, to assist passengers in depositing their luggage in the luggage room in the case of Broad Gauge coaches, and generally to look

after the comfort and convenience of passengers travelling in the coach.

Sleeping berths, which remain unreserved or unoccupied in these coaches will be folded and locked up by the conductor.

Direct Bogie to Hyderabad

At a conference of the Andhra Pradesh State and the Central Railway officers held on June 27 in Hyderabad in the presence of the Union Railway Minister, Shri Jagjivan Ram, it was decided to add another composite bogie to the Grand Trunk Express between Hyderabad and Madras. At present one third class and one composite bogie are run. This is proposed to be done by cutting out the dining car, as the Railway Ministry is of the view that the haulage of trains could not be increased at the moment.

The Railway Minister has been impressed by the proposal of the Andhra Pradesh Government that the Hyderabad-Waltair Passenger should be speeded up with a view to saving at least six running hours, which is necessary to cater to the needs of the people travelling from Hyderabad to the coastal districts. This is likely to come into effect on October 1.

The question of wagon shortage in the delta areas which had hampered the export of rice was also discussed. The Railway officials expressed the view that the wagon shortage has a temporary phase. Arrangements would soon be made for the provision of wagons.

The conference decided that there should take place frequent meetings between the Railway and State officials and the General Managers of the Railways should keep in touch with the Chief Ministers.

Madras-New Delhi Deluxe trains

Although the number of passengers travelling by the bi-weekly Air-conditioned Deluxe Express train introduced between Madras and New

Delhi with effect from February 9, was not very encouraging in the beginning, recent trends in the occupation of this train show that it is becoming increasingly popular. The average number of passengers, who used the third class air-conditioned chair cars and the first-class air-conditioned coach on these trains, which was in the neighbourhood of 39 and four respectively during February this year, improved to 169 and 10 during May 1957 from New Delhi to Madras. The highest figure of passengers was 239 on May 6, the occupation being 100 per cent. Up to June 21, 1957, over 150 passengers travelled by the south-bound express on three out of the six occasions, the highest being 233 on June 3, occupation 97 per cent. The occupation figures of the north-bound express have also shown improvement.

To facilitate organised delivery of luggage at Madras Central on arrival of the New Delhi-Madras Express on Mondays and Fridays, revised arrangements have been brought into force from June 28. Immediately on arrival of the south-bound express, all the luggage articles are unloaded from the luggage compartments and trolleyed to the passenger concourse near the luggage delivery office, where delivery is effected in an organised manner without confusion and passengers are in a position to identify and take possession of their luggage with the least possible delay.

These Deluxe Express trains consist of three third class air-conditioned chair cars, with 80 comfortably padded seats of the tilting type each, one first class air-conditioned coach with 20 berths, one air-conditioned Dining Car and two luggage and dynamo cars. The trains are completely vestibuled and the journey from Madras to New Delhi is covered in 41 hours 15 minutes and in the return direction in 41 hours.

Travel concessions for the blind

Travel concessions for blind persons and tuberculosis patients announced by the Railway

Minister in Parliament last month, have come into force with effect from July 1, 1957. The concessions will be available for travel in I, II and III classes.

Under these concessions, a blind person accompanied by one attendant can travel on payment of one single journey fare. A blind person travelling alone will be permitted to travel on payment of one-fourth of the normal fare. In either case the blind person will be required to produce a certificate from a registered medical practitioner.

Similarly, a T.B. patient accompanied by one attendant, will be charged only one single fare, provided he is travelling for admission to or on discharge from a recognised T.B. hospital or sanatorium. When travelling alone for admission or on discharge a T.B. patient will be charged only one-fourth of the normal fare. A certificate from the officer-in-charge of the hospital or sanatorium concerned would have to be produced in either case.

Rail concession for Cancer patients

The Railway Board have given travel concessions to cancer patients, when undertaking travel by rail, from July 1. Cancer patients, accompanied by an attendant for admission to or on discharge from hospitals or institutes will have to pay one single journey fare, in the class of travel. If patients travel alone they will have to pay one-fourth of the normal fare due, for a single journey. A certificate from the officer-in-charge of the hospital or institute where the patient is to be admitted or is discharged from should be obtained and presented for claiming the concession together with a letter of authorisation from the Railway Officer, authorised for the purpose of issuing the concession.

All-India Signal Training School

Shri Jagjivan Ram, Union Railway Minister, told pressmen on June 27 at Hyderabad that the All-India Signal Training School, the first

of its kind in India, will be opened at Lalguda near Secunderabad in October this year.

The scheme has cost the Centre Rs. 10.5 lakhs including the buildings for the school, hostel and staff quarters.

About 100 inspectorate staff will be trained in the school.

Manufacturing articles for Railways

The Small Industries Services Institute, Madras, has selected 27 items of manufacturing articles required by the Railways for being manufactured by small-scale industrial units in the country.

The Railways require considerable quantities of such manufacturing articles for their maintenance. Some of these items at present are imported from foreign countries. It is learnt that the Railways have agreed to encourage small industries and to make available Railway scrap for such industrial units.

U. S. Locomotives for India

Two more Indian steel firms have awarded contracts to the General Electric Company of America for the construction of about £ 2.1 million worth of diesel electric industrial locomotives.

The orders are placed by the Indian Iron and Steel Corporation and the Hindustan Steel Company.

Earlier this year General Electric Company received an order from the Tata Iron and Steel Company for more than half a million dollars worth of locomotives.

Tellicherry-Mysore Rail link

A reconnaissance survey of the Tellicherry-Coorg-Mysore rail link has been completed over the 100 miles covering the Malabar area.

Touching Kuthuparamba and Mattanur, the survey has followed the Tellicherry-Coorg trunk road up to Iritty, from thence through the jungle to Virajpet and onward to Gonekuppam and Periappattanam. Long tunnels and viaducts will constitute a special feature of the proposed line through the mountainous forest regions from Iritty to Virajpet.

Preliminary work began on November 13 last and the Executive Engineer took charge on January 1. The sanction for the survey is only up to June 30 and extension by another six months has been requested.

The commercial survey has been completed.

World Bank Loan for Indian Railways

A loan of approximately 75 million dollars for the Indian Railway system was in an advanced stage of negotiation between the World Bank and the Indian Government on June 25, 1957.

According to the Journal of Commerce, the precise total to be loaned to India by the bank depends in part on how much of their currencies three countries—Japan, the United Kingdom and France—are willing to release from their quotas with the bank, but a very substantial part of the loan is expected to be in dollars.

Under the Bank's Charter, each member-country puts up two per cent of its quota in gold or dollars, 18 per cent in its own currency, and the final eighty per cent is not paid in at all but may be demanded by the bank in case the bank is in danger of defaulting on its own obligations.

The bank may lend at will only from the two per cent gold or dollar subscription. If any of the 18 per cent in local currency is to be loaned, the bank must obtain the specific approval of the country involved. It is in this connection negotiations are now going on with the three countries referred to.

Indian officials have estimated that the total cost of the rehabilitation, modernisation and extension of India's railways under the Second Five-Year Plan will cost about 2,400 million dollars. The total external cost—goods and services that must be imported—was figured at 900 million dollars.

Negotiations with the World Bank for a loan to finance the foreign exchange needs of India's railway expansion programme under the Second Five Year Plan were concluded on July 9, 1957 and Shri R. K. Nehru, who negotiated on behalf

of the Government of India left Washington for India on the same day. The bank is advancing 90 million dollars towards this project during the current year. The loan will bear the usual 5-5/8 per cent interest and is repayable in 15 years.

Shri Nehru had to spend two months putting forward not only before the officials of the bank but also the U.S. Government, India's case for a large-scale assistance was satisfied with the outcome of the present phase of the negotiations and there is reason to hope that the bank will continue assistance to the railway project at least on the current year's scale for each of the three remaining years of the Second Plan period. That should bring the bank's total assistance for railway expansion upto at least 360 million dollars; this, however, is far short of India's requirements on this account, which is in the neighbourhood of 850 million dollars.

The present loan of 90 million may be drawn partly in dollars (about 40 million) and the rest in British, West German, Italian and Japanese currencies, which will go to pay for India's purchases of railway equipment in those countries.

As mentioned earlier the member countries pay only a part of their subscriptions in dollars and the rest is paid in their respective currencies on the bank's call. Britain, West Germany, Italy and Japan have agreed to release to India a part of their currency dues to the bank. France where also India has been making purchases, was approached too, but she is understood to have turned down the bank's request.

The World Bank officially announced on July 12, 1957 the granting of a new loan equivalent to 90 million dollars to India.

Mr. Eugene Black, President of the bank, and Mr. G. L. Mehta, Indian Ambassador in Washington, signed an agreement embodying the loan.

The funds will be used to help meet payments on imported equipment which fall due in 1957 and 1958. They will cover about half the cost of this equipment.

These purchases include more than 500 locomotives, 10,000 wagons, rails and other materials.

The new loan is made up of the following currencies: 35.7 million dollars in U.S. currency, 24 million dollars in Japanese yens, 19.1 million dollars in sterling and 11.2 million dollars in Italian lira.

Care of Hand Tools-Abrasive Wheels and Oilstones

(This article is digested from "Maintenance and Care of Hand Tools-War Dept. Technical Manual, TM 9-867", 19th April, 1945 and reprinted with the kind permission of the United States Technical Co-operation Mission in India—Ed.)

The efficiency and skill of a fine mechanic are determined to a great extent by the condition in which he keeps the tools of his trade. There is a place for every tool and he keeps each tool in its place. They are carefully wiped clean and dry before he places them in the tool box. If he does not expect to use a tool again for

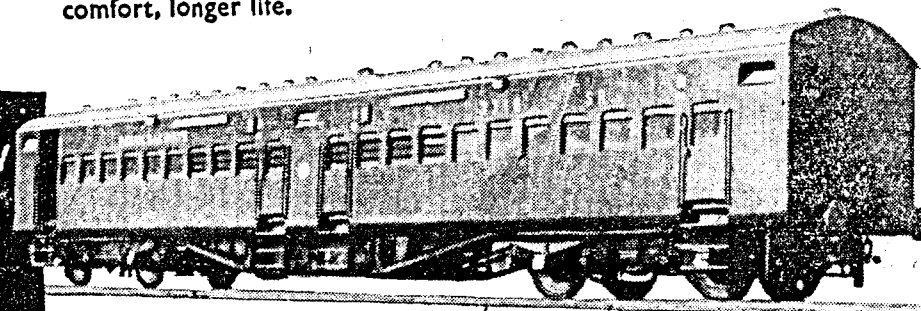
some time, he lubricates it to prevent rusting.

When storing tools under conditions of extreme humidity, moisture or salt air, it may be desirable to use preservative lubricating oil (medium) instead of the preserving lubricating oil (special) or engine oil prescribed for normal conditions.

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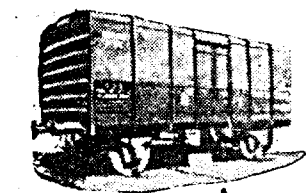
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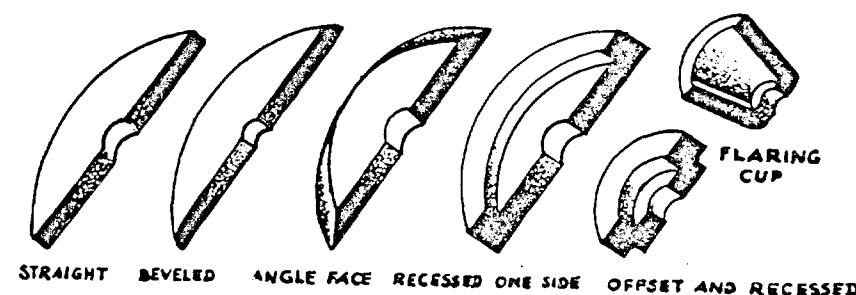
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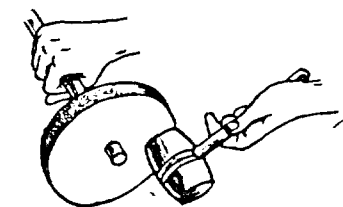
ABRASIVE WHEELS



Maintenance

1. Handle wheels with care at all times—they break easily.
2. Do not grind on sides or corners of wheel, unless it is impossible to grind the job at hand on the face of the wheel. This rule should be observed, due to the difficulty of dressing the sides of the wheel.
3. When mounting the wheel on the spindle, test the wheel by tapping it with a cellulose face or rubber face hammer or mallet as shown in the

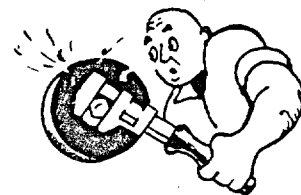
sketch at right. A ringing sound indicates a satisfactory wheel. A dull thudding sound indicates a cracked wheel. Do not use a cracked wheel.



4. Be sure wheel is equipped with blotter paper gaskets or safety washers on each side. If safety washers are used, remove paper from wheel and fit rubber sides next to wheel.



5. Do not force wheel into spindle. It must slide on easily with 0.003 to 0.005 inch clearance.



6. Tighten spindle nut just tight enough so flanges hold wheel securely. Overtightening may crack wheel.

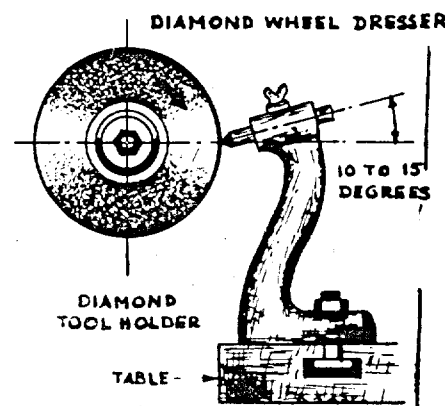
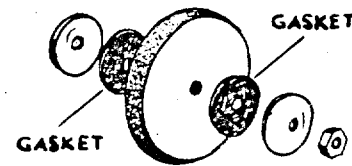
7. After installing, test wheel for breakage by starting.

Caution—Stand clear!

If wheel glazes easily (cutting particles become dull), decrease its speed or use softer wheel. If wheel loads easily (pores or spaces between cutting particles clog with material being ground), increase its speed or use softer wheel.

On grinding machines, truing (removal of material from cutting face of a wheel so surface runs true) and dressing (restoring sharpness of a wheel face which is "loaded" or dulled) operations are best done with a diamond dressing tool rigidly supported in a fixed tool post. Abrasive wheel dressers and abrasive type dressers are used on bench or pedestal grinders.

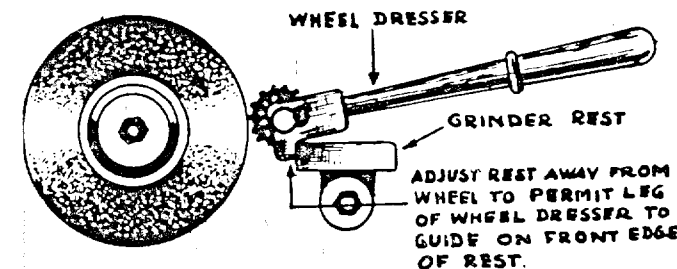
1. Set tool, as shown in drawing at right, almost in contact with high point of wheel.



2. Start wheel rotating, start tool traversing and feed into wheel 0.001 to 0.002 inch at end of each pass until contact is made.

3. Traverse cutter back and forth across wheel face, using 0.001 inch feed until sound indicates dresser is cutting all round the wheel.

Note.—For wet grinding, dress wet. For dry grinding, dress dry.

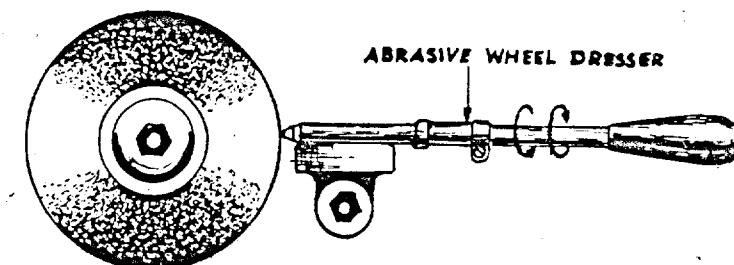


1. Adjust tool rest to permit wheel dresser to contact abrasive wheel on center-line of wheel as illustrated above.

2. Start wheel revolving, then support the dresser on tool rest with handle tilted upward at angle shown in illustration.

3. Slowly press the wheel dresser against the face of the revolving wheel until it "bites", then move dresser from side to side across wheel to obtain a straight surface on the wheel. **Caution.**—Hold the dresser rigidly enough on tool rest to prevent vibration.

4. Smooth wheel by passing on abrasive type dresser back and forth over the face of the wheel as shown below, smoothing with a very light pressure.



Common misuses and abuses

Do not operate wheel which has worn to a small diameter at same revolutions per minute as when new. This causes wheel to act excessively soft and wear fast because of the much reduced speed of grinding surface. Increase revolutions per minute to make up for smaller size.

Wheels not in use must be stored in racks. If left on the floor they are apt to get broken.

Storage

Suspend wheels through their spindle holes in racks in a dry place, or store them in individual boxes.

OILSTONES

Maintenance

1. Soak new oilstone in engine oil (SAE 10) (Society of Automotive Engineers) before using.

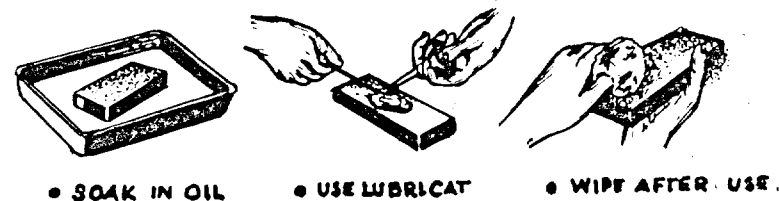
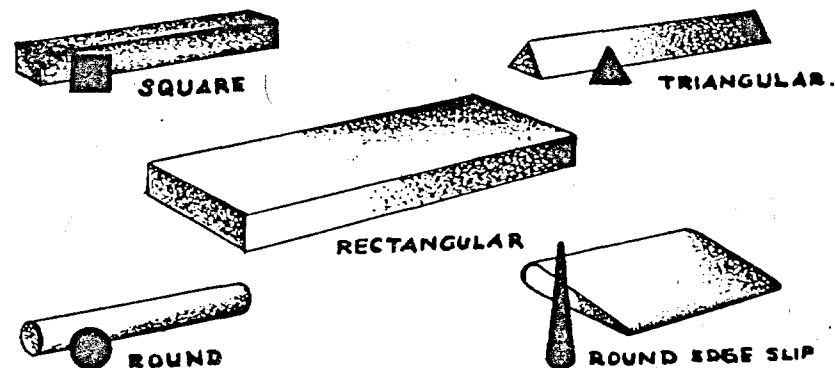
2. Prevent glazing by application of engine oil (SAE 10) during use of stone.

3. Wipe stone clean with wiping cloth or cotton waste after ease use.

Cleaning

Wash glazed or "gummed up" stone with dry-cleaning solvent or aqua ammonia. If this treatment fails to completely clean stone, scour it with aluminium oxide abrasive cloth or flint paper attached to a flat block.

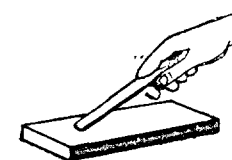
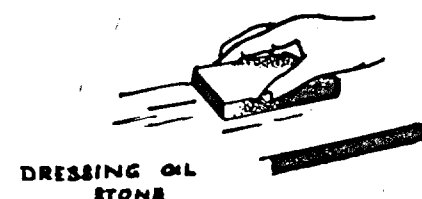
OIL STONES



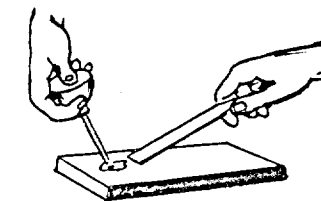
Dressing

True uneven surfaces on coarse, medium, or fine oilstones on side of old grinding wheel, a grindstone, or as follows: Cover a smooth cast-iron block with water-proof artificial abrasive paper. Place stone on surface and lap in with water until true. See sketch at right.

Note.—Special shape stones can be formed by making a groove of mating shape in a cast-iron block. Use water-proof artificial abrasive paper and water and draw stone through groove.



WRONG



RIGHT

Common misuses and abuses

Do not use stone dry. This causes glazing and clogging of stone. Apply engine oil (SAE 10) (or water in an emergency) before using stone.

Do not store stone in a hot place. Heat will cause oil to form a gummy residue on stone. Store in a cool, moist place.

Do not attempt to do a honing job with the wrong stone. Such procedure wastes time energy and causes unnecessary stone wear. Use stones as follows:

Stone	Use
Coarse	... To sharpen large and very dull or nicked tools.

Medium	... To sharpen ordinary mechanics' tools not requiring finished edge such as tools for working soft wood, cloth, leather, and rubber.
--------	---

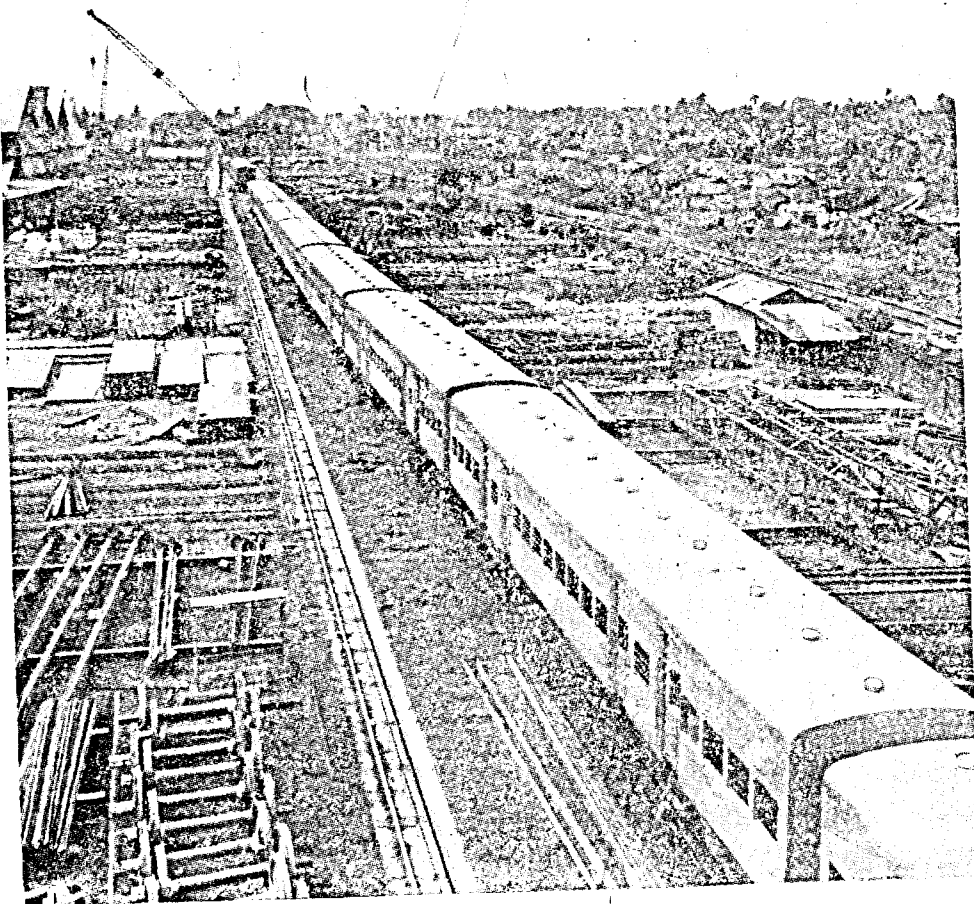
Fine	... To sharpen tools requiring a very fine edge as mechanists', engravers', instrument workers', and cabinet makers' tools.
------	---

Storage

Keep stone clean and moistened with engine oil (SAE 10). It stored in a dry place, keep stone enclosed in a covered box.

MONTHLY OUTTURN

			Target figures		Actual figures	
			K. D. coaches	Indigenous coaches	K. D. coaches	Indigenous coaches
July 1957	...	...	5	8	9	5
Cumulative total for the first four months of the second year	...	...	29	20	26	31



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The Automatic Vacuum Brake

Its application in Rolling Stock

BY

T. E. CHERRY

(Chargeman, Production Office)

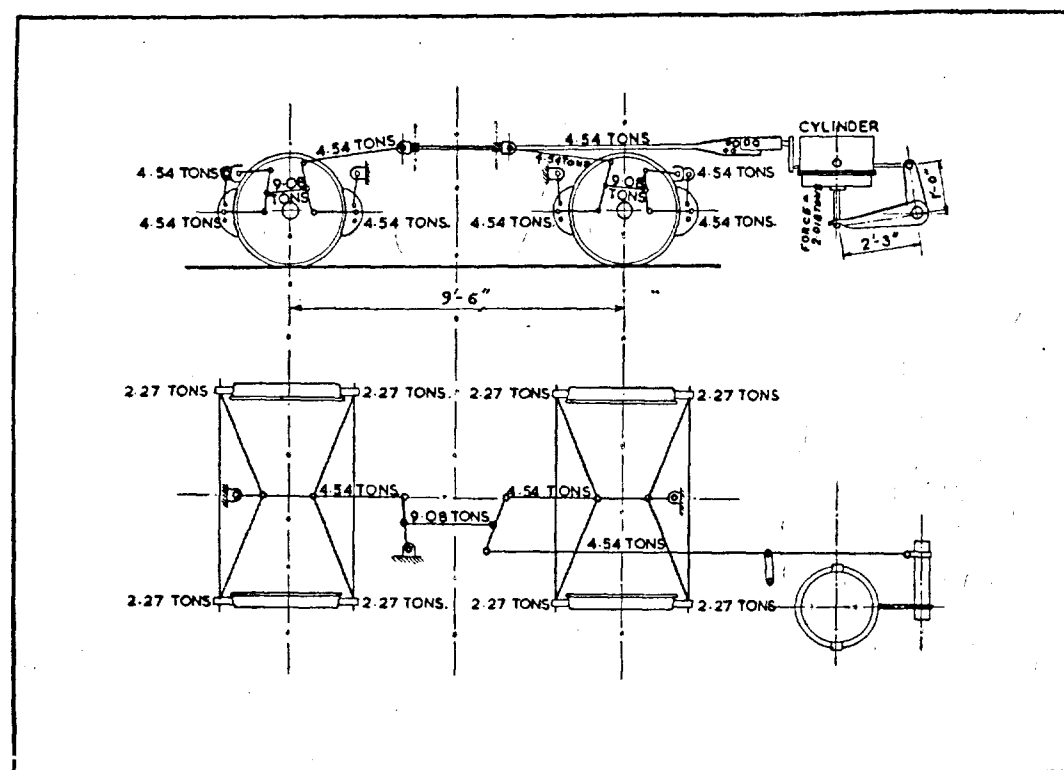
When we talk or hear about vacuum, we generally understand it as space devoid of any matter; i.e., an enclosed space where from even atmosphere has been completely removed. That is what it exactly is, if by vacuum we mean perfect vacuum. But for most practical purposes and especially as far as its application in the Railway system is concerned, when we say vacuum, it only means a partial vacuum.

How do we utilize this vacuum to work on the brake system of the rolling stock and what do we exactly understand when we say Automatic vacuum brake. The atmosphere exerts a pressure of 14.7 lbs. per square inch in every direction. Therefore if we could by some means remove or reduce this pressure on any one side of; say a piston head free to move in a cylinder, the atmosphere on the other side of the piston head exerts a pressure of 14.7 lbs. on every square inch of the area of the piston head. This will push the piston head towards the direction where the pressure is less. This very principle is applied in the brake system on the rolling stock. Whether it be a wagon, or a passenger coach, the basic principle of the brake system is one and the same. Of course there are a few minor variations in the mechanism as regards the brake rigging and the type of vacuum cylinders used on the different types of coaches and wagons.

The detailed design of the Integral Coach is done in such a way that most of the I.R.S. vacuum brake fittings can be used on these coaches. All coaches are fitted with a main vacuum pipe line running from one end of the

coach to the other end. Both ends of this pipe line is fitted with a reinforced rubber hose with a universal coupling which serves as an air tight connection between coaches and from coach to engine when they are coupled together. Independent brake riggings are provided for each bogie truck with separate vacuum cylinders and reservoirs. At one end of the coach is fitted the alarm signal apparatus which is connected to the main vacuum pipe line by a smaller pipe.

In a train formation, the vacuum hose pipe of the coaches are connected to each other. The rear hose pipe of the last one is put on a dummy plug and the front hose of the first coach is connected with a similar hose of the engine. Like the coaches the engine is also provided with a main vacuum pipe line which is connected to an apparatus called vacuum ejector. The ejector has specially shaped cones arranged in pairs and between which steam at high pressure is allowed to pass through by the operation of a lever. When this lever is operated and as the steam passes through in between the cones the steam draws out and ejects the air from the entire pipe line which is connected to the ejector, causing a partial vacuum of about 20" in the pipe line. The vacuum cylinder is fitted with a two-way release valve, one passage leading to the bottom of the piston-head and the other to the top of the piston-head. This cylinder is connected to the main pipe line by a small hose pipe connected between the main pipe and the passage of the release valve connected to the bottom of the piston head.



The other passage of the valve is connected to the vacuum reservoir. The piston head is provided with a one-way ball valve which allows the air to be drawn out from the top of the cylinder and the reservoir simultaneously when vacuum is created but prevents the air from entering the top of the cylinder and the reservoir when vacuum is destroyed.

Therefore when the driver operates the vacuum ejector provided in the engine, air is withdrawn from the main pipe line, the vacuum cylinder (both from the bottom and top of the piston head) and the vacuum reservoir, causing a partial vacuum of about 20" in all of them. Now the piston head due to its own weight remains at the bottom of the cylinder. When it is required to apply the brake, air is let into the main pipe line either through the ejector or through a van valve provided in the guards brake van. Then the air rushes to the bottom of the piston head through the release valve, as it is prevented from going to the top of the

piston head and the reservoir by the ball valve referred to. As the pressure below the piston head is greater than at the top, the piston head moves up in turn applying the brake on the wheels through the rigging connected to it. The brake thus applied can be released either by re-creating the vacuum with the help of the ejector or by pulling a lever provided on the release valve, which equalises the pressure on both sides of the piston head, resulting in the piston head dropping down by its own weight.

When the hose pipe connection between carriages gets damaged or disconnected due to an accident air enters the main pipe line resulting in the application of the brake. As there is provision for the brake to be applied automatically the system is called the automatic vacuum brake.

The sketch gives the brake rigging arrangement in the Integral coaches manufactured in I.C.F.

These coaches are provided with 'F' type square inch. Assuming the atmosphere pressure as 15 lbs. per square inch, when the brake is applied an effective force of 10 lbs. per square inch acts on the piston head.

$$\text{Area of piston} = \frac{24^2 \times \pi}{4} = 452 \text{ sq. in.}$$

$$\text{Effective force on piston} = 452 \times 10 = 4520 \text{ lbs.} = 2.018 \text{ tons}$$

The ratio of all brake levers is 1 : 1

$$\text{Mechanical advantage in bogie} = \frac{1}{1} \times 4 = 4$$

$$\text{Mechanical advantage of complete brake system.} = \frac{2'3''}{1'0''} \times 4 = 9$$

$$\text{Sum of brake shoe pressure} = 2.018 \times 9 \times 2 = 36.32 \text{ tons}$$

$$\text{Brake in \% of tare (Tare of the coach being 35.6 tons)} = \frac{36.32}{35.6} \times 100 = 102\%$$

$$\text{Taking the efficiency of the cylinder as 90\% and that of riggings as 75\% the effective pressure on each brake block.} = \frac{36.32}{15} \times \frac{90}{100} \times \frac{75}{100} = 1.53 \text{ tons}$$

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News from Switzerland

(Published through the kind Courtesy of the Consulate General
for Switzerland, Bombay)

1. Europe's Biggest Goods Van built by Swiss Federal Railways

Berne, Switzerland :—The rapidly progressing development of Switzerland's electrical equipment industry and the increasing demand for transportation facilities for Swiss army tanks have resulted in a shortage of special goods vans of high tonnage. The Swiss Federal Railways therefore are envisaging the purchase of a great number of vans of a completely new design. A van of this type, for instance, is to carry huge Swiss made turbostators weighing 270 tons. In co-operation with several private firms the SFR early in 1956, proceeded to the construction of an 18-axle waggon, and within less than 12 months Europe's most modern and best equipped heavy-goods van was completed. Immediately after rolling off the assembly line in February it was sent on a six-day journey to Germany's Ruhr, carrying a heavy Swiss made stator for a new electric plant there. This van consists of six three-axle wheelbases; it is a two-unit waggon with several coupling bridges, featuring nine axles per unit. It weighs 98 tons and has a carrying capacity of 270 tons. It is more than 100 ft. long.

2. Swiss invented a Sensational Luminous Wrist-watch

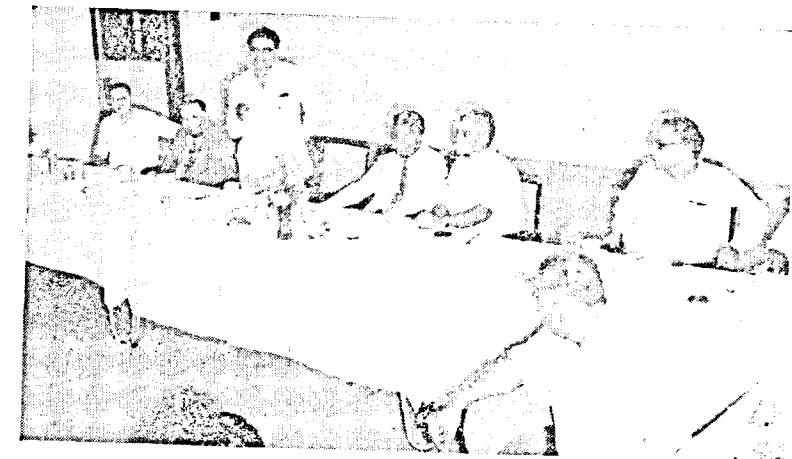
Basel, Switzerland :—A leading Swiss watch factory is to present a new fangled luminous wrist-watch at the forthcoming Swiss Industries Fair here (April 27th to May 7th). It is independent of the old-fashioned pattern of radium-illuminated figures and, instead, is equipped

with a miniature battery and a tiny electric bulb. The new invention not only enables its bearer to tell the time in pitch-darkness but can also be used as a flash-light, its beam being powerful enough to light up door-plates, telephone directories and note-books for jotting down notes. Moreover it has a built-in Morse transmitter for short-distance communications. Its battery lasts several years and can be re-charged in a trice. On top of these revolutionary new features the watch is also water-proof, shock-proof and anti-magnetic and is said to "cost not more than any other good Swiss wrist-watch."

3. A City for children—Traffic school and playground

Zurich, Switzerland :—An interesting project designed to teach school-children "safety first" in true-life surroundings is to be built here. It is a city for children, complete with such replicas of every-day gadgets as traffic-jammed streets and squares, office buildings, a railway station with "dangerous" street inter-sections, sidewalks, pedestrians' crossings, petrol stations, trolley lines and all sorts of signs and traffic lights. One of the most fascinating places in this town is a miniature motor-car factory to be operated on the "do-it-yourself" basis. The children will drive their own brand of cars also out of town in order to get acquainted with cross-country traffic rules. After each lesson, however, rules and regulations will be done away with, and the entire city will be turned over to its citizens for play.

Visit of Mr. E. W. Isaacs to the I.C.F.



Shri K. Sadagopan Speaking at the Party.

A pleasant party was got up on 8-7-57 to meet Mr. E. W. Isaacs, Additional Member/Mechanical, Railway Board, who was on a visit to the I.C.F. The function was attended by all the Indian Officers and Swiss Experts of the I.C.F.

After Tea, Shri K. Sadagopan, the Chief Administrative Officer introduced the Chief Guest to the gathering and mentioned that Mr. Isaacs was one of the foremost Mechanical Engineers on the Indian Railways.

Mr. Isaacs in his reply thanked all the officers concerned for the hospitality and for giving him a chance to meet them individually. Upto now, he stated, Chittaranjan had been the last word in workshop layout, planning and production. However his visit to the Perambur Coach Factory had been an eye opener for him and he could confidently say that, in many respects, Perambur had made a considerable advance over Chittaranjan.

We were passing through difficult times, he stated, and to meet the challenge of the times, he desired that the engineers should be resourceful. In this connection he stated that while at Lillooah he had seen two machines, a planning

machine and a lathe which had been manufactured in that workshop in 1909. Also early in the century Locomotive building had been attempted at Ajmere and Jamalpur, though on a small scale. Production methods might not have been used but he added that enterprise had been shown even as at that early date. In view of the difficult times ahead, Mr. Isaacs added, Engineers should be prepared to get through any job that might come up for solution and be even prepared to make their own overhead cranes if necessary. In the field of raw materials also, considerable enterprise and forward thinking was necessary.

He said that as a result of his detailed inspection of the I.C.F. that day, he was in a position to say that I.C.F. was developing on the right lines but he wanted that full use of the equipment provided in the Factory should be made. To do this, the question of introduction of 'night shift' was under serious consideration.

Mr. Isaacs then went on to say that being in the public sector, Factories such as this were liable to criticisms from the public. He wanted that the factory should be able to keep pace with such criticisms. One of the factors

which will have to be kept in view was the cost in comparison with that of imported stock. He quoted the case of Chittaranjan where from an out-turn of 3 engines in 1950 the Factory was now producing 14 engines a month. The first engine cost nearly Rupees seven lakhs. However, the sale price of the engine was fixed at Rs. 5.5 lakhs and the balance of the amount went into Development Fund. With the introduction of more labour and consequently more out-turn and increase in efficiency, the cost of the locomotive had come down to Rs. 4 lakhs nearly and the Development Fund was wiped out in early 1957.

Mr. Isaacs finally exhorted the Mechanical Department Officers to do their best and requested the fullest co-operation from the officers of

the other departments without whom the out-turn of the Factory could not be improved.

Mr. Swarup, Dy. C.M.E. proposing the vote of thanks said that it was a real good fortune to have in their midst that evening Mr. Isaacs, a Mechanical Engineer of English Calibre. He had spent the whole day going through the Factory and School with his customary thoroughness. He has been responsible to a very large extent in building up the Chittaranjan Locomotive Works and his remarks about I.C.F. were, therefore, all the more encouraging. He assured Mr. Isaacs on behalf of the officers of the I.C.F. and himself that they were alive to their responsibilities in the Second Five-Year Plan and that they would do their best to increase the out-turn of I.C.F. and to bring down the cost of the coach.

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On Gardening

BY

R. KANAKAVALLI, M. SC. (BOTANY)

'God Almighty first planted a garden and indeed, it is the purest of human pleasures.' The most essential prerequisite for the success of any scheme is to have enthusiasm and interest and this can crumble any stone wall. First, let me tell you that you don't need much of botanical knowledge to raise up a garden. Lots of commonsense, a bit of scientific attitude and systematology would help you to do your job well.

Most people are interested primarily in flowers so we shall give it a lead. These 'gracious messengers of God' are indeed a wonderful sight.' Asters, Phlox, Zinnias, Carnations and Marigold are some of the best. Most of these annuals would thrive exceptionally well in a cool climate but can also be cultivated in a hot place like Madras, if proper attention is given to it. It rests solely with you. Care should be taken not to grow these plants together. Chalk out your plan before starting the game. Since flowers are meant mostly for show, let them be confined to your front garden and the vegetables to the kitchen garden. 'A well-designed garden has the available land roughly apportioned to each feature, and it is as well not to attempt too much in a small garden.'

While planning a garden there are two important criteria. Create an effect of spaciousness and secondly all the features of a garden should not be seen at a glance. There is a wonderful allurements about the unseen in the garden, the hint that there is something promising round the corner. Grasses, are very effective in creating an air of spaciousness and hence there should always be a restful green lawn. Broad, curved lawns are better than square ones. Trees and shrubberies should be at the very end of your compound. Shrubs like the Azaleas or the beautiful Rhododendrons should be kept well away from the bungalow forming a separate point of emphasis. Flowers and shrubs shine better against a setting of deep green grass rather than plain gravel.

Climbers help to give an appearance of lightness and fragility to your garden. Few plants are more gorgeous than a Bougainvillea in full bloom. By cutting and trimming it you can form a bushy shrub. Colourful climbers are indeed very decorative and are best grown in a large isolated spot. In Mysore the Bougainvillea are used as hedges and are very striking. Another and glorious climber for odd corners is our famous *Gloriosa superba*, alias the Lobster

claw creeper. It is a slender twiner which, on the onset of rains bears spectacular claw-shaped yellow and scarlet flowers. It can brighten any dull corner.

Ferns are popular too. But there is no use in trying to grow the delicate, lacey types from the hills. A few do thrive even in hot place but care should be taken to grow them in the shade as the ferneries.

Annuals are perhaps the choicest of flowers and planning the annual flower garden is one of the much-looked for joys. Flowers are suited to massing in beds and successive beds should be of contrasting shades. Yellow is an important ingredient in a border, blending the blue, red and pinks together. Phlox is especially suited to mass planting. Lady's lace, Candytuft, Chrysanthemum, Cornflower, Nasturtium, Nigella (Love-in-a-mist) are some of the best loved annuals.

Orchids flourish well in certain places. But it is rather a troublesome job trying to cultivate them. In India, orchids are abundant in Assam. With their pleasing shades, long spurs in beautiful spikes, they look superb

when kept in vases. The 'Lady's Slipper' is perhaps the best known type here.

Turning our attention now to the vegetable or kitchen garden, crop rotation is of the utmost importance. The type of crop in a single bed should be changed from year to year, thereby the soil is able to supply the needs of different plants. Some of the English vegetables like Khol-Kohl, Cauliflower, Brussels sprout, Lettuce, Celery, etc., need a cool climate and in hot countries can be grown from September to February. Country vegetables like Cucumber, egg plants, Bottle gourd, etc., flourish from April to July. Manuring is very essential for the growth of vegetables and green manures should be added to the soil periodically.

Gardening is one of the best hobbies. It is the least expensive and the purest one too. The pleasure that you derive while you see the saplings you planted blossom and flourish is well worth the trouble you take initially and as Mr. G. B. Shaw said 'the best place to seek God is in a garden. You can dig for HIM there.'

The Centenary of a Revolt

BY

A. V. SUGAVANESWARAN.

Religion, by universal agreement, is intended to sooth the tormented soul of mankind. There can be no doubt that religion in its finest and highest sense has rendered solace to millions of suffering men and women all over the world. Religion has wiped many a tear, strengthened feeble hearts and put hope and confidence into minds torn by tragedy and disaster. On the other hand, it is equally true that this great force, in its narrow and fanatical phases, has been responsible for more bloodshed than perhaps any other single cause. Look at the great crusades which disfigure the history of Europe and West Asia in the medieval period! How much blood was spilt in the wake of the rise of Islam! The depredations of Ghori and Gazni make sordid and shocking reading even today. Religious susceptibilities die hard indeed.

When the religious susceptibilities of a subject people are trampled upon, nothing may happen for some time. Indeed nothing happened for several decades in India when the Britisher, mad with power and proud of his new Empire, did not understand the point of view of the quiet Hindu or the frustrated Mussalman. Perhaps the seed of the Great Revolt of 1857 was sown in 1806 when the sepoys were forbidden to wear distinctive caste marks on their foreheads. The Hindu re-action to this proposal for a smart turn-out of the sepoys was certainly not favourable. In the same way the proposal of the Britisher that the stately beards of the Muslims should be removed was not happily received by that community. Whether the 'reforms' improved the smart appearance of the Indian Army or not, they

did create unrest and suspicion in the minds of Indian soldiers. The doubts and suspicions increased when in 1824 the sepoys were asked to proceed to Burma by sea. In those days it was considered that a Hindu lost his caste by crossing the sea. There was trouble in Bengal over this issue and fire was opened upon the Indian sepoys. The abolition of 'Sati' in 1829 only added to the growing estrangement between the Hindus and the British rulers.

Perhaps, one of the major factors contributing to the growing cleavage between the British ruler and the Indian subjects was the activities of some of the Christian missionaries in India. The Christian missionary was deeply convinced of the superiority of his religion and was anxious to uplift the natives of India. More fanatical than discreet, he started delivering lectures at the market place. After explaining the message of Christ and the Sermon on the Mount to his audience he went on to make fun of other religions. This outraged the deep religious instincts of both Hindus and Muslims. The uneducated people naturally identified the Christian missionary with the Christian Government. The fact that the missionaries were sometime attended on by the police only went to confirm this belief. The activities of the missionaries in the schools also gave cause for concern and worry. While the missionary was a very good teacher, he did not stop with the teaching of the arts and sciences. He went further and started reclaiming the soul of the student. This enraged Indian opinion. Quite often prisoners in gaols were given lectures by clergymen. An Act that was passed enabling converts to inherit ancestral

property only added fuel to the fire. When people were in such a mood, even building of roads and highways, with the unintentional removal of a temple or two, was interpreted as method of destroying Hinduism.

Two years before the great Revolt actually started, there was a small mutiny in Hyderabad when a Muharram procession was prohibited by an English Colonel, which led to considerable trouble and assault.

In this atmosphere of suspicion and estrangement, Lord Canning succeeded Lord Dalhousie in 1856 as Governor-General. The passing of the Hindu Widow Re-marriage Act was one of the first acts of the new Governor-General. Hitherto, the Bengal army was recruited without insistence on the sepoy having to cross the sea, as a result of the firing incident already referred to. Canning did away with this provision and insisted that the sepoys should be prepared to comply with orders to cross the seas if necessary. These two acts of Lord Canning worsened the already sickened feelings of Indians.

The position was in no way helped by the absence of fellow-feeling between the British officers and the Indian sepoys. There was no doubt camaraderie and understanding during the early days of the company. This however had gradually waned and was replaced by increasing animosity. Slowly but steadily the white commissioned officers started treating the sepoys roughly and used abusive language while in conversation. This considerably widened the gulf between the ruler and the ruled.

While the state of mind of the sepoys in India just before 1857 was not favourably disposed towards the British ruler, it was not any the better with the people in general. It was said that the English residents in India were generally prejudiced against the Indians and showed this in their behaviour. It was further stated that a cause of the mutiny might be that in every

British mind in India contempt for the Indians was deeply rooted. The denial of higher official posts to Indians created a sense of frustration among the more intelligent and aspiring Indians; the highest office to which an Indian could hope for in the executive departments was that of a Deputy Collector. The land laws enacted by the British alienated the friendship of zamindars.

In short, it was the affront to religion, the affront to self-respect and the affront to established institutions that led to a cumulative discontent in the minds of the Hindus and Muslims alike which burst out as the Great Revolt of 1857. The greased cartridge episode merely acted as the fuse.

The improvements developed in the new rifle included the cartridge being greased with tallow. In course of time the greased cartridge was introduced in India also. Both the Hindu and the Muslim sepoys felt that the grease was polluted with objectionable fat and that the very touch of such a grease was against the canons of their religions. The Hindu looked upon beef with horror and to the Muslim the pig was equally objectionable.

The Great Revolt of 1857 commenced on the 10th of May in Meerut on a cloudy morning. The sepoys had already taken a solemn oath not to touch the greased cartridge and they had been court-martialled. The court-martial had found them guilty and sentenced them to ten years rigorous imprisonment. On the fateful morning of the 9th of May a whole brigade was assembled to witness the culprits being disgraced. This was however too much for the sense of pride of the fellow sepoys. The revolt broke out on the 10th evening.

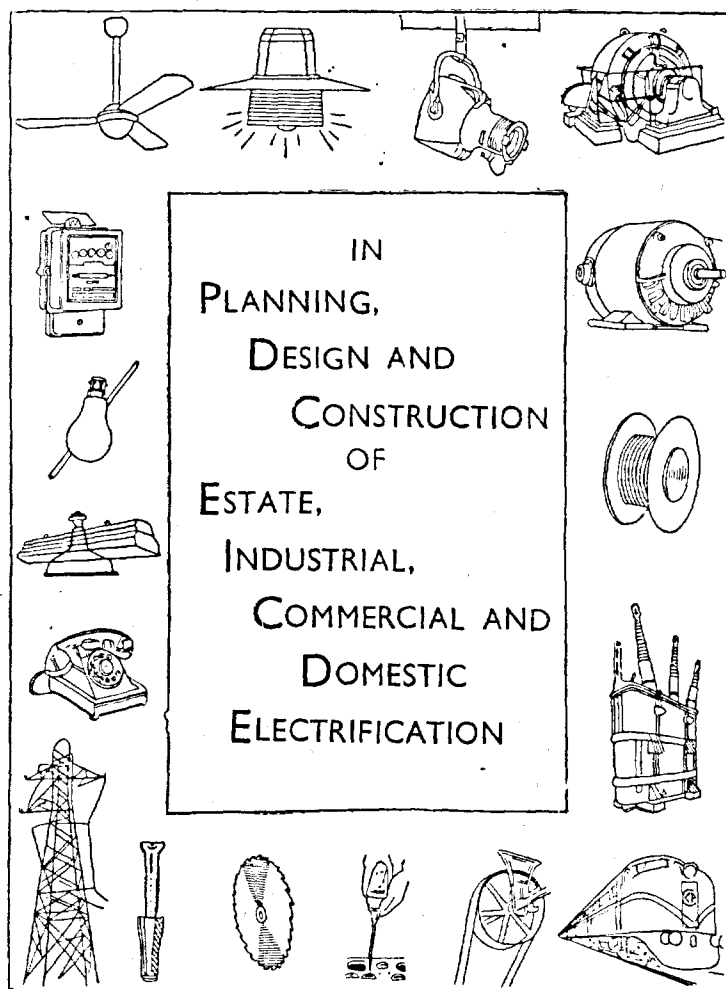
The tortuous processes of the Great Revolt, the killings and the counter-killings on both sides, the massacre of innocent women and children both white and dark, are ugly pages in the history of Indo-British relationship.

The whole series of episodes do credit neither to British statesmanship nor to British justice. While it may not be necessary for anybody but the historian to traverse the none too pleasant details of the Great Revolt, it is an inspiration and a privilege to recall the courage of the few patriots whose names are to be written in letters of gold across the pages of Indian History. The name that springs up first to memory is that of the Rani of Jhansi. It thrills every Indian today to recall the heroism of this young woman from a royal family who cast aside the age-old tradition of 'purdah' and came to lead her men on the battlefield against the enemy. She was a very handsome woman, her eyes were particularly fine and intelligent and her nose very delicately shaped. Even Englishmen have testified to the high character of the Rani. She was much respected by every one at Jhansi. It is said that even now thousands of unsophisticated villagers in Central India sing of the heroism and virtues of this woman. Tantia Toppe, Nana Sahib and Mangal Pande are some of the other great names associated with the Great Revolt.

The way the revolt was systematically put down by the superior forces of the British army is now part of history. A hundred years ago our country was in a poor condition. People were divided among themselves; there was no education among the masses; political consciousness was almost non-existent; there was very little urge for concerted action; communications had not been properly developed; both the Moghul and the Mahratta Empires had completely broken down; there was deep frustration among the Indians. On the other hand the British were united, powerful and well-armed. Is it not amazing that under these circumstances there was even an attempt at a revolt, an attempt to throw off the foreign yoke, an attempt to assert the independence of our country? Is it not gratifying that our ancestors refused to be cowed down by the superior forces at the disposal of the foreigner? Is it not inspiring that men and women from all over the country responded to the clarion call of a few leaders and acted, perhaps ineffectively, yet acted—and that was the most important thing for throwing off the foreign yoke. To my mind, therein lies the value of the Great Revolt of 1857.

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Fame or Happiness

BY

T. S. JAYARAMAN

It was by an accident that Archimedes stumbled on the Law of Flotation. It was by an accident that Columbus discovered America. Again it was a chance that made Newton expound his law of Gravitation. Yet again it was an accident that gave Lord Wellington the victory over Napoleon. One can multiply instances. An accident that brings fame and name goes by the name 'Luck'.

In my early days like many other youngsters of my age I fell a victim to the propaganda of the Pseudo Scientists and the Rationalists and would not openly admit of acts of Providence or Luck playing a part in a man's life, although my sub-conscience was not wholly at one with what my mind was trying to espouse. As years progress, I have come to realise, that Dame Luck has more to do with the success of Men's careers than any intrinsic merit of their's warrants. I have also been convinced by a study of the biographies of many people who have reached the pinnacle of fame that more is to be learnt by studying the lives of those who have failed than of those who have prospered. It is because Good Fortune plays so vital a part in the case of successful men that as this element is an accident beyond human control, the lives of those who have had such fortune are of no use to those from whom Dame Fortune withheld her assistance.

This conviction has been growing within me for a considerable time now. One day last week I called on Mr. 'S' who is living at Gandhinagar, Adyar. Luckily he was at home and he received me with his usual cordiality. The following is the gist of our conversation :—

Self.—I am told, Sir, that your Scholastic achievements were so brilliant as to give rise to high expectations of your future career. It would appear that your high connections added strength to such hopes.

Mr. 'S'.—What you say is correct.

Self.—May I then know, Sir, as to what you attribute your failure in life to?

Mr. 'S'.—Who says it is a failure? I am happy, I have devoted wife and comparatively few worries.

Self.—True, true, but you are not known to the outside world. You are not considered a great Scientist or a luminary in literature or a great Statesman, or an authority on any subject. However attached and capable your wife be she is not known among the Society Ladies. Her name does not appear in the Society-columns of the papers. And for fame these count.

Mr. 'S'.—My dear friend, you seem to be lending yourself to a life of hypocrisy. Bear in mind that a man can live only once. The point to be decided is whether it is preferable to be happy or famous. Personally, I am for enjoying the few years allotted to me in a peaceful way rather than create a stir in my generation, be mis-quoted or misrepresented in the second and be forgotten in the third.

Self.—Excuse my being frank Sir, in other words you prefer laziness and would like to cultivate indifference.

Mr. 'S'.—Definitely not. Legitimate happiness is the aim of life and CONTENTMENT is happiness. Only those fail who continually work to attain or retain notoriety: not those who frown at it. You misunderstand the object of life. Our creed teaches us that we should value and admire the great qualities of character, bravery, sincerity, sympathy, generosity and self-denial. According to this the Newspapers should prominently publish such announcements as:

'Dis-interested Service'

'Dis-interested Service', 'Grand Conduct', 'Glorious Generosity' and so on.

But what do we see instead? The street boys screech 'Midday Murder', 'Terrible Tragedy', 'Spicy Scandal' and so on. So my dear friend, disabuse your mind of such duplicity in life. Strive to be happy yourself and make others happy. That is the greatest service to humanity. It is more solid, substantial and enduring than the humbugs of all the 'eminent' put together.

I returned home that evening convinced that Mr. 'S' was right.

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The Prosaic Rainbow

BY

M. V. B. S. SARMA

The greatest calamity that has befallen me in my life is my marriage which was when I was 26 years old. But first things should be told first and unless I tell you how I got acquainted with the Professor, you might not be able to follow the thread of my story and it would be another calamity which I would not like to invite.

From my childhood I always held strong opinions. They say 'blood is thicker than water.' So it was in my case. It was this specific noticeable characteristic that made my grandpa dub me as "an opinionated beggar." After all it was a matter of opinion over which we, both of us, agreed to disagree. Grand pa was a character and a creative genius. In his repertory there were several appellations which his fecund imagination coined for addressing me and it would not be edifying either to the departed soul or to my honourable self to disclose them at this stage. But then I am digressing. In my attempt to introduce the Professor, I have incriminated my grand pa. Anyway there is a connection between grand pa and the Professor, because they were both chums right from their college days. I always used to wonder what life they could have had with their tufted heads in those mofussil colleges when civilisation did not progress to the level of 'Rock N' Roll.

I generally tried to avoid grand pa. He was the G.O.M. of the house and a regular Bismark. Even father had to succumb to his authority. In a stentorian voice he used to command and to my knowledge there is no recorded evidence of any of his orders ever being flouted. He expected a military precision in execution. He always trod on my mental corns. There was not even a remote chance of our feelings, aspi-

rations, and ambitions ever coming to agreement and all attempts at it ended like present day disarmament talks.

One day in his usual abrupt manner he introduced me to the Professor saying "I have the honour to own my kinship with this in.....(was it imbecile? He checked himself) moustached modern youth. He is my grandson begotten by his father in a moment of mental lapse. He has done his honours in Economics and is at present an apprentice in a Chartered Accountant's Firm. I always thought that he was endowed with a first rate commercial mind which was an inheritance his mother had brought from her distant home for our benefit."

In grand pa's view, the limit of a personality's leaning to decadance was an initiation into the labyrinths of commercial learning. I had the usual discomfiture at the manner in which I was introduced but I was used to these ways of grand pa. Another thing that comforted me was that the Professor also was another old bloke and his knowledge, I thought, of grand pa's opinion of myself would not materially affect my self-respect. I had seen the Professor several times and, like any other contemporaneous modern college youth, treated him with contempt. I scarcely used to take any notice of the Professor during his almost daily peregrinations to our house.

One day without notice grand pa left the town for the village. He was an absentee landlord and had several acres of cultivable land. But the produce from these lands was less than meagre. He had a strong objection to modern methods of cultivation. My plea for adoption of 'David Brown Tractors', sinking of deep

wells and applying fertilisers, based on the economic theory of increasing the returns with a Five Year Plan to start with, was a mere cry in the wilderness. It was on this day that the Professor suddenly came and asked me about the whereabouts of his friend. I was busy preparing for my professional examination and already the number of unsuccessful attempts was approaching a numerical value equivalent to Gazni Mohammed's invasions of India. I had no time to speak to the old bones. I carelessly replied that he was not in town. The professor without being invited sank into a sofa. He said "Will you oblige me by calling my grand-daughter in who is waiting in the car outside?"

That was a matter of great surprise. I never knew that the old fool had a car and also a grand-daughter to ride in the car with him. Reluctantly I started wondering how his grand-daughter looked. If she had inherited his cranium and manners she would be a regular monkey, I thought. As I approached, I tried to take a peep into the car. I saw a figure languorously reclining in the back seat immersed in browsing. She took my breath away becausebecause she was every inch a plus. She was simply marvellous and if you are a cricketer you know how it is to be bowled by a yorker and a bumper, simultaneously. Mechanical Engineers tell us that in a diesel engine there is what is called a compression ignition and the more the compression ratio the better is the efficiency of the engine. The pressure on my cardiac region was such that the compression ratio was visible in my optic region. All my manliness completely deserted me suddenly. At the sound of my foot-steps, she looked up in a quizzical manner. I stammered, "Your.....your grand pa wants you in." Without saying anything, she opened the door, got out of the car and began to pace gracefully towards the house with a composure I totally lacked.

"You called me grand pa?"

"Yes, I just wanted that you should know each other." It was then I learnt that she was doing her final year in literature. And then turning towards her, he said, "This chap is my friend's grandson and is studying for his C.A. examination. His grandfather has a very high regard for this grandson of his." He winked at me. The blighter! I could have appreciated his sense of humour any other time. If only he had confided to me that he had a lineage and that it was totally different from his features, I would have made him my idol and worshipped him with all the coconut output of Kerala. Slowly, without my being aware of how it was, I was initiated into the conversation. She asked me if I read any modern stuff, whether I liked Hilaire Belloc and what I thought of Ibsen, Shaw, D. H. Lawrence and Oscar Wilde. They were all names to me. All my life I never touched one solitary piece of literature and never considered the problems like love or marriage or what those d.....poets thought about these things. At best, I knew that Malthus worried his poor head about population. And population was after all an end product of love and marriage and that was the nearest comparable relation which I could establish to our mutual literary tastes. I stated humbly that according to my revered grand pa, I had a commercial mind and in a sense he was right in his classification. I said I could only lecture for her benefit if she was interested in the case laws in regard to liquidated damages and that I knew the various stages of consolidation of Company Law as also the latest techniques that were developed in the presentation of a company's Balance Sheet, the various methods of computation of amortization for fixed assets and how effectively and successfully one could avoid one's income-tax obligations. If she persisted in knowing my opinion of Shelly in contrast to Keats, I would only say that one was noted for his romantic mysticism and the other for his mystic romanticism, whatever they might mean.

In my foolish imagination she was the luminous west and I was the resplendent east. I was troubled whether Kipling would be prophetic. During the next six months I not only lost my weight, but also lost my examinations.

Love is a prosaic thing. Accountants also are prosaic chaps. Right from the caveman to the modern youth, the same nonsense without variation has been told by each swain *ad infinitum* but not *ad nauseum*. Marriages, they say, are made in heaven. I do not know if it is true but I can certainly vouch safe that it brings down heaven upon earth. It is a necessary evil and one has to succumb to it one day or another and the sooner it is the better. Someone has said that it is a state when you enter with your eyes wide open and afterwards keep them half-closed. It was said of the late C. R. Reddi that when he was asked why he did not marry, he replied that Milton wrote his 'Paradise Lost' during his marital status and began his 'Paradise Regained' when he was divorced. I do not know for certain whether Milton was a divorcee but I could understand his feelings of relief if he was. None has so far discovered any satisfactory prophylactic against marriage. Love is a many-splendoured thing and you can get all the colours of a rainbow out of it if you know how to obtain them by adjusting the angle of the prism.

When my grand pa's opinion was sought, he replied that he did not mind the alliance provided the girl did not desire to land on any other fool. She was greatly attracted by and attached to grand pa because in his tufted head there was not only philosophy but also literature. There was an upsurge in my heart that I should swallow all the literature like Agastiyar swallowing sea water. I started reading recklessly and ravenously and also started my apprenticeship with grand pa. It seemed to me that there was a marked improvement in the Professor's anatomy. I do not know how far the girl was responsible for the shift in my opinions. There was a sort of crisis of conscience and I had to admit a grudging admiration for the old fossil that was grand pa who proved that all my knowledge was next to nothing and useless.

Yes. Grandpa was consulted about my marriage and he directed in turn, that the opinionated beggar should be consulted. So far I was concerned, I was certain that 'Barkis was willin'. I obtained release from grandpa's care only to be transferred to the custody of his disciple. It was at the age of 26 that a continuing calamity started happening to me which had both its pleasant and unpleasant sides.

Short Story

All's Well That Ends Well

BY

R. KANAKAVALLI

The golden day had dawned at last. Maya had been thinking and dreaming so much of her wedding day that now it had actually come, she could hardly believe it was true. Chic beautiful and ultra-modern Maya seldom failed to win people's heart. Roy was the correct match for her. Tall, well-built, smart and with an arresting personality, how could any girl resist his attraction? It was the city's most talked-off wedding. Each born in a highly cultured and rich family, the marriage was to be celebrated with all pomp and splendour.

Maya, dressed up in all grandeur, bedecked with ornaments and with the sweet smell of jasmines about her was ready for the holy "Thali" to be tied. The precious moment was not far off. The sound of music was in the air. Drums were beaten, conches were blown and amidst all the gay, hectic surroundings full of fun and frolic, Roy tied the holy Thali around Maya's neck and at last they were man and wife. People flocked around and congratulated them with all their heart. Such a perfect match were they!

The evening reception was in full swing. Maya wondered why her cousin Dr. Narayan had not turned up. Just then, she could see amidst the throng, his familiar handsome face beaming with a smile. He made his way to her and hurriedly wished her a long, blissful married life and said:

"Maya dear, I am afraid I will have to take leave of you right now. My plane leaves for Delhi at 7-30 p.m. and it is already late. So 'adieu' till we

meet again. Once again let me wish you all the best."

Maya watched him go. Narayan had been one of her dearest friends and his going away so soon somehow cast a cloud in her otherwise clear oblivious sky. She was being watched closely by Roy with a strange perplexed look on his face and he had to fight a mental battle—"Why has Maya not introduced this gent to me? Why should she be so sad at his leaving her? Does she love him?" Quick as lightning such unholy thoughts fled through his mind. But Roy had no time for such disturbing thoughts to blossom, for coming towards them with a sweet smile and petite look was Dr. Susheela, his former ward. With her usual charming ways Susheela was eloquently talking to Roy, utterly of Maya sitting hard by. Their interesting conversation was soon put an end to for Susheela was called away hurriedly as she had to attend to a serious case. Now it was Maya who was put out:

"What is exactly the relationship between Roy and the charming lady who had just left? Who is she? Why did she ignore me?"

Jealousy aroused in a woman is a dangerous weapon and Maya was now submitting herself to its powerful way. Disturbing thoughts now arose in the young couple's mind. Was it a green-eyed monster of jealousy that was going to destroy their blissful married life?

Suddenly Maya felt a terrible and unknown repugnance against this man who had been her husband for just a few hours. How could she tolerate her husband whose heart obviously

sought some alien woman's? Her decision was quick and perhaps hasty—but not to live with this man—"I would rather be a spinster renouncing all the pleasures of the world than lead an artificial married life," said her stubborn rebellious mind. The reception had no charm now for either. Would not this fantasy be over soon?

Roy's mentality was not different from his wife's. His pride was hurt bitterly. His ideal of the chastity of Indian womanhood itself was dashed to pieces. He was cursing the day he had consented to marry this apparently pure, simple girl. "Why on earth did Maya drag me into this mire? If she was interested in Narayan why could she not leave me alone? Now, she has spoilt my whole life and I'll never again believe in woman as long as I live."

Presently Maya turned and said:—"For obvious reasons Roy, I do not want to live with you. I would rather not explain matters further for it will be embarrassing for both of us. So let us part for good. Adieu!"

Days rolled by. Months had fled past since the day Maya had bid good-bye to her husband. She had now got used to her humdrum simple, uneventful life. Her parents had tried their level best to make her join her husband. But all in vain. Being the only daughter and queen of her home it was not difficult for Maya to make her parents understand that life with Roy was not to be thought of.

But sometimes in one of her desolate moods Maya wondered whether she had not judge her husband harshly? Why had she been so foolish? She had not even asked Roy to explain matters. These moods were rare, but nevertheless they did occur. This day she was in one of those moods. It was her anniversary and the irony of the situation was that she had to attend Dr. Narayan's marriage. Once again Maya heard the sound of gay laughter mingled

with music. Maya walked straight to the young couple. Narayan welcomed her warmly. "So my lady, you've come at last. I've been looking out for you all along!" But Maya paid no heed to his words. Her face was pale as a sheet for standing near her was Roy. Maya tried a hasty retreat but was prevented by Narayan who introduced her to his wife.

"Susheela, meet my cousin, Maya. She has been one of my closest friends. I would very much like you to be dear chums!" Susheela greeted Maya with a gay smile and the latter suddenly realised that she was facing the girl in whom Roy seemed to be interested so much, a year back. Meanwhile Dr. Susheela introduced Roy to Narayan.

"Meet my beloved guardian, Narayan. We both owe him a debt of gratitude for he has been my only friend thus far!"

Both Maya and Roy were just speechless for now they understood what a great blunder they had committed and how harshly they had judged each other. Entirely unconscious of the world around, they rushed to each other to beg forgiveness. In a second, the couple who had been cut asunder by the sharp knife of jealousy, were once again united by the chord of love. Quickly they explained to Narayan the folly they had committed. Light dawned on Narayan now and he said "Yes, I remember now. On Maya's wedding day I had to go to Delhi urgently and in the excitement of wishing her all the best I unconsciously forgot about Roy and walked off. Maya too forgot to introduce us. I suppose the same in the case with Roy and Susheela. Hence unconsciously we have been responsible for putting you both asunder but the wound is healed now as you are together again."

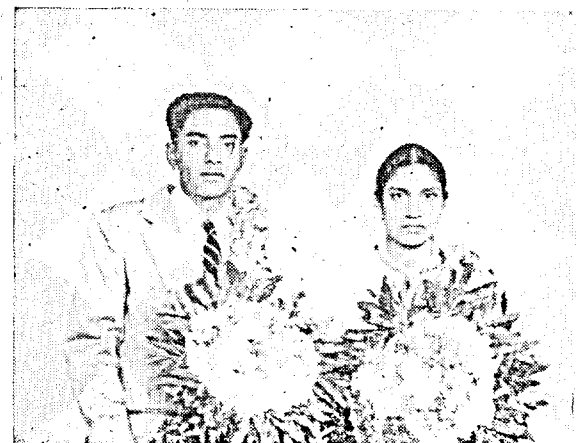
Realising that it was quite late, Roy turned around to Maya whose face was radiant with happiness and said, "Shall we go home, darling?"

TRAVEL MANNERS

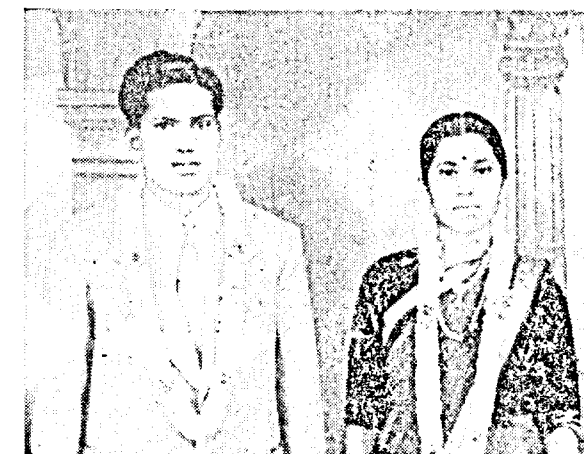
- ★ **CLEANLINESS** is next to **Godliness**. Cultivate the habit of cleanliness. Avoid throwing scraps of food, skins and peel of fruit and water on platforms or in compartments. Use the dustbins provided at stations or in passenger compartments.
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- ★ Book your heavy luggage in the brake-van and give yourself and your fellow passengers more room in the compartments.
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WEDDING BELLS



Shri Moses Johnson, Clerk, Dy. C. O. S. Office, was married to Kumari Jayaseeli on 1-7-57. The marriage was solemnised at Lutheran Church, Bangalore.



The marriage of Shri P. Raju, Sub-head, Ledger Section, Dcos/Depot, with Sowbhgyavati Annapoorani, took place on Sunday the 9th June, 1957 at Mariakuppam, Kolar Gold Fields.

Our hearty Congratulations to the newly weds.

A DECADE OF INDEPENDENCE

Oh ! Benevolent Mother,
Deliver us from all our troubles
Fulfilling our Five Year Plans
Enabling us surge forward
Advance in strides we have made
Democracy deep inlaid
Our non-violent path to peace
For Humanity at large.

RESOLVE

Inspired by this 'National Shrine'
Conscious of our 'Duty Divine'
Further we'll March, thanks 'Influence Benign.'

M. S. RAMARATHNAM
(Asst. Ward-keeper)

OBITUARY

It is with deep regret we have to announce the passing away of Shri H. Narayanaswamy, Head Clerk of Procurement Section No. 2 in Deputy Controller of Stores office, on the night of 29-7-57 leaving his aged mother, wife and a daughter. Born on 1-10-1915. He joined the Ex-South Indian Railway Stores Department on 30-8-1940 and worked in I.C.F. Project from 31-10-1952. He was a sincere and hard working employee and we offer our heartfelt condolences to his bereaved family.



Thirty-six year old MURUGAN MUNU-SWAMY was born in Madras as the son of a Plumber attached to the Madras Corporation. He had to discontinue his studies after middle school and take up to work to augment the family income. He started his career in a private firm as a cleaner and by hard work quickly qualified himself as a driver of heavy trucks.

He joined the I.C.F. in 1951 as a Lorry Driver and now drives the trucks of the Stores Department. He is a specialist in handling Chevrolet trucks and has been having a driving licence for the past 16 years without having been involved even in a single accident.

Twenty-five year old DEEVENAPALLI NAGENDRA RAO is the operator of the 1000-Ton Press, the most powerful machine in the Factory and the one which no visitor fails to see. He hails from the Andhra State and was born in a railwaymen's family, his father having served the Traffic Department of the Southern Railway. He is a Matriculate of the V.R.R. College, Bezwada and a diploma holder in Mechanical Engineering.

He joined the I.C.F. as a Trade Apprentice on 2-5-55 and was promoted as Skilled Artizan on 19-11-56. In recognition of his skill and ability to shoulder responsibility he was promoted as Highly Skilled Artizan on 8-7-57 and posted to operate the 1000-Ton Press.

1. Srinivasan's average for the season just before the last match was 31 and had no "not-outs" in it. In the last match he scored 7 and 55 in the two innings. His average in the end was better by 2 than it had been when the first innings ended. How many innings did Srinivasan play during the season?

2. Given the word COUNTRIES, you are to remove any one letter and rearrange the remaining letters to form a word. This procedure is to be repeated until, after eight steps, all that remains is the letter O. What are the 8 words so formed?

3. Two Europeans entered a luxurious restaurant. One was the father of the other person's son. How are they related to each other?

4. Gopu and Gopulu sat up by the side of a clock tower once to find out who could hold his breath longer. Neither of them won because Gopu held his breath from the first stroke out of the total of 12 to the sixth and Gopulu from the sixth stroke to the twelfth. Do you think the statement is absurd? If so, why and who among the two won?

5. "During the last Independence Day", said Narasimhan, "I had been to the famous 'Hotel Prakash' with my wife and children. Each one of us had dishes to the same value and the bill came to Rs. 2.82. The cost of

biscuits were 4 naye paise each for plain ones and 6 naye paise each for the creamed ones; the cost of tea was 7 naye paise and sweets costed 18 naye paise. Each of us had a different number of biscuits—but none had 10 or more. How much did the sweets come to, and how many creamed biscuits did we have?"

6. A card game played by four friends is such that four cards of different suits are dealt one a piece among them. Dib says, "mine is not a spade." Deb says, "mine is not a club". Dab says, "mine is not a diamond". Dub says, "mine is not a heart". Only one of these statements is true. Who held what?

Solutions to last month's Brain Teasers

1. Vasu could know the name of the child because his friend in this case happened to be the mother of the child.
2. 270 and 330 miles per hour.
3. Muniratnam's age is $40\frac{1}{2}$ years and his children are aged $5\frac{1}{2}$, $7\frac{1}{2}$, $12\frac{1}{2}$ and $19\frac{1}{2}$ years respectively.
4. The boy was the brother of Jaggu.
5. Shankar scored 83 marks and hence was selected. The marks of the others were:—Murthy—63, Gopalan—41, Balan—56 and Sattar—57. (Note.—Kesavan in the problem should read as Shankar).



The auction was going on spiritedly for a parrot. When it came to an end the gentleman, who was really interested in buying got the bird. When claiming his purchase he said to the auctioneer,

"I suppose this bird can talk."

"Talk!" replied the auctioneer in astonishment.

"Who do you think was bidding all along against you for the past half an hour?"

2. A Swiss-returned always used to boast to his friends how he always got the better of all waiters and waitresses by tipping them earnestly during his stay overseas.

He once had an occasion to go to Bangalore on duty and to uphold his style decided to stay in a luxurious western styled hotel. The first day when the waiter called on to his table in dining hall and presented the menu he stylishly tossed it aside and slipped him a chip telling him to bring a good dinner. He was really feeling satisfied with the food and during his week's stay daily he used to finish his meals in the same manner. Last day when he bade good-bye to the waiter, the latter very politely bade him return and said to him, "Good-bye to you, Sir, and hope to see you again and again this side, Sir. By the way, Sir, when you or any of your friends who cannot

read come to this hotel, just ask for De Souza, Sir."

3. A young couple once visited a shop to buy a pram for their baby. They purchased one and with the child in it they pushed it all the way home. During their journey all the while they were much embarrassed by people pointing to them and smiling, but the couple couldn't guess the reason for it. They simply returned the smile and proudly walked home. On reaching home they found to their utter surprise a sign in front of the carriage which the shop assistant forgot to remove and it read "Our own make."

4. "That old Deva" remarked Mani to his friend,

"Is the luckiest man I have heard of."

His friend enquired, "How do you know that?"

"He insured his mill and the mill burned to the ground within a year. He met with an accident less than a month after taking out accident insurance," continued Mani, "A few months ago he took a big policy in life insurance and you wouldn't believe to-day he is dead."

5. Husband to wife, "What are you knitting, dear?" Wife, "I really do not know, darling, I have lost the instruction book somewhere."

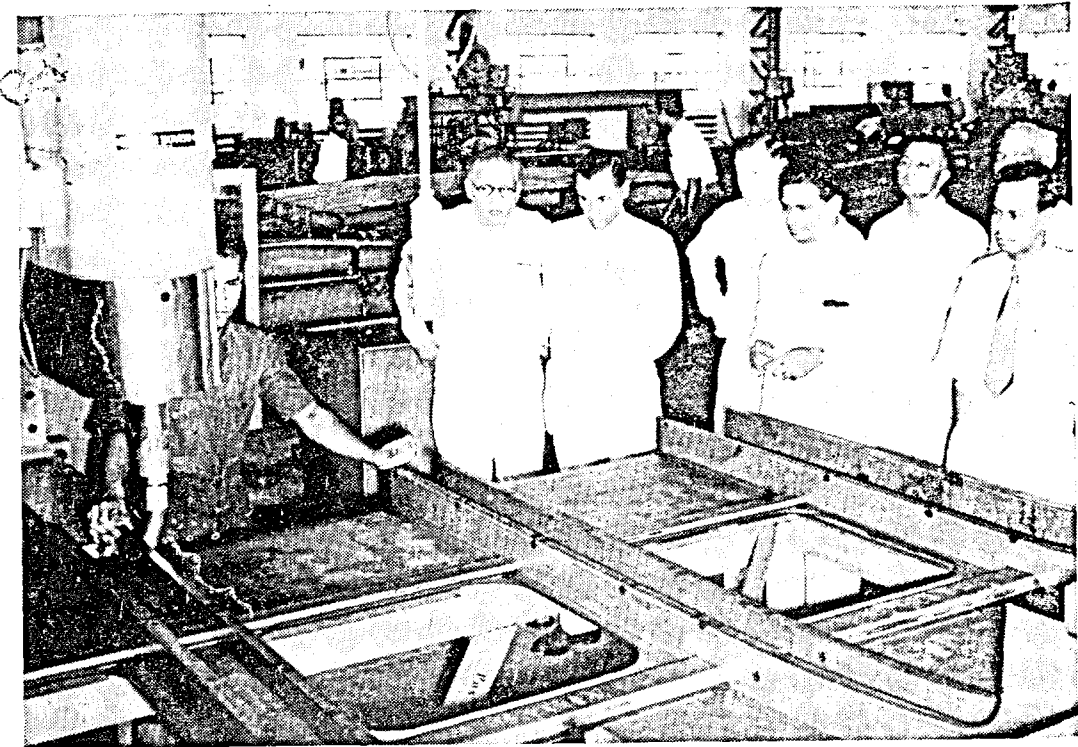
Personnel Notes

Our Felicitations to

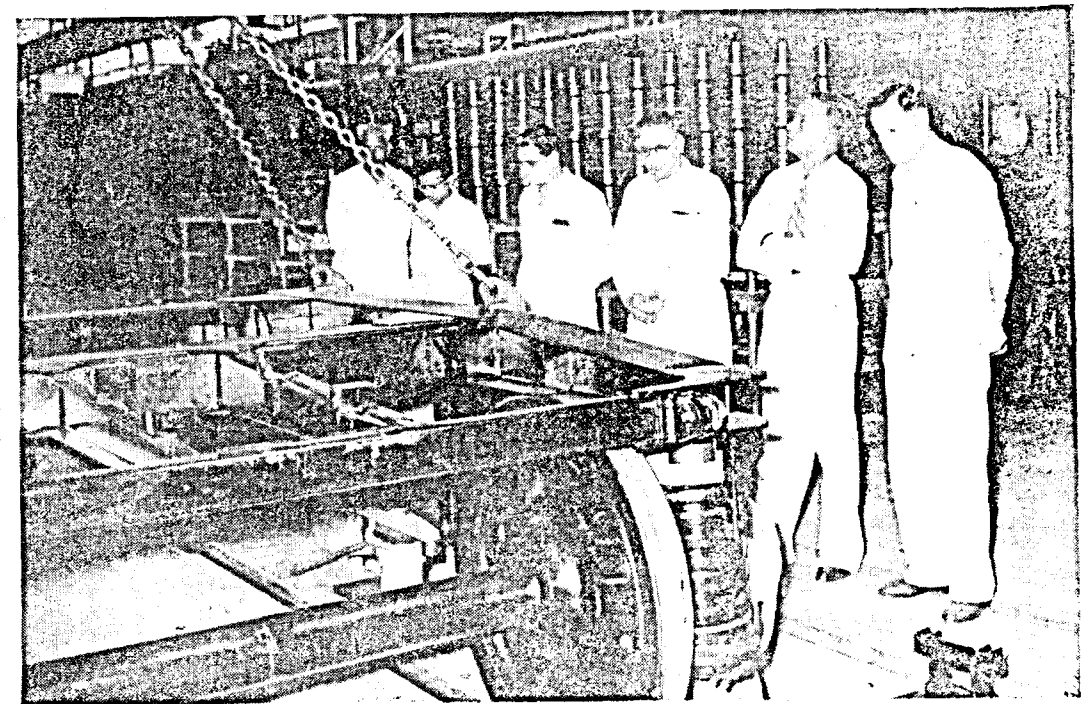
- (1) Shri S. D. Sansi, Officiating Superintendent/Confidential promoted Asst. Controller of Stores, Progress with effect from 23-7-57.
- (2) Shri M. Sundaram, Asst. Foreman in scale Rs. 260-350 promoted Foreman in scale Rs. 300-400 with effect from 16-7-57.
- (3) Shri H. C. D'Cruz, Chargeman 'A' Grade in scale Rs. 260-350 promoted Foreman in scale Rs. 300-400 with effect from 16-7-57.
- (4) Shri V. P. Zachariah, Chargeman 'A' Grade in scale Rs. 260-350 promoted Asst. Foreman in scale Rs. 300-400 with effect from 31-7-57.
- (5) Shri T. S. Loganathan, Chargeman 'A' Grade in scale Rs. 260-350 promoted Foreman in grade Rs. 300-400 with effect from 22-7-57.
- (6) Shri S. S. Seetharaman, Chargeman in scale Rs. 200-300 promoted in scale Rs. 260-350 with effect from 19-7-57.
- (7) Shri C. M. Peterson, Chargeman in scale Rs. 200-300 promoted Chargeman (Inspection) in scale Rs. 260-350 with effect from 19-7-57.
- (8) Shri T. G. Arumugam, Improver Draftsman in scale Rs. 100-185, Mech. Drawing office appointed Probationary Draftsman (Mechanical) in scale Rs. 260-350 with effect from 13-7-57.

Our Welcome to

- (1) Shri C. S. Viswanathan, Officiating Assistant Mechanical Engineer transferred from the Western Railway and posted Assistant Mechanical Engineer/P.E./Furnishing Project with effect from 6-7-57.



The Chairman, Railway Board, at the Spot Welding Machine in the Factory

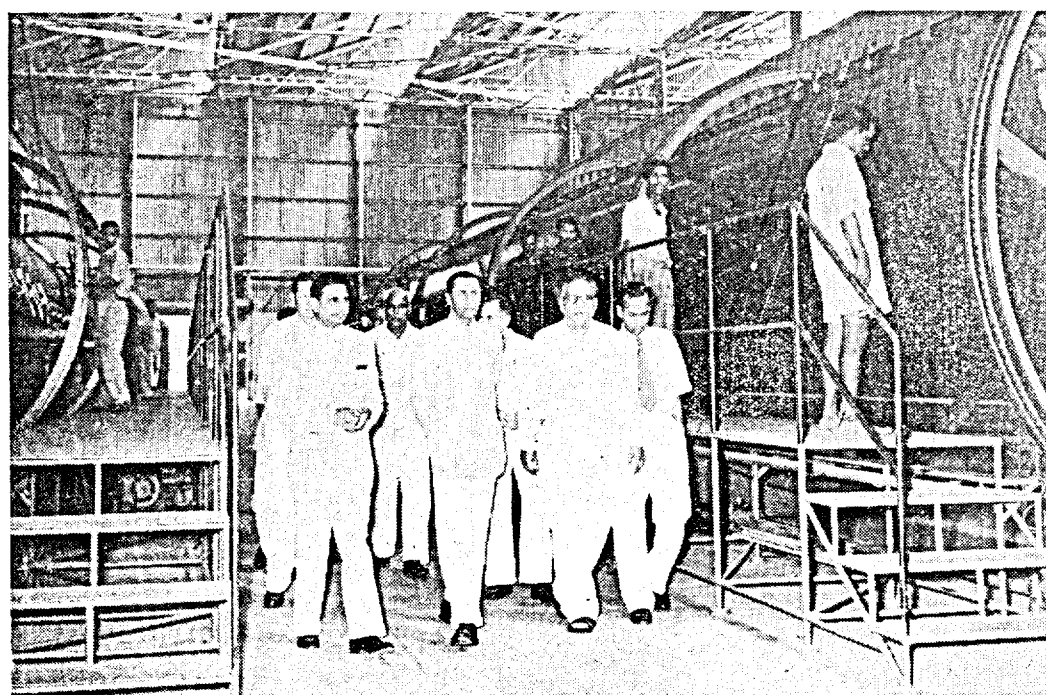


Shri E. W. Isaacs, Additional Member Mechanical, at the Bogie Testing Machine in the Factory

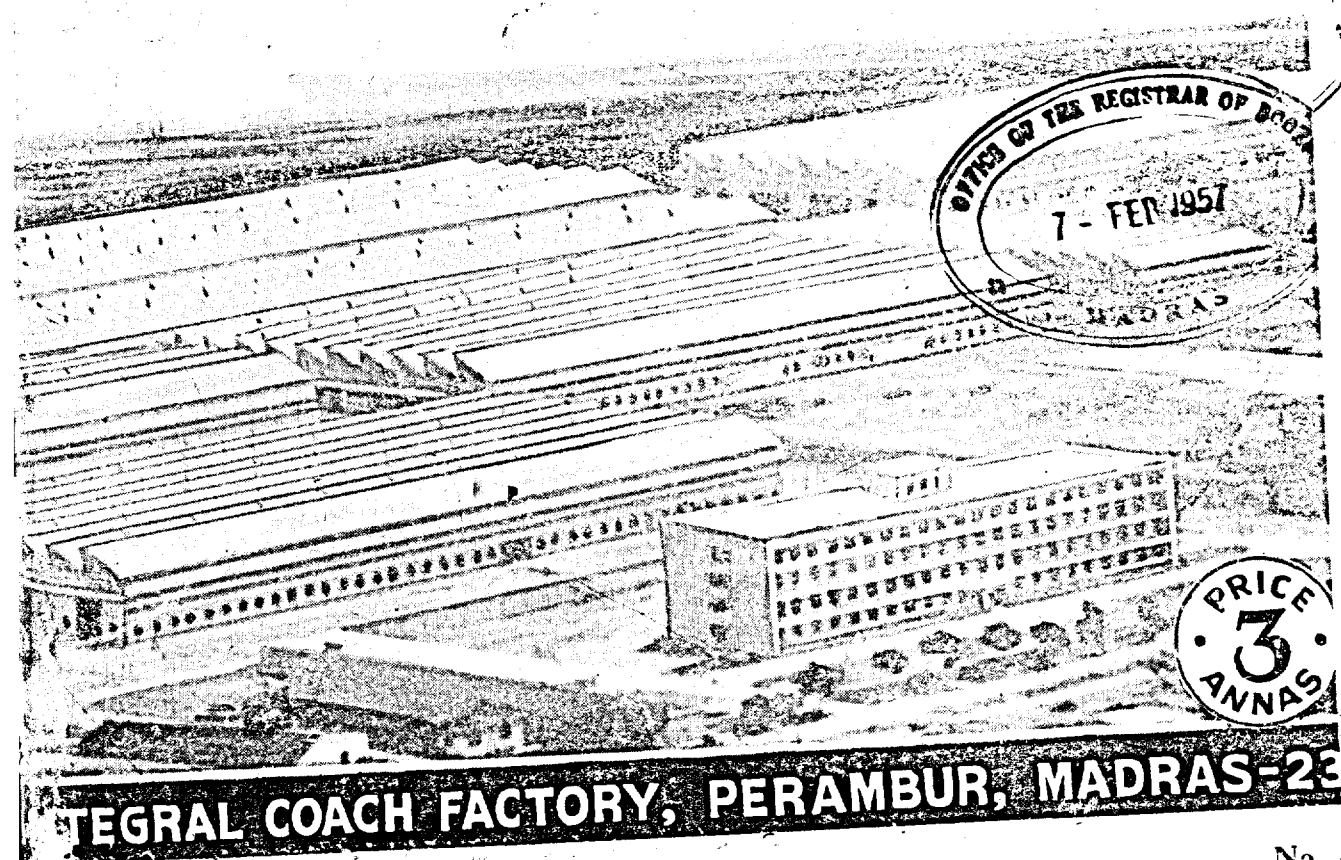
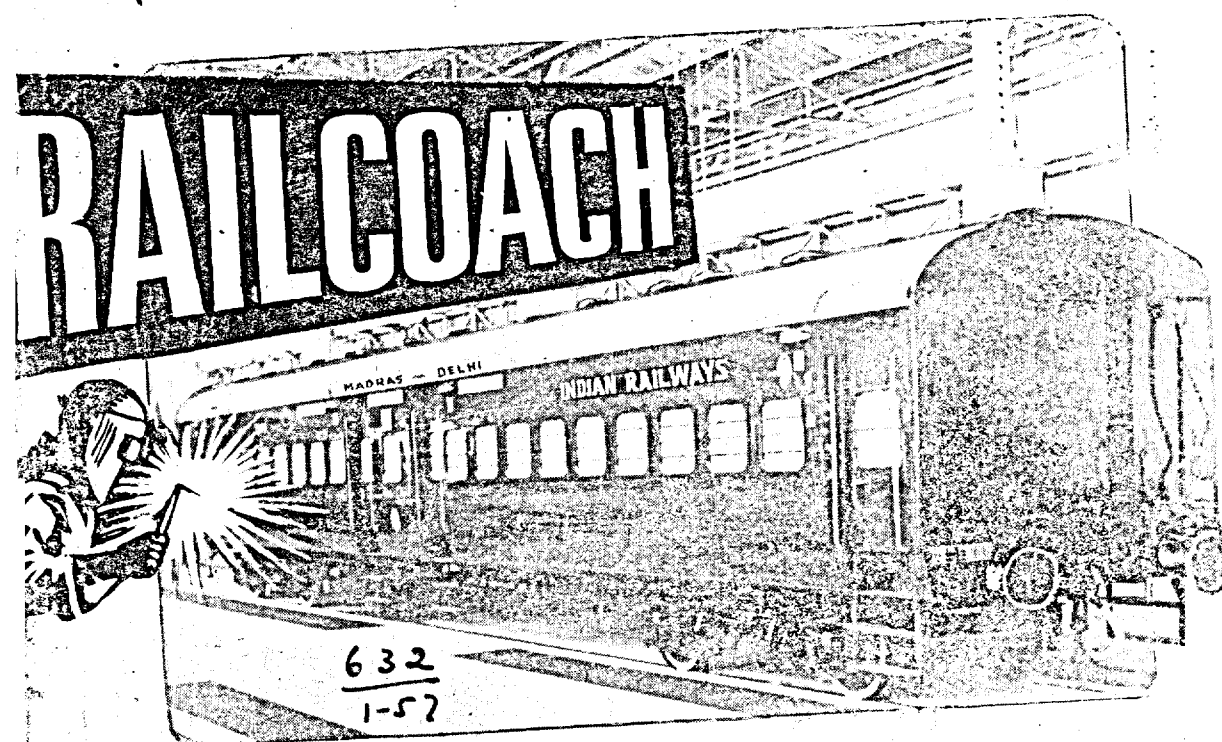
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The Chairman, Railway Board, in the Technical Training School



Shri P. C. Mukerjee in the Assembly Shop



RAILCOACH

Published by the Integral Coach Factory

ISSUED ON THE 15th OF EVERY MONTH

Devoted to all Railway problems, Technical Matters
and other problems of General Interest

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The "Railcoach" circulates among Officers and staff of the Integral Coach Factory, General Managers and other important Officers of all Railways in the country, the Union Minister for Railways and Transport, the Union Deputy Minister for Railways and Transport, the Chairman and Members of the Railway Board etc.

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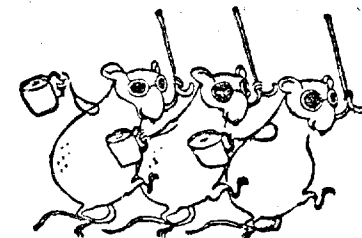
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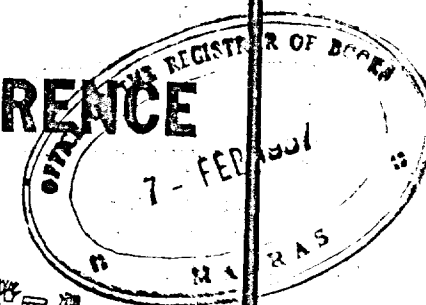
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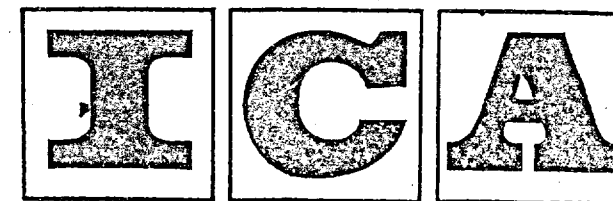
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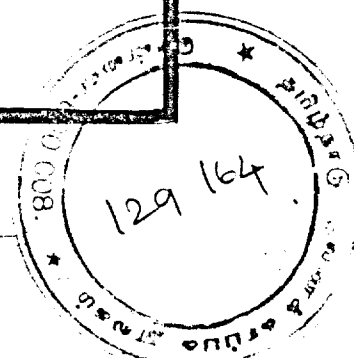


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WJZ 63-A

Message from Chairman, Railway Board on the Eve of Retirement

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)
NEW DELHI

1st January 1957



MY DEAR SADAGOPAN,

I am writing this letter to you on the last day of my active railway service. While bidding you good-bye, I must convey to you my grateful thanks for the help and co-operation that I have received from you in such a large measure and at all times. I should also like to express my appreciation of the excellent manner in which you have conducted the affairs of your charge during my tenure as Chairman of the Railway Board. We have been companions in times of great stress and strain. I have watched with admiration, the courage and determination which you have brought to bear on the solution of difficult problems. Through you I would also like to thank all

your officers and the other categories of staff who have, regardless of personal inconvenience, carried on the great task of managing your Organisation with such satisfactory results.

Generally speaking, Indian Railwaymen are the perpetual target of criticism. The wonder, however, is not that we are criticised, but that the criticism is not more severe, considering that bottlenecks in the movement of traffic continue, and there is no abatement in the inconvenience resulting from overcrowding on certain sections. Perhaps the criticism is tempered by the realisation of the difficulties under which we are working and the sincerity of purpose which guides railwaymen in their determination to remove the bottlenecks in order to create conditions of easier transport and more comfortable travel within as short a time as money, material and manpower would permit. With the great task that the Government and the people of the country have undertaken to accomplish during the Second Five-Year Plan, which of course will have to be continued with still greater vigour during subsequent plans, the future is one of hard work and strenuous effort. This is inevitable if we are to strive for the goal of a brighter existence. And, I have full faith that—come storm, come rain, come sunshine—railwaymen in India will do their duty to the best of their ability without any trace of timidity and with abundant courage, AND WILL NOT LET THE NATION DOWN.

Those of my colleagues who have recently returned from foreign countries and who have studied the working of foreign railways, have come back convinced that, by and large, in the hard work that they put in under difficult environmental and technological conditions, and in the efficient utilisation of the assets that we possess in the circumstances in which we are placed, the Indian Railwaymen are second to none in the world. This should be a source of great satisfaction to all of us.

I have the confidence that under the guidance of my successor, you will add to your laurels. In bidding you good-bye, I wish you, your staff and your officers good health and all prosperity in the next year and for the years to come.

Yours sincerely

Chairman, Railway Board

Farewell Message From The Governor of Madras



RAJ BHAVAN
GUINDY, MADRAS
December 7, 1956

MY DEAR SHRI SADAGOPAN,

You know how very much interested I am in your Factory and all the good people that work there. Mr. Chou-En-lai and his party were very deeply impressed by all that they saw there yesterday. Everybody is bound to be that who goes to you.

It would have given me great pleasure to come and meet the workers there and to say good-bye to you all. I am thankful to you that you gave up the idea of a public party in deference to my own deep personal sorrow. Everybody has been nice to me here, and it is a matter of deep distress to me that I should be leaving the State in a cloud of such grievous tragedy. What can we do? We are all helpless in the hands of God.

Please convey to all workers of the Factory my grateful thanks for the warm welcome they always gave me whenever I went there, and assure them that I shall always remember them, and that their interest and welfare would be dear to my heart. You will also please tell them how sorry I am that I could not meet them before I left. They should certainly feel very proud of the great work that they are doing for nation-building. We are surely proud of them and their good work.

Thanking you again for all your kindness and hospitality and wishing you all well.

I am
With kind regards
Yours sincerely
(Sd.) SRI PRAKASA

RAILCOACH

(INTEGRAL COACH FACTORY MAGAZINE)

EDITORIAL NOTICE

All contributions must be clearly typed and doublespaced 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 not be returned unless the sender so requires. Intending contributors from outside our Factory, if they intend to get back unaccepted articles and photos, should send a suitably stamped and self-addressed envelope along with the material sent by them.

Contributions should be addressed to the Editor, not by name, and reach him not later than the 25th of every month for consideration for publication in the next month's issue.

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

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C.A.O.(R)'s New Year Message



Another year is nearing its end, a year on which we can look back with pride and joy, as a year of great achievement. At this hour, our hearts go out in gratitude to a kindly Providence that has guided and crowned our efforts with such signal success ; and the experience we have so far gained has filled us with a new confidence that we shall prove ourselves more than equal to the tasks that await us in the coming year.

It is a matter of no small satisfaction that in the year that is drawing to a close, the collaboration between the Swiss team and the Indian Workers has been most cordial, efficient and fruitful.

It is my humble wish and prayer that the New Year may bring to each and every household in the I.C.F. family all health, happiness and prosperity.

“ JAI HIND ”

A handwritten signature in dark ink, appearing to read 'K. Sadagopan'.

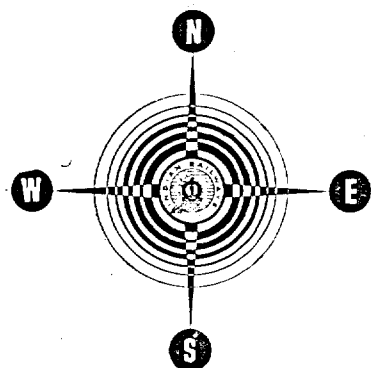
Chief Administrative Officer

FROM THE EDITOR'S DESK

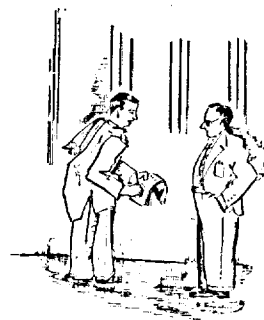
During December we bade good-bye to the first two of the Swiss technicians, seconded to this project by the Swiss Car and Elevator Manufacturing Corporation, Limited, who were returning to Switzerland on completion of their contract period. We publish elsewhere in this issue details about the farewell arranged in their honour. As voiced by the speakers at that function, the collaboration has worked out well and the carefully selected Swiss technicians have justified their selection. We take this opportunity to express our appreciation of the enthusiastic and sincere manner in which the Swiss team co-operated with us in this mighty venture and made possible the success achieved so far. As observed by Shri K. Sadagopan, our Chief Administrative Officer, at the function the cordial relations prevailing and the existence of the “ one family ” spirit is due to Mr. Braem, the Chief Technical Manager, in no small measure. We have just made a beginning and a lot more remains to be done in the years to come wherein production has to be stepped up gradually and the target of 350 coaches a year attained. We are confident that the good beginning made will be maintained and that the Indian counterparts, who will be taking over gradually, will be able to shoulder the responsibility and accomplish the task.

* * * *

December was a memorable month so far as visits are concerned, for we were honoured by the visit of H. H. the Dalai Lama and H. H. the Panchen Lama. This is the first time Spiritual Leaders are visiting the factory and we are grateful to them for the interest they took in the factory and for their valuable blessings. The visit is described in detail elsewhere in this issue.



NEWS AND NOTES



Electrification of Railways

A French Railway Engineer, M. Boulougne, has been appointed as Consulting Engineer to the Indian Railways for their electrification schemes.

M. Boulougne was a member of the French Railway Mission which recently submitted a report to the Government of India on certain technical issues connected with railway electrification.

According to present proposals the electrified route mileage on the Indian Railways is expected to be more than trebled by the end of the Second Five-Year plan period. A provision of Rs. 80 crores has been made in the Plan for this purpose.

Atomic Powered Locomotives

India was concentrating her attention on the production of atomic energy and when she produced it, she would have to consider whether it was economical to run a locomotive by coal, electricity or atomic energy, said Prime Minister Nehru in the Lok Sabha on November 19, 1956.

He was replying to a question whether research in India in the use of atomic power had succeeded in using it for running locomotives and whether Government was aware that the Japanese Railway Research Bureau had completed a blue print for atom-powered locomotives.

The Prime Minister replied that Japanese scientists had not yet reached a definite blueprint stage for the production of atomic-powered locomotives. He stated: "Atomic energy can be used for any power purpose. It has been used in the United States for running a submarine. In the Soviet Union it is used for generating power. There is no theoretical difficulty about the use of power. But we do not produce atomic energy to-day. When we produce it, we will have to consider whether it is economical to run a locomotive by coal, electricity or atomic energy."

Aid from World Bank for Expansion of Indian Railways

Mr. Eugene Black, President of the World Bank, has assured India's Finance Minister, Sri T. T. Krishnamachari, of sympathetic consideration of India's request for financial assistance for projects for the production of power and development of transportation and ports.

The Finance Secretary, Sri P. C. Bhattacharya and Joint Secretary, Sri B. K. Nehru, during their recent visit to Washington, explained to the Bank authorities the development projects under India's Second Plan and gave an indication to the extent of the gap in foreign exchange resources.

The Bank authorities have explained that their general policy was opposed to financing industrial schemes sponsored by the States

and therefore, it is not particularly with the industrial policy pursued by the Government of India.

Mr. Black has indicated the Bank's willingness to finance schemes for the development of Railways, and ports and for power production. The Indian Railways have an expansion programme under the Second Plan involving foreign exchange of about 400 million dollars and if a substantial portion of Railway requirements are financed by the Bank it would be of great relief to India as it would facilitate her to divert her resources to other development projects.

Already, the representatives of the Railway Ministry have explained their development schemes to the Bank and the latter is shortly deputing a team of experts to study the economic soundness of the schemes.

Goods carried by Express Trains

The Union Ministry of Railways feel that the list of select commodities which are now moved by express goods trains on a preferential basis, may be revised or supplemented. The commodities which are at present exempted from normal restrictions when booked by express goods trains are—food-grains, pulses, vegetable oil, salt, sugar and textiles.

The Railway Ministry are now seeking the views of the State Governments on this question.

At present express goods trains are run on important trunk routes to fast schedules enabling quick movement of traffic between important cities and industrial areas. Consignments booked by the express goods trains are guaranteed delivery within a stipulated time and a surcharge of 6 pies in the rupee on total freight is levied for booking by the express goods service. The surcharge is refunded if the consignments are not delivered within the stipulated time. Recently, the running of express goods trains was reviewed and it was

decided to introduce express goods trains on additional sections and also to increase the frequency of the service where they already existed. Special measures have also been decided upon to ensure regular and punctual running of these trains.

The Ministry also feel that there will not be any practical difficulty in having different priority lists of the commodities for the different services in the various parts of the country.

Manufacture of Railway Wagons

India is now producing her present requirements of general type of wagons and coaches.

India is now producing about 20,000 Railway wagons annually. This is proposed to be stepped up to 36,000. But in order to replace the over-aged ones, the country may have to import some coaches and wagons.

The Rolling Stock Programme for 1957 would be partly met from indigenous sources and partly by imports.

Award for averting Railway Accident

Srimati Basana Mahapani, who noticed the subsidence of the Railway track between Mugma Station and Fatka block hut on the Grand Chord in Eastern Railway, 149 miles from Calcutta, on the 4th December 1956 has been awarded a cash reward of Rs. 300 by the Railway authorities. Three other persons who had also helped in stopping trains by shouting and waving hands, were also rewarded with Rs. 200 each.

As a result of inspection by the Mining Adviser of the Railway Board and the Inspector of Mines, it had been ascertained that the subsidence was due to an old colliery gallery underneath the track. The gallery was being worked sometime in the 19th century and had since been in a state of disuse when the Railway track had been laid in this area in 1894.

Canadian Locomotive for India

Mr. Paul Martin, Canada's Minister of National Health and Welfare, presented to India the 120th Canadian locomotive, which India received under the Colombo Plan, at a brief ceremony at the ceremonial platform of the New Delhi Railway Station on the 28th December 1956.

Mr. Martin accompanied by the Railway Minister, Shri Jagjivan Ram, went up to the locomotive which was decorated with the Indian and Canadian Flags and cut the ribbon tied across the cab of the engine. He, thereafter, requested the Railway Minister to take over the engine.

Mr. Martin and Shri Jagjivan Ram boarded the engine which moved forward for about 20 yards and then returned to the platform.

Fifth Inter-Railway Weight Lifting Competition

For the third year in succession, it was the lot of the Western Railway to sponsor and conduct the Inter-Railway Weight Lifting Championship in 1956 also. The meet was conducted on the lawns of the Headquarters Office of the Western Railway at Churchgate, Bombay, on the 8th and the 9th December 1956. The competition was witnessed by a large gathering which included, Shri M. Ganapathi, General Manager, Western Railway, and other Officers of the Western Railway.

There was a record number of entries, the total being 55, the highest till now reached. In addition to Eastern, Central, Northern, South Eastern and Western Railways, the Integral Coach Factory also, for the first time, had sent a team.

Western Railway won the Championship in 1952 and repeated the performance in the following year. However in 1954, Central Railway were the proud winners and in 1955, the stalwarts from Eastern Railway were on top. This year Eastern Railway again re-

peated the performance and won the championship.

The highlight of the competition was the performance of Shri V. K. Joshi of Central Railway who pressed 195 lbs. against a record of 193 lbs. On weighing, unfortunately, Shri Joshi weighed 2 ounces more and as such, officially, this could not be taken as a record. However, it was a very creditable performance.

Another lifter to catch the eye was Shri J. G. Pendarkar of Central Railway, who, in recording a total of 705 lbs., became the second lifter on Indian Railways to exceed this total.

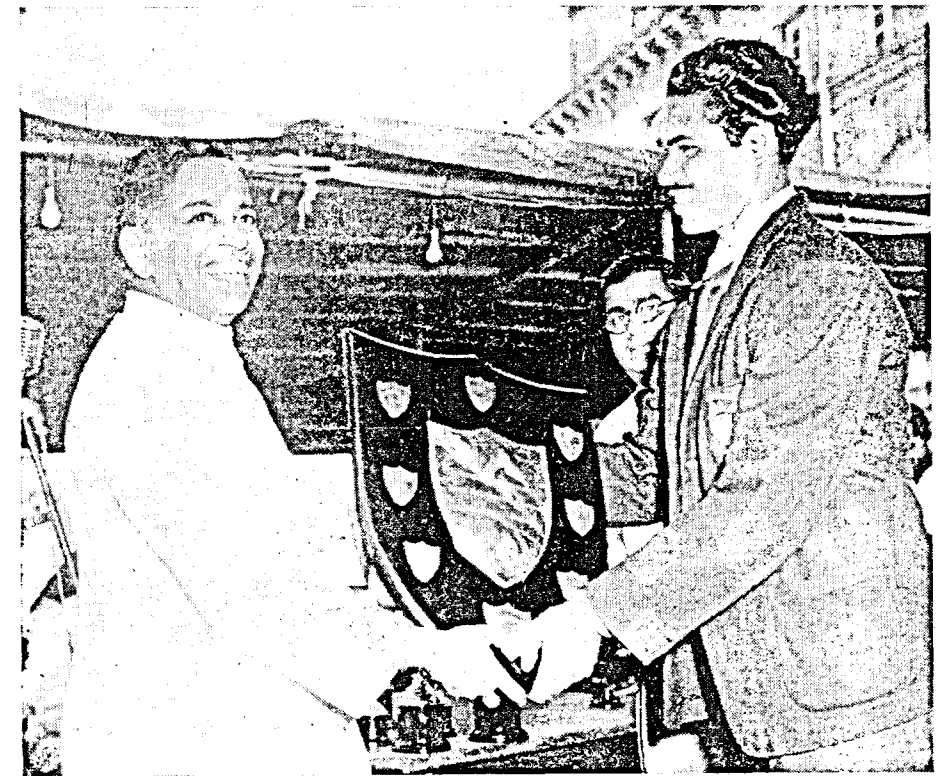
In a record breaking spree, the honour of pushing the total to a new high went to Shri A. K. Das of the Eastern Railway. He recorded 580 lbs. in the Bantam-weight class as against 560 lbs. established by Sukhdev Singh of Northern Railway last year.

In the Feather-weight Division, Shri V. K. Joshi, not only established a new total of 630 lbs., as against that of 585 lbs., held by Baldev Raj of Northern Railway last year, but also had the added honour of lowering the colours of the reigning national champion Baldev Raj, who just managed to earn a point and third place in the Feather-weight class.

In the Middle-weight Division a new-comer, Shri M. P. Baliwalla, Central Railway, had the distinction of recording 640 lbs., to establish a new Inter-Railway Record.

The Light-heavy weight Division withstood this year's challenge and remained the same as 700 lbs. This perhaps is due to the fact that Shri S. Santra, the holder, had moved up a class.

The tit-bit of the entire competition was in the Mid-heavy class where such notable lifters as Shri J. G. Pendarkar, Central Railway, Shri S. Santra, Eastern Railway and Shri J. D. Telang, Western Railway, were concerned in tossing about weights. This recalled happy



Shri M. Ganapathi, G. M., Western Railway, presenting the Inter-Railway weight lifting shield to Shri S. Santra, Captain of the Eastern Railway Team

memories of the 1952 games, when these three stalwarts were locked in competition till the early hours of the morning and kept the spectators spell-bound, only 5 points separating them at the finish. On that occasion, Shri Santra had the honour of coming first, Shri Pendarkar second and Shri Telang obtained the minor placing. Shri Pendarkar on this occasion, however, not only beat the existing Inter-Railway Record of 650 lbs., held by him,

but went on to become the Second Indian Railways' lifter to cross the 700 mark by recording 705 lbs.

In the Heavy-weight class, just two huskies competed, Shri R. Naidu of Eastern Railway and Shri C. R. Shetty of Central Railway. Shetty in an endeavour to once again cross the 700 total, missed all his lifts in the Snatch and had the mortification to concede top honours to Shri Naidu.

The final results were as under :—

Railway	Bantam	Feather	Light	Middle	Light Heavy	Mid-Heavy	Heavy	Total
1. Eastern ...	5	3	5	4	5	3	5	30
2. Central ...	3	5	...	5	...	5	3	21
3. Western ...	1	...	3	...	1	1	...	6
4. Northern ...	...	1	...	...	3	...	...	4
5. I.C.F. ...	...	...	1	...	...	...	...	1
6. South Eastern ...	...	...	...	...	...	...	...	0

Shri M. Ganapati, General Manager, Western Railway, distributed the prizes.

Congratulating the Eastern Railway for their success, Shri M. Ganapati, hoped that the other Railways would improve their perfor-

mances by sustained effort. He then distributed the prizes.

The individual results for the Light Weight Competition in which the I.C.F. team figured prominently are given below :—

Light weight (up to a body weight of 148½ lbs.)

	Press	Snatch	Clean and Jerk	Total
1. N. Das (Eastern) ...	190	190	250	630
2. S. N. Kokje (Western) ...	170	200	240	610
3. Shreedharan (I.C.F.) ...	180	180	240	600

Ex-Railwayman averts Accident

Towards the close of the monsoon in 1956, as a result of heavy rains between Multapi and Chichonda stations on the Itarsi-Nagpur Section of the Central Railway, a slip occurred in the Railway Embankment. As a result of the slip, the rails were left hanging without any support for a distance of 16 feet.

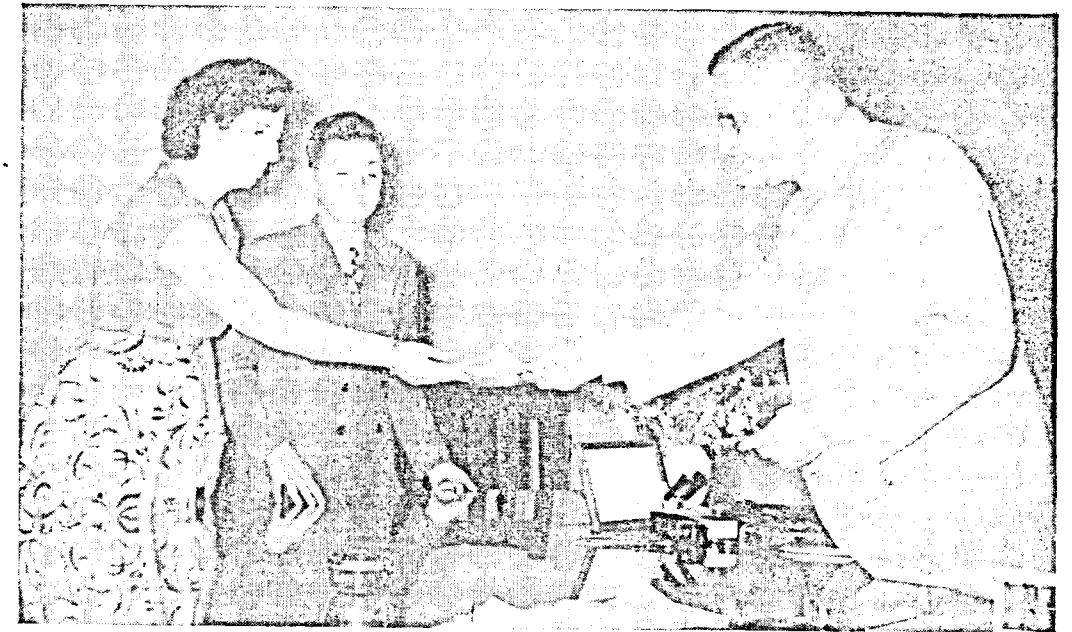
Fagoo Kashiram, one of the local residents, who was some 12 years ago in Railway service, observing this slip, ran to the nearest level crossing gate and informed the gateman of the impending danger. The latter stopped an approaching goods train in time, thus averting what might have been a serious accident.

This ex-gangman of the Railway has been granted a reward of Rs. 100 by the General

Manager of the Central Railway for the good work he has done. He has also been offered re-employment as a gangman on the Central Railway subject to his being willing to accept this job and to his being found medically fit.

Special award for driver Johannes

“In deep appreciation of the meritorious and loyal service rendered by late driver Shri Manasser Johannes and the exemplary sense of duty displayed by him while working No. 315 Up. Howrah-Chakradharpur Passenger train which met with an unfortunate accident resulting in his death, a sum of *rupees four thousand one hundred and forty-three only* is awarded as Special Compensation to his dependants Mrs. M. Johannes and her minor son Shri M. G. Johannes in equal proportions.”



Mrs. Johannes receiving the award from Shri N. C. Kapoor, General Manager, South Eastern Railway. Master Johannes is seen in the centre

With this citation Shri N. C. Kapoor, General Manager of the South Eastern Railway, handed over a cheque to Mrs. Johannes and Master Johannes at a simple ceremony held at Garden Reach, Calcutta, on December 19, 1956.

Shri Manasser Johannes, the driver of 315 Up Howrah-Adra-Chakradharpur Passenger Train, was severely burnt on the 26th May, 1956 as a result of back draught from the Fire Box which engulfed the Engine Cab in flames. The accident happened at dead of night. He stood alone, though completely surrounded by enrolling flames and mortally burnt, manning his post, until the train came to a stand just beyond the outer signal of Khargpur station. Although severely burnt, Shri Johannes walked towards the rear of the train in order to apprise the Guard of the accident.

Shri Johannes was admitted into the Railway Hospital at Khargpur immediately after the accident and expired at 4-45 the same morning.

Driver Johannes, by remaining at his post to the very last and by walking the entire length of the train, though in a collapsing condition, to apprise the Guard of the exact state of affairs displayed a very high degree of courage and exemplary devotion to duty.

In appreciation of this the General Manager decided to sanction a special award to Mrs. Johannes and Master Johannes in addition to what they would have normally been entitled to, under the Indian Workmen's Compensation Act.

Shri Johannes is survived by his wife and a son, aged 13 years who is studying in the Railway School at Khargpur.



Mr. Farid Baban

Engine driver's vigilance averts accident

On December 9, 1956, when 2 Down Passenger train was approaching mileage 4/12 between Mahisgaon and Chink Hill Stations on the ex-Barsi Light Railway (Narrow Gauge) portion of the Central Railway, Driver Farid Baban noticed stones piled up at three places obstructing the track. He immediately applied the brakes and brought the train to a halt thereby averting an accident. It took about half an hour to clear the obstruction.

In appreciation of the vigilance displayed and the prompt action taken in averting the possibility of an accident, the Railway Administration has granted a suitable reward to Driver Farid Baban.

Deputy Railway Minister's Review at All-India Transport Users' Conference

The All-India Transport Users' Conference was inaugurated by Shri O. V. Alagesan, Union Deputy Minister for Railways and Transport, at Rameswaram on December 27, 1956.

Giving facts and figures about Railway Working, the Deputy Union Minister stated: "Taking the first year and the last year of the First Five-Year Plan, *i.e.*, 1951-52 and 1955-56, we find passenger Train Miles in the B.G. have increased from 58.8 millions to 63.8 millions *i.e.*, 8.5 per cent. On the M. G., the increase has been from 35.2 millions to 37.2 millions, *i.e.*, 5.7 per cent. So also with Goods Train Miles. On the B.G. the increase has been from 50.1 millions to 57.1 millions, *i.e.*, 14 per cent. On the M.G. it is from 20 millions to 21.8 millions, *i.e.*, 8.9 per cent. In 1938-39, the tons originating goods traffic on the Railways which then included the portion of the Railways now in Pakistan was 84.4 millions. In 1951-52 this went up to 91.4 millions. In 1955-56 the figure stood at 115.5 million tons. Between 1951-52 and 1955-56, there had been an increase of 25 per cent, which was not a small achievement. In respect of loading of goods traffic, the special drive undertaken on Railways resulted in one year alone, *i.e.*, in 1955-56 as against the figures for 1954-55, in an increase of 7.4 per cent on the B.G. and 21.9 per cent on the M.G."

Continuing, Shri Alagesan observed that the proverbial bottle-neck of the Bezwada-Madras section had been reduced to a great extent. The movement from Bezwada to Madras had been stepped up from 300 wagons in 1951-52 to 450 wagons in 1955-56, and in recent months it had even touched an average of 500 wagons per day. As regards net ton miles per wagon day which had been accepted as an accurate



Shri O. V. Alagesan

index of wagon utilisation, he said the best results were achieved during the war years and that too in 1942-43 when this figure was 451, on the B.G. In 1955-56, it stood at 541, which was a substantial improvement even on the best war time figure. Similar improvement had been effected on the M.G. also. These improvements had been achieved in spite of the fact that the density of traffic had increased by 63 per cent over the figures for 1938-39. This bore ample testimony to the improved operational efficiency of the Railways.

Reduced allotment under Second Plan

Adverting to the drastic cut that had been imposed on the size of the Railway Plan for the Second Five-Year Plan period, the Deputy Railway Minister stated it had been reduced from Rs. 1,480 crores to Rs. 1,125 crores. With this reduced allotment, it was calculated that Railways would be able to carry about 47 million tons more, leaving a gap of about 18 million

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tons. It was now calculated that with the increased targets of production, both in the industrial and agricultural sectors, the gap was likely to be of the order of 25 million tons. Taking passenger traffic in which their Association was more interested, the Plan provided for an increase of 15 per cent in the course of the five years. Even that would have left the present overcrowding untouched. But, recent trends had shown the increase in passenger traffic over a year was likely to be 5 per cent instead of 3 per cent as was assumed when the Plan was framed. This did not present a pleasant picture with regard to mitigating the hardship of overcrowding at the end of the Second Plan. What with the increase of costs of material and rates of contract, the money limit of Rs. 1,125 crores would have to be raised at least by another Rs. 100 crores to achieve even the present physical targets envisaged in the Plan. The speaker did not want to leave anybody in doubt that unless more funds were allotted and the Railways enabled to procure vital materials like steel and cement in time and in sufficient quantities, it would be difficult for Railways to fulfil the tasks that they had undertaken to carry out.

Improving inland water transport

This serious gap between the demand and the availability of rail transport during the Second Plan period, the speaker went on, had naturally added emphasis to the need for maximising operational efficiency and achieving effective co-ordination between the Railways and other forms of transportation. In this connection, he mentioned the recent Motor Vehicles (Amendment) Act passed by Parliament which aimed at removing restrictions placed on road transport and enabling more and free inter-state traffic. They were also eagerly awaiting the recommendations of the Rail-Sea Co-ordination Committee set up some time back to suggest measures to ensure co-ordination between the Railways and Coastal Shipping. Government

also proposed to set up a Committee to suggest ways and methods of improving inland water transport and co-ordinating them with Railways. Government also welcomed any constructive suggestions from the public in this regard.

With regard to the provision of passenger amenities and improvement of the standard of such amenities, Shri Alagesan pointed out that for the last few years, they had been trying to make III Class travel as comfortable as possible under existing circumstances. The experiment of providing sleeping accommodation which was begun over a year ago had proved a great success. It was proposed shortly to introduce two tiered sitting-cum-sleeping coaches. Recently they had introduced vestibuled Janata trains.

Air-conditioned coaches for III class passengers

Another experiment, said the speaker, was the running of fully air-conditioned trains fitted with reclining upholstered chair cars for III Class passengers and sleeping berths of the normal A.C. class type. The first fully air-conditioned train began running on October 2 last between Delhi and Howrah. Another train had started running between Delhi and Bombay from December 24. A third train between Madras and Delhi would start running by the end of January next. For the first time, air-conditioned travel had been brought within the reach of the lowest class passenger in this country.

The Deputy Minister also mentioned about the steps they had taken to improve the quality and service with regard to catering on the Railways. While departmental catering was being introduced on a planned basis in Northern, Central, Western, Eastern and North-eastern Railways also, steps had been taken to bring uniformity in menu at least with reference to broad regions and also bring down the prices considerably. It was not their intention to abolish private catering altogether. It would continue to exist side by side with departmental catering.

Shri Alagesan, concluding, appealed to the travelling public to co-operate with the Railway Administrations to the fullest extent possible and help them in the various steps that they were taking to make travel more and more comfortable. To facilitate the process of inducing a better civic sense amongst the passengers,

the Railways had launched a campaign of social education through different media like posters, loud-speakers, films and the like. He emphasised the role that the Association could play in the field of educating the public and inculcating in them a sense of responsibility and dignity.

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Ideas for Better Supervision

(This article is digested from January 1956 issue of the FOREMEN'S DIGEST and reprinted with the kind permission of the United States Technical Co-operation Mission to India—Ed.)

The following description of a conference on supervision will illustrate to foremen what can be accomplished in one day with good planning and able speakers.

The conference called "Supervisory Round-Up" held at the Marquette University Management Centre, Milwaukee, Wisconsin, presented five vital topics, namely,

"More production with less effort": In order to cut costs by improving production without increasing physical effort, changes may be necessary which involve (1) raw materials, (2) the design of the product, (3) the process, (4) the tools, workplace and equipment, and (5) the hand and body motions of the workers.

Each foreman would be wise to analyse the jobs under his jurisdiction by answering the following questions:—

- (1) Could it be done with less reaching or lifting?
- (2) Would rearrangement of the workplace cut down distance?
- (3) Are the tools handily located?
- (4) Is the right tool being used?
- (5) Is the worker made overly cautious by unguarded tools?
- (6) Does the present method require awkward body positions?
- (7) Are materials within easy reach?
- (8) Are needed supplies conveniently at hand?
- (9) If more than one man is involved, are the efforts teamed?

- (10) Could movements be arranged to better results?

Remember that the present method is not the best method, but only the best possible one at the moment.

"Beating your Budget": In developing a budget the following recommendations were given:—

- (1) Go to the foreman and discuss various cost factors with them in terms which are familiar to any supervisory group.
- (2) Determine the business and production outlook to facilitate the scheduling of production volume.
- (3) Plan adjustments in production, since training and equipment requirements can change radically, as expansion or retrenchment is indicated.

To master the budget you must have clearly defined objectives, a will to investigate specific areas of the job, a pre-determined course of action, and a score-card on how you are doing.

"Counselling Your Men": Counselling for training, usually devoid of emotional influences, is relatively simple. Disciplinary counselling, on the other hand, is complex.

The non-directive type of counselling is based on the concept that the counselee, given enough time, is capable of gaining insight into his problem and reaching adequate solutions. Few people in industry, however, have the time to utilize this method. A combination of the directive and non-directive techniques will usually give satisfactory results, especially if the counselling material has been well prepared.

"Getting Available Co-operation": More extensive use of the many staff services available to foremen should be made.

Regardless of the size of your organization, there is always some one who will more than likely know more about a specific problem than you do. Such experts are only too happy to help out. The supervisor who operates alone makes his job all the more difficult.

"Portrait of a Foreman": The successful foreman is a complex individual possessed of the following attributes:—

- (1) Expert in human relations.
- (2) Able to maintain quality and quantity of the product.
- (3) A controller of costs.
- (4) Able to work within budgets.
- (5) Concerned with safety and accidents.
- (6) Concerned with proper use of supplies.
- (7) A user of records.
- (8) Co-operative in all company matters.
- (9) Anxious to use staff services.

Wedding Bells

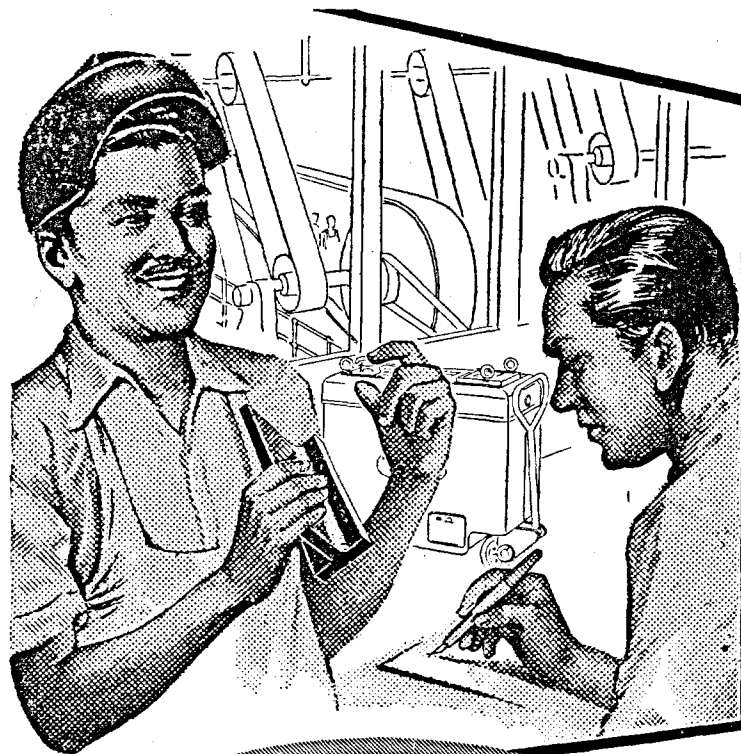


Miss Anne Miriam French, our receptionist, was married to Mr. Baldwin Aloysius Frantz at Our Lady of Lourdes Shrine, Perambur, on the 26th December 1956

Our best wishes to the couple

News from Switzerland

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A Swiss Curiosity

The railway bridge of the Furka-Oberalp Railway, built in one of the most mountainous regions of Switzerland, constitutes a curiosity which is probably unique of its kind in the world. Every winter the traffic has to be interrupted because of the snow. In order to preserve the railway installations during the bad weather, not only is the electric cable taken down, but the bridge, which is thirty-three metres in length, is also taken to pieces, with its rails and rack-work. Put away carefully, the bridge awaits the new season before being once more put into service.

The Time-table Robot

Zurich, Switzerland: A new automatic time-table in the Main Railway Station here can be consulted for information on any destination within Switzerland. All you have to do is to look up in the alphabetic list, drop a 20 centimes coin into a key-numbered slot and pick up a sheet from the official train-schedule, popping out of the machine complete with useful particulars on train connections between Zurich and the place in question, restaurants and hotels there as well as a special "bon voyage" sur-

prise-across-word puzzle. The Swiss Federal Railways intend to put up more time-table robots in other important railway stations throughout Switzerland.

Steam Locomotives will soon disappear in Switzerland

The network of the Swiss Federal Railways is now almost entirely electrified, the last sections where steam traction still exists being earmarked for a change-over to electricity in the very near future. The Swiss Federal Railways still have in their possession a technical reserve of about 200 steam locomotives, which they have kept available for service on the lines in case of necessity, should anything go wrong with the electricity, and also for reasons connected with national defence. Most of these engines, however, being more than forty years old, are obsolete from the technical standpoint and are uneconomical. It is intended to replace them, shortly, by machines provided with Diesel engines, which are very suitable for this purpose because they are also independent of the contact lines. Moreover, they have a very high output and thus a rolling stock of forty Diesel engines will replace the old steam locomotives, very advantageously.

The Anodic Oxidation of Aluminium

BY

O. SUTER

(In this concluding article, Mr. O. Suter, Production Superintendent-III, discusses the practical aspects of anodizing. It is regretted that the name of the author was misspelt in the last issue—Ed.)

PRACTICAL STAGES OF THE ANODIC OXIDATION

A. Conditions for oxidation to DS method

Electrolyte	20% concentration sulphuric acid.
Bath temperature	20° + 2°C.
Current	...1.5 A/sq. dm.
Voltage	...10 to 20 volts.
Time of voltage	30 to 40 minutes.

The following is to be said to the above-mentioned factors :

(a) Electrolyte—

When using a 20% concentration of sulphuric acid the resistance of the bath is only 10% higher than a possible minimum as would be the case with 30% concentration, but at 20% concentration the oxide is more stable and does not disintegrate to the extent as it would do in a 30% concentration.

It has been said that 20% concentration can be used with most success.

With weaker concentrations such as 10%, the oxide skin becomes harder and brittle, less porous and does not take paint so well ; in colour it is less clear.

The necessary voltage is 20 to 25 volts.

(b) Bath Temperature—

The disintegrating tendencies of the oxide during the electrolytic process increases with the bath temperature, resulting in harder films

and *vice versa*. The lower the temperature of the bath, the softer and more flexible the film becomes with better absorbing or "swallowing" capacities. The higher the temperature say at 30°C the disintegration tendency of the oxide is at such a stage that after 30 minutes in the bath the resulting film can be rubbed off.

(c) Current—

The oxide film thickness depends largely on the current used and processing time. By stepping up the current, processing time is shortened, but this results in higher voltage and the current might break through at some weak spot and "eat away" the metal. When stepping up current the cooling system cannot cope with the heat produced and bath temperatures rise beyond desired level.

(d) Voltage—

The voltage does not only depend on the temperature and electrolyte used, but also depends on the material to be oxidized. Under exactly the same bath conditions voltage must be stepped up a few points for Cu Alloys, as would be the case for pure aluminium or alloys without copper. As a result it is not advisable to put articles of different alloys into the bath at the same time. Different variations of conditions in the oxidation process can be summed up as follows :

I. Weak concentration of acid	...	10%.	} results in hard brittle films of low absorbing qualities.
Low temperature	...	15°C.	
Strong current	...	2-3 A/sq. dm.	
In conjunction with high voltage.		25-30 volts.	
II. Strong concentration of acid till...		30%	} gives soft films with high absorbing qualities.
Warm electrolyte till	...	30°C.	
Weak current	...	0.3-1 A/sq.dm.	
In conjunction with low voltage...		5-10 volts.	

B. Preparatory Treatment

Mechanical treatment given to the surface of the metal includes grinding, polishing, brushing or sandblasting. The chemical preparatory treatment follows by degreasing or pickling. Ground, brushed or sandblasted surfaces always have to be pickled before submitting to the bath, while polished surfaces need only to be degreased. However, if grinding precedes the polishing, it is advisable to pickle the material in between the two operations.

For pickling alkaline baths Na OH of 10% concentration at a temperature of 50-60° C is generally used; the time required is $\frac{1}{2}$ to 1 minute. After the pickling process the material must be well rinsed in running water. Following the rinsing it is advisable to submerge the material in a weak cold solution of HNO₃ and water of equal amount to neutralise any Na OH remaining on the surface. Here a rinsing in cold water must follow.

The degreasing is advantageously done in a 2 to 3% hot concentration of what is commercially known as P3 Almeco. Electrolytic degreasing acts very quickly. Here the object is placed as a cathode in the degreasing bath and with a current of 5 A/sq. dm. at 5-6 volts; The process takes only 1 to 2 minutes. For pre-cleaning badly soiled articles petrol or trichloroethylene (C₂-HCL₃) may be used.

The electrical circuit—Heavy metals placed at the anode of these electrolyte baths dissolve ; as a result wires, clamps and holding racks must be of aluminium or an aluminium alloy. Really tight contacts for the electrical circuit are important. The devices for holding the articles must be free of oxide after the process. This is done to advantage in the solution of Na OH and water. The articles to be oxidized should already be fixed to the wires or clamps before pickling or degreasing so that smudging through touching with the hand can be avoided.

C. After-treatment

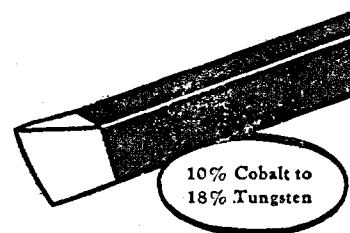
As has already been pointed out, the oxide films are more or less (always depending on the conditions of the bath) porous and as a result have different absorbing capacities. Therefore, it is possible to colour or impregnate the film. Without an impregnation any element could find its way to the metal through the pores and cause damage, even though the oxide film itself withstood the corroding elements. It stands to reason, therefore, that the highly resisting oxide film fulfils its task only when it has undergone a sealing-process.

(a) Neutralising—

Immediately after the oxidation, the articles are placed in running water for 10 to 20 minutes for rinsing. It is advisable to neutralise the remaining traces of acid still in the pores by using

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a solution of cold ammoniac of 1% concentration or sodium carbonate in a concentration of 1-2% as a bath for 10 minutes; afterwards rinsing in water is again essential.

(b) Colouring—

Generally speaking, there are two kinds of colouring substances; the organic and the non-organic. The organic paints are easier to apply than the non-organic, whereby the latter distinguish themselves by their purity of colour. Organic paints dilutable with water, spirits or oils have preference. Generally water soluble paints in concentrations of 1 to 3 grams per litre are used. In this case the articles can leave the rinsing bath and immediately be submerged wet into the 65 to 70°C solution of colour.

The non-organic colouring—(+P 168454 dated 12-5-1932) is more complicated and requires considerably more skill and practice than the organic colouring.

(c) Sealing—

Placing the articles for 10 minutes in boiling water is to an extent a sealing method to close the pores. This results in an expansion of the film and makes the layer thicker; however, after long exposure to dry air the layer shrinks back to a certain extent. A long-lasting sealing method is the acetic-sealing (sealing A + P 168153 dated 29-3-1933). This does not affect either the colourless or coloured oxide films when applied. The oxidized and coloured articles are put into the solution heated at 85-95°C and left for 20 minutes. As a result, insoluble hydroxide is formed in the process. This closes the pores completely and offers good protection.

Mystic Jewels of the Orient

By

K. V. RAO, Care-taker, I.C.F.

(In this article the author presents the mysterious properties, attributed to certain precious stones, collected from various sources—Ed.).

One winter evening as I was stepping into my house on return after a day's ordeal at my office, my cousin came out with the happy news of having received the long awaited cheque for Rs. 1,000 towards purchase of a diamond earring for my niece, a prospective bride. I joined him in his rejoicing over the success of our negotiations so diplomatically conducted and soon retired to discuss details about its purchase. For a person of average means, a diamond earring is of no mean importance and it certainly is a woman's cherished possession. My cousin is a shrewd man, of course with a good deal of characteristic calculativeness and some experience in examining diamonds also. After a series of microscopic examinations, we selected a set of 14 small stones (diamonds) and took them home to ascertain the reactions of our families.

That night, they were securely put in a small velvet bag, and kept below the pillow in my niece's bed. Next morning I could hear the noise of the ladies of the house heckling my niece with all sorts of questions about the dreams that she *must have had*. Quite rightly, as if in perfect corroboration, she burst out with the story of having had the pleasant darshan of Goddess Padmavathi accompanied by the full festivities and pomp normally seen during the Navarathri season. All agreed unanimously that the selection was an ideal one, and there was no doubt whatsoever that it will shower all good fortune on its privileged owner.

I was but a passive spectator to this peculiar mode of marking the selection, as it was quite

alien to me. It only kindled my curiosity to probe into the classics in an adventure of getting to know something more about the less known qualities of jewels and like precious stones. I turned the pages of all available books of topical interest on the subject.

In our land of privileged history, there are numerous anecdotes of precious stones such as diamonds that shed tears of pure water when the moon is full, pearls from the head of king cobra which make rain, rubies scarlet purple in tint which cure blood poisoning, emeralds which cure skin diseases, sapphires which afford a safe remedy to the wearer against attacks of anaemia and so on.

In the early days of the great famine of 1928, a common looking antique necklace belonging to the Royal family of Tanjore was sold in Sowcarpet. The purchaser, desiring to present it to his daughter-in-law on the New Year's Day, sent it for resetting. The jeweller on a closer look found that the solitary diamond pendant looked rather peculiar and suggested that it might be reset as a ring. The stone weighed 5½ carats. The owner kept it aside, out of greedy curiosity, perhaps with a view to consult other jewellers in the market and make some money if possible. A further examination did reveal that it really contained wonderful properties. It was generally of a bluish tint, but during day-time it took on a rosy hue. The moment it was brought under the direct rays of the sun it however turned blue. When taken to a dark room it gave out no light at all. He locked it up in a safe and retired. When he

opened the safe later in the evening, he was astonished to find it flooded as if with moonlight. He found the wad of cotton wool on which he had placed the jewel actually wet. As he held the gem, his own hand became wet and water appeared to pour out of the diamond. It was also observed that the diamond lost its lustre, when the moon waned, would give no light during the day and was moist only on full moon days and not moist on other days. Tradition has it that there were the sun and moon stones, which grew in darkness, only when the sun and moon respectively were shining. Probably the stone belonged to that variety.

The wonderful elephant pearl takes its origin from the land of Ravana. A director of the Colombo Museum reported his coming across a pearl weighing as much as 12 carats with brilliant hues, with a creamy golden tint predominating and supposed to be at least 2000 years old. He has also reported that when examined under powerful microscope the pearl appeared to have an ivory interior. It is also reported that under its almost transparent pearl film, one could see the form of a 'white elephant.'

There is the story of the storm pearl with mystic properties. It is believed to fall from the skies in the first cloud burst of the monsoon. It is of the size and colour of the pomegranate seed, shines like a flash of lightning and makes the possessor immune to storm accidents or other types of dangers of electrocution.

We have heard of the fully grown cobra having the Cobra Jewel under its hood. It is said to expose this only in darkness and when it intends to prey, the object being to entice toads, mice and insects near it by the brilliance of the jewel. It is also said that when not required, the cobra could have the jewel well concealed. When the cobra is enraged, the jewel is supposed to turn into poison. This being the case, considerable difficulty is reported in getting at such a jewel. There is a report of a zamindar near Poona

having come into possession of such a jewel and curing people bitten by snakes. When placed at the spot of bite the jewel is supposed to stick only at the poison and drop off by itself when the entire poison has been absorbed. The jewel once used is reported to be brought back to its originality by washing it with pure cow's milk.

A legislative Councillor of Bengal is said to be the possessor of a ruby, which under its shining surface, contained the image of a dark complexioned man, dressed in spotless white robes and white pugdi. Mystery surrounds the theory as to how the image came to be inside the ruby.

A Burmese King is reported to have been the proud possessor of a wonderful pair of ear-rings. The ear-rings had rubies in them which contained underneath their surface, perfect lotuses. These were said to have the power of curing blood poisoning.

The Maharaja of Bhudi had an emerald cup with a deep green tint. Pure water poured into the cup and kept under the sun for a period of three hours is reported to have the power of curing persons suffering from skin diseases.

A chieftain in the Bombay Presidency is reported to be the proud possessor of a mortar and pestle, carved out of whole sapphires. Medicines prepared with their use are reported to be a safe and sure cure for anæmia.

In the new Kerala State, there is an image of Ganesha, the elephant face of God cut out of ruby and images of Lord Narayan and Mahavishnu cut out of sapphires. These are being worshipped with great reverence.

The story of precious stones will run into pages and so I conclude this article by citing a few rare gems such as the Kohinoor diamond, the Peacock throne set with different varieties of precious stones, the diamond adorning Lord Varadaraja Swami of Kanchi, and the crest adorning Lord Venkatesha, of which a number of readers, I am sure, will be aware.

au revoir

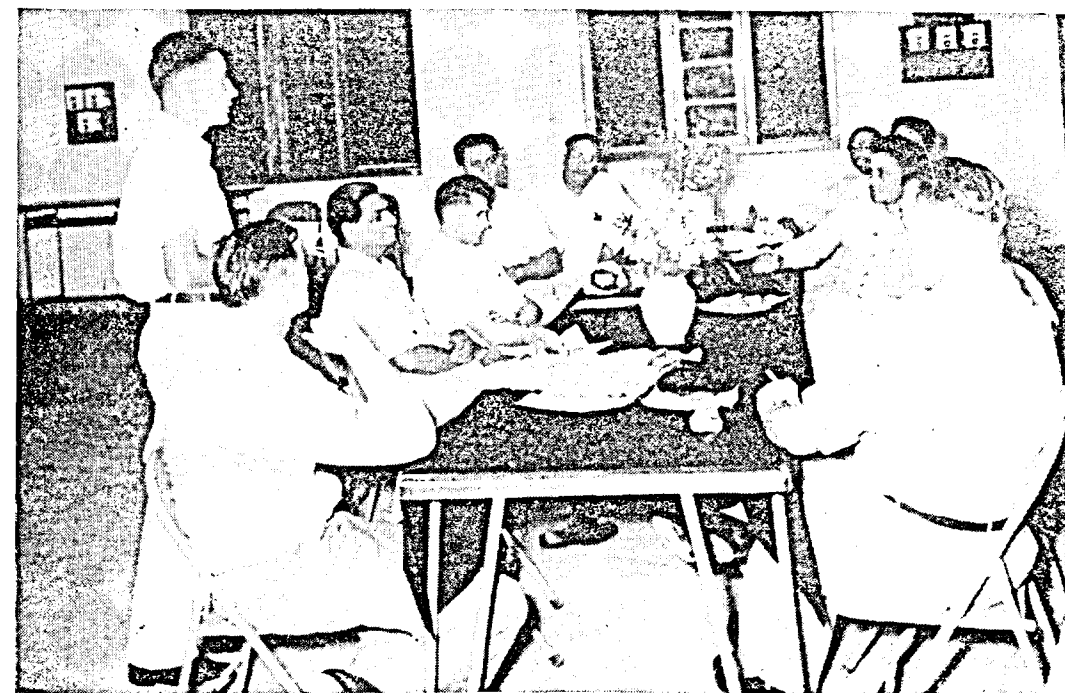
A pleasant function was got up by the staff of the Technical Training School on 7-12-56 to bid farewell to Messrs E. Frei and A. Gahler, Swiss Technicians who were returning to Switzerland on completion of the three year contract period and to Shri B.L. Narway who had been selected for the post of Asst. Mechanical Engineer and posted to Southern Railway. The function was held in the auditorium of the new school buildings and was attended by Shri K. Sadagopan, Chief Administrative Officer, Shri K. Swarup, Dy. Chief Mechanical Engineer and Mr. W. Braem, Chief Technical Manager.

After Tea, Shri K. Santhanam, Principal welcomed the gathering and referred to the good work done by Messrs. Frei and Gahler during the time they were attached to the Technical School. He said that Shri B. L. Narway

joined the then G.I.P. Railway as an Apprentice Mechanic in 1945 and that the fact that within a short span of only 11 years he had risen to the rank of an Asst. Mechanical Engineer showed the hard work put in by him and the diligence with which he had applied himself to work.

Shri K. Swarup, Dy. Chief Mechanical Engineer, who spoke next referred to his association with the Swiss Team since the signing of the Supplemental Agreement in 1953 and mentioned that he was sorry that Messrs. Frei and Gahler had to go away. He stated that the departure of Messrs. Frei and Gahler had been agreed to, taking into consideration the aspirations of the young Indian staff in the Factory. He thanked them for the interest they had taken in their work and assured them of a warm welcome if ever they were to visit the I.C.F. again.

Mr. Frei speaking at the party



With regard to Shri Narway, he said that there must be something really outstanding in him and that it proved that for the boys of the right type there was ample scope for coming up in life.

Mr. Braem speaking next recounted the day on which he bade good-bye to Messrs Frei and Gahler, the first two of the Swiss technicians to be sent to the Integral Coach Factory, on the eve of their departure from Switzerland. He said that he was not aware of the conditions in India and how they would shape here and that he bade good-bye hoping for the best. He added that experience had shown that the School had shaped well and exhorted the Indian staff, who were taking over, to continue the good work done by Messrs Frei and Gahler.

Shri K. Sadagopan speaking next paid a warm tribute to the manner in which the Swiss Car and Elevator Manufacturing Corporation Limited selected the technicians for the project and how each one of them, by giving his very best, had justified his selection. He spoke about the unqualified success of the collaboration and said that it was largely due to the able handling of the Swiss Team by the Chief Technical Manager, Mr. Braem. He added that it will be a

source of satisfaction to Messrs. Frei and Gahler, who were leaving, if the good work they had done was carried on and improved upon further. He added that the Technical School had been praised by everyone who visited it, and that the credit for the same was in no small measure due to the Swiss Technicians attached to the School. He wished them the very best in the years to come and extended a welcome to them to visit India and the I.C.F. again.

Speaking about Shri Narway, he cited the old proverb which says that "Nothing gives greater satisfaction to a mother than to hear that her son has done very well" and said that he felt just the same way when he heard of Shri Narway having been selected for the post of Asst. Mechanical Engineer. He concluded by wishing him a bright career.

Messrs. Frei and Gahler in their reply mentioned that they had a pleasant time during their stay in the Integral Coach Factory and thanked all those associated with them for the co-operation extended to them.

The function came to a close with a vote of thanks by Sri S. Chandran, Instructor in charge of the Fitting Department.

Thought Rambles

Music Mourns

By

S. R. SRINIVASA RAGHAVAN

With the demise of Shri Rajaratnam, a musical Attila has left the world never to return. Different sections of the Tamil people have mourned his death in different ways and, as is the custom, tributes have been paid to the man and the art he represented. The mourning is all right, but there is a strong feeling in me that the assessment of his place in the field of Carnatic Music has not hit the bull's eye.

The best article I read on Rajaratnam's capacities as a Nadaswaram player appeared in the "Swarajya." The writer had said that men like Rajaratnam have their early training under acknowledged masters and are conscientious in their fidelity to tradition, but that they build their own fabric of beauty and become in their own right, ancestors rather than descendents. This is the crux of the assessment of every superior artiste.

Somehow it is a natural passion among men to ruminate over past glories whenever a contemporary feat is performed. In fact, but for Rajaratnam's demise, so much of the literary out-pouring, lamenting over the art he had left behind, would not have seen the light of day and Rajaratnam would have remained a contemporary, receiving only a contemporary's share of the tributes that are his by right.

As the writer in the "Swarajya" said, the music of the Nadaswaram does not belong to the concert halls. It is definitely an art of the open spaces. To think about the individual that invented the instrument with its traditionally South Indian flourish is really a thing worthy of the trouble. The vocalist, the violinist, the

flutist, all these belong only to concert halls. With the limitations to the sounds they could produce, they are imprisoned within four walls, and their arts, however mellifluous they be, are as it were museum pieces.

As an instrument the Nadaswaram beats not only the human voice but also all other stringed and wind instruments. The music it produces, when handled by a supreme artist like Rajaratnam, soars like an eagle and embraces the four directions in one sweep. For an individual reclining at ease on his pial after supper in a thoughtful mood, when all the sounds of day had died down, Rajaratnam's music surely floats into his ears like the very rejuvenator and enthralls him to the core.

I have enjoyed the best expositions of Rajaratnam in the early forties of this century. Modernisation in every walk of life that stalks the earth around us now, had just started and had not yet spoilt the finer instincts in men. I remember days when I had walked four miles from my village in the company of other art-enjoying minds to the temple procession in which Rajaratnam was to perform.

There were two essential things about Rajaratnam's music. One was its unblemished purity. The other was its constant and successful attempts to cross the borders of the conventional. The only traditional part in Rajaratnam's music was the elementary basis over which all Carnatic Music rests. Otherwise, his music was all original. When Rajaratnam began to play a *Ghana Raga* like *Todi*, *Bhairavi*,

and *Shanmukhapriya*, one had always the feeling that one was about to enter with the player into magnificent and strange vistas that had not crossed his vision before. It was a continuous experimentation every time, ploughing new

fields and pastures new, at once strange to the hearer and the performer.

An eagle has passed away. Only the bits of memory of hearing the supreme artist performing his wonderful instrument remain.

Visitors to the I.C.F.

Members of the National Railway Users' Consultative Council visited the Integral Coach Factory on the 10th December 1956 and were shown round the Technical School, the Colony and the Shops. At the conclusion of the visit Dr. Mahadeo Chand, one of the members, remarked that he had been very much impressed and felt that the amenities provided for the workers were more than satisfactory.

A team of three Coal Mining Equipment Experts from the U.S.S.R. accompanied by Shri A. K. Datta, an Officer of the Coal Controller's Organisation, visited the factory on the 11th December 1956. They recorded in our Visitors' Book as follows :—

"A team of engineers of Coal Mining Machinery of the U.S.S.R. visited this Plant and are very grateful for the reception and assistance in explaining the technological processes of the Plant. We as well as you are very glad by having a technical progress in your country. We wish the officers and workers further successes in their activities for the welfare of India."

On the same day Mr. A. E. Talbot of the International Labour Organisation at Geneva also visited our works. He evinced keen interest in the Technical Training imparted in the Technical School and was pleased with

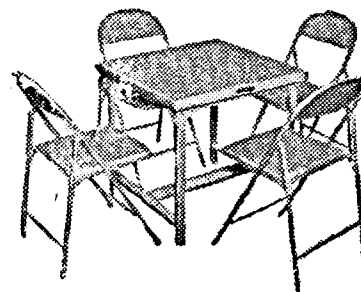
Mr. A. E. Talbot of the International Labour Organisation, Geneva, inspecting the exhibits in the Welder department of the Technical School



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the standard obtaining at the school. At the conclusion of his visit he was pleased to record his impression as follows :—

“I am particularly interested in Training and have been most impressed by both the methods and standards of the Training School. The maximum use is being made of the basic training given at the Government Centre and first class workmen will, I am sure, result from the scheme.”

Shri H. K. Bose, Judge of the Calcutta High Court, who was in Madras in connection with the Ariyalur accident enquiry, visited our works on the 12th December 1956. His impressions about our factory will speak for themselves :—

“I have been deeply impressed by the highly efficient and organised manner in which the factory is being run and the rapid strides with which its production is progressing. The little conversation I had with this intelligent group of young men has left no doubt in my mind that with this lot of efficient officials at its head, the factory will, in the very near future, attain a status which will evoke the admiration and respect of other great industrial nations of the World. It appeared to me from what I saw all around that the authorities in charge of the factory are not merely trying to train up good mechanics but they are sparing no pains to make them useful citizens of India. I wish the management complete success in their effort.”

Delegates to the conference of social work, conducted in Madras in December, 1956, led by Mrs. Mary Clubwala Jadhav, visited our works on the 14th December, 1956.

Shri M. P. Gandhi, Editor of “*Major Industries of India Annual*” visited our factory on the 13th December.

The most distinguished visitors to our factory during December, 1956 were their Holinesses the Dalai Lama and the Panchen Lama of Tibet who visited our works on the 19th December, 1956.

They were received by our Chief Administrative Officer, Shri K. Sadagopan. After explaining to them the details of the layout and the production programme in the Factory, the Lamas with their respective entourage were taken round the workshops, the Technical School and the Colony. At the shops, the Colony and the Basic Training Centre, their Holinesses were presented with bouquets. At the conclusion of their visit they were entertained to light refreshments. As a memento of their visit to our works, Shri K. Sadagopan presented two silver models of the Integral Coach to their Holinesses.

His Holiness the Dalai Lama was pleased to record in our Visitors' book as follows :—

“May this well kept factory record further progress.”

His Holiness the Panchen Lama was pleased to record that he was glad to visit the factory and was impressed with its working.

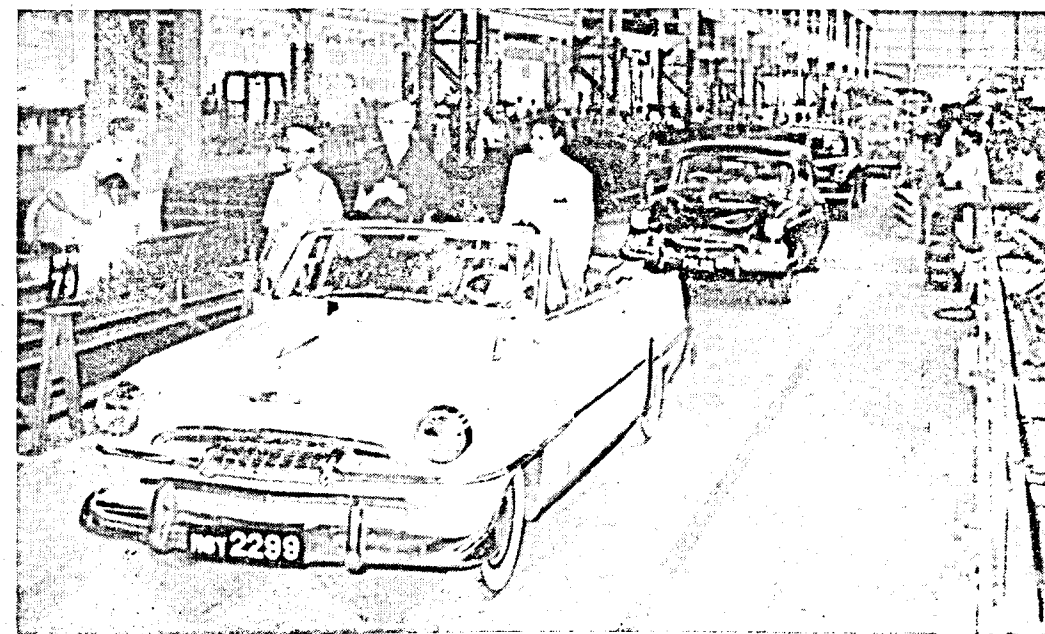
A cultural delegation from Czechoslovakia, led by Dr. Karol Bedrna, First Deputy Minister for Education and Culture in Czechoslovakia, visited our works on the 31st December 1956. They were shown round the shops and the Technical School.

On the 2nd January 1957 a Chinese Women's Delegation visited the factory. At the conclusion of the visit they remarked that the factory was a demonstration of the new born strength of the great people of India.



Miss Kuppammal and Miss Radha Bai of our office presenting buttonholes to Their Holinesses the Lamas

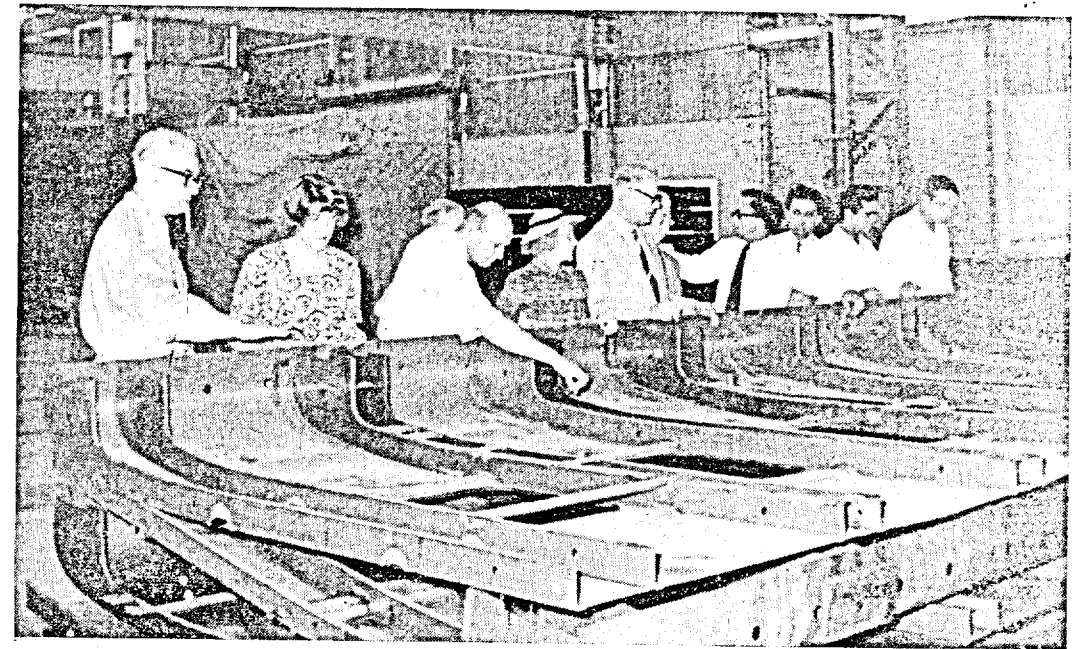
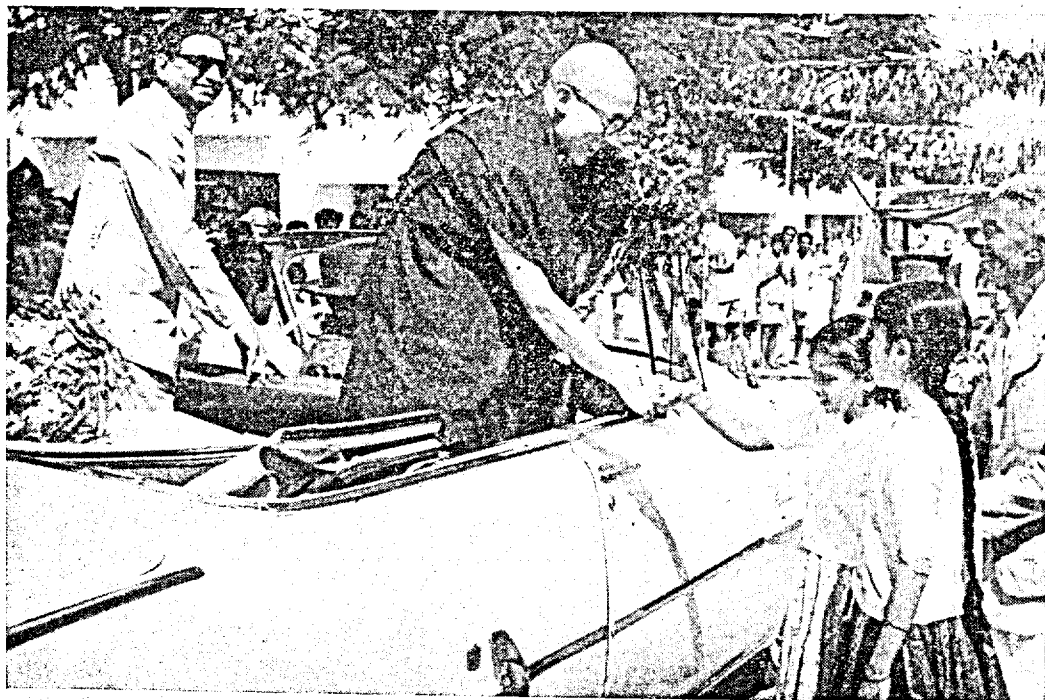
Their Holinesses the Lamas in our Workshops





H. H. the Dalai Lama watching an apprentice at work on a spot-welding machine

H. H. the Dalai Lama shaking hands with the little girl who presented him with a bouquet at the Children's Park in the I. C. F. Colony



The Cultural Delegation from Czechoslovakia

The Chinese Women's Delegation





Members of the Public Accounts Committee at the Workshops

Members of the Public Accounts Committee visited the Integral Coach Factory on the 3rd January, 1957. They were taken round the Technical School and the workshops. At the conclusion of their visit they expressed that their visit to the factory was fruitful and that they were impressed with the layout and the planning of the factory. They felt that

the most instructive feature was the training of skilled men with a view to absorbing them in the factory. They were of the opinion that the training imparted was sure to improve the efficiency of the factory and would lead to reduction in cost. They hoped that the factory would play an important role in the building up of the National Economy.

Mysore As I Saw It*

By

DILLI BABOO

Few States in India can boast of picturesque settings and attractions as Mysore. The State situated in the southern part of India, with altitudes ranging between 2,000 and 3,000 feet, has a salubrious climate throughout the year.

As in other States, a number of celebrations are held every year, but two celebrations stand out prominently and impress the visitor very much. The first one is the celebration connected with the Birthday of His Highness the Maharaja. The celebrations come off in May or June, depending on the day on which the Birthday falls and is marked by a State Procession in which His Highness the Maharaja takes part, followed by a retinue of State troops. The rejoicings continue for a week during which Races, Polo and Foot-ball tournaments and Animal Shows are held.

The second series of festivities are connected with the Dasara, which come off during September-October and last for over 10 days. The chief events are the Durbar held by His Highness the Maharaja and the colourful State procession on the tenth day of the celebrations when His Highness the Maharaja rides through the decorated streets on a richly caparisoned elephant to pay homage at the temple outside the City. After sunset, a torch-light tattoo is held in which the palace and state guards take part. On these occasions, the Palace, Government Offices and other prominent places are illuminated and at night the City looks the haven of a myriad lights.

A visit to Mysore will not be complete without a visit to the Chamundi Hills and the Krishnarajasagar.

Sri Chamundeswari is the tutelary deity of the ruling house of Mysore and it is after Her that the hill, standing like a guardian angel over the City, is named. One going up the hill will be struck by the beauty of the giant Nandi or sacred bull of the Lord Shiva, hewn out of a single boulder more than 250 years ago. At night, the sight of the City's myriad lights sparkling in the plain beneath, leaves a lasting impression on visitors.

Krishnarajasagar is 12 miles from Mysore City and here a mighty dam, 124 feet high and 2 miles long, impounds the waters of the Cauvery and forms the second largest artificial lake in the world. The charming Terrace Gardens, with their exquisite fountains, flower beds, terraces, foot-paths, channels and cascades, producing a wonderful rainbow effect, have been laid below the lake. The location of an image of the goddess Cauvery with a bowl in her hand, from which flows a continuous stream of water, indicative of perpetual beneficence and prosperity, at the entrance to the garden, is particularly apt and pleasing. At night, when the dam, the gardens, the fountains and the Cauvery niche are lit up with electric lights, a beautiful picture reminiscent of the fairyland of one's childhood is unfolded as if by magic and leaves an indelible impression on the minds of all who visit this place.

* Photographs are published on the last inner wrapper

Wild with the World

By

T. S. JAYARAMAN

Philosophers and politicians make their fame by dwelling on the unhappiness that prevails in this world. The one invokes the aid of Religion and Fate as a remedy while the other promises all sorts of Utopian things in the near future which ever remains a future. To this day there is no sign of even a single individual being completely free from unhappiness.

This thought was uppermost in my mind when one evening I was sitting in a secluded part of the beach and gazing upon the heaving sea. A stranger came and sat next to me. For a while neither of us spoke. Snuff started the conversation between us. Initially it was stilted and in indifferent tones, until there passed by a gentleman who belonged to the fast dwindling Royalties of the country. He was rather dandily dressed. My new acquaintance exclaimed "Look, that gentleman must be worth Rs. twenty and odd."

I was taken aback and asked "What do you mean? He is a big guy and is the brother of the Maharaja of.....and is worth a lakh of rupees."

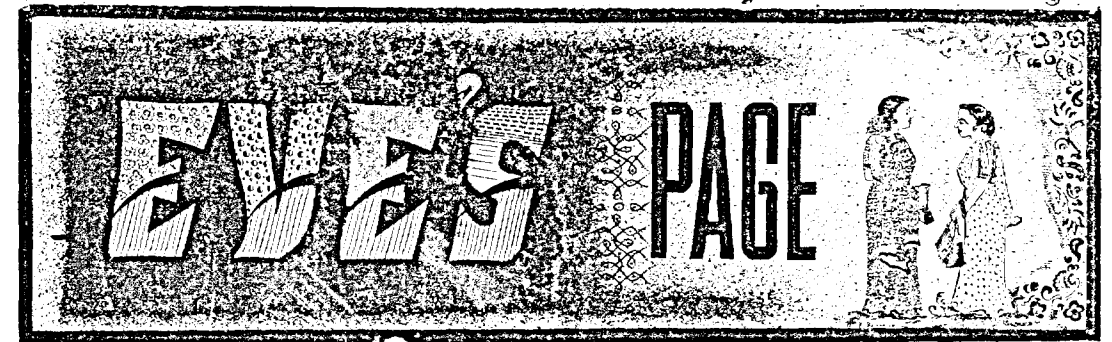
"Sorry Mr....." my friend of the moment said. "I was valuing him from my point of view.....I deal in second-hand clothes."

He was right. All of us measure each other from our own limited standards. This accounts

for the infinite shades of views of men and women. The business man looks at things from the ready money standard. The politician looks at things from the angle of vote collection. The priest assesses the characters of his fellow beings from their regularity of attendance at the temples and by their contribution to the charities. The employee likes and respects his employer in direct proportion to the emoluments and amenities he receives from the latter.

No single individual can, therefore, please at a time the innumerable grades and modes of valuation. The ideal and the perfect man does not exist. He remains and will ever remain an illusion. Even from those who are honest and upright there will be a good deal of misrepresentation, opposition and maligning.

"Why the deuce he cannot see the simple truth of my statement? What a cussed fellow he is not to perceive the benefit of my suggestions?" and so on, we all try to fly at each other's throats about trivialities. While doing so we forget that we are judging things from our own peculiar view point. We may say that each person who rambles through this world wears coloured glasses through which he or she estimates others and it is this which results in the prevalent unhappiness in the world; for each of us is impelled to make others see things through his glasses. Since obviously this is not possible, we get wild with the world.



The Adopted Child

By

R. KANAKAVALLI

It was Sabbath day. Not that it made any difference at all to Viji. Lying stretched out at ease in a lovely cushioned divan, with not a single care, he gave the impression of being one of the happiest of men. His tall, well-built body and fair, handsome, cupid-like face made many a girl's heart miss a throb. No one would guess that he had seen forty summers.

That was his birthday. He started musing about bygone days and was completely lost in it. Suddenly Sarla's sweet voice was heard vibrating in soft tones the familiar Bhajan songs. Viji got up with a start. Sarala, his wife, who was of a religious bend, was driving her husband by that very fact to become an atheist. After nearly fifteen years of married life neither of them had found bliss, nor were they yet blessed with a son. The irony of the situation was that both of them were crazy about children. Sarala had found refuge in religion; but Viji had no such relief. If anything, he was doubly bitter now, for, on the one hand was the emptiness due to the absence of a child in the house, and on the other his wife's gradual detachment.

Sarala had finished her midday Bhajan and came to invite her husband for dinner. "Viji dear, you will never guess the present I am going to give you for your birthday. Let us finish

lunch and then I will tell you all about it." So saying Sarala fondly chaperoned her husband to their lunch table. Lunch as usual was a silent affair, for Viji did not believe in chatting while eating. But he was curious about his wife's present. He knew that Sarala's presents were always well chosen and apt. "Well, it must be a good cigarette-case or some beautiful painting. Anyway let me wait" he mused. They got up from their silent meal but still the present was not forthcoming. Unable to be patient any longer, Viji blurted out.

"Sarala, where is the promised present? I am longing to see it. For Heaven's sake let me have it soon." She could not hide her smile and sweetly said: "It is such an unexpected one, Viji, that it is well worth waiting for. Just a minute, dear, and I will be with you."

Those few minutes seemed hours for Viji. But he had not long to wait, for Sarala soon joined him with a sweet smile, handed him a letter and said:

"Many happy returns Viji. And you will see what my present is if you go through this letter." It was indeed pitiable to see Viji's eager, expectant face become crest-fallen. But his face soon changed its expression, for the letter contained the glad news that on the same

evening, as desired by Sarala, one of his nieces was being sent to them for adoption.

Viji's happiness knew no bounds, for he loved to have children about the house and bringing them up. The crest-fallen look on his face was replaced now by one of ecstatic joy.

"My dear Sarala, how wonderful a present! It has been made all the better for my having expected it and when do we go to the station to meet the child?"

"At half-past six the train arrives. But Viji, you wanted to go to the picture to-day. Would you like to change your plans and cancel the idea?" questioned Sarala.

"What an unnecessary question, Sarala! Having the child now would certainly give me more happiness than going to all the pictures in the world. What do you say?" The pleased look on his wife's face made no answer necessary.

It was evening and the happy couple went to the station to meet their adopted child. They had not long to wait, for the train soon steamed in. Sarala stood still while Viji sped past her and in a few minutes had the lovely child, Uma, in his arms. The triumphant look on his face when he met Sarala was something that she had never seen before.

Uma, the sweet little child, was quite excited about the lovely car they drove in, the big beautiful, furnished bungalow and more than everything, her foster father who made such a fuss about her. He went on talking to the little girl, telling her about the things she would have, the fine places they would visit together, the delicate dishes she would eat and lastly he said:—

"You know, Uma, darling, you must call me Daddy, hereafter. Will you? From to-day onwards you are our little daughter?"

The little child stood up to their expectations and adjusted herself to her new parents very quickly.

Days rolled by. Uma, the adopted girl, unconsciously began to love her new foster parents. Her slightest wish was law to them. The presents and affection which the fond couple showered on her were not wasted. It created a warm, genuine and unrivalled attachment between the child and the parents. But deep down in the very bottom of her heart, Uma was longing for her own home in Madras, the company of her sisters and brothers and her mother's love. The usually good natured sweet child became moody, lost weight and was a source of much anxiety to both Sarala and Viji. Uma's sudden breakdown, her distracted sleep, etc., were inexplicable to them. Unable to stand this mental strain, the child developed a high temperature and became delirious. Sarala rushed to her husband.

"Viji, hurry up and go to the doctors! Our dear Uma is running a high temperature and I am frightened."

"Yes dear, I will go immediately. Take care of the child till I come back." So saying Viji rushed to the hospital.

Sarala went back to Uma's bed-side and kept her soft cool hands on the child's hot forehead. In her feverish doze, Uma non-coherently talked about the home in Madras and her brothers and sisters. Suddenly it flashed on Sarala's mind that the child must be terribly homesick. Without wasting a minute she telegraphed to Uma's mother, Kamala to come immediately. By then the doctor came and was by the child. He examined the child carefully and said: "Your Uma has flu and is very weak. I shall give her an injection and later some tablets. She will soon be alright. There is nothing much to worry about."

The relief on Sarala's and Viji's face was obvious. Sarala turned to her husband quite understanding how bad he must have felt till then. Simultaneously Viji realised that whatever her faults, he would always find in

Sarala, his wife, a safe haven and refuge. She gently broke to him the news of Uma's homesickness and the necessity of her going back home.

"Uma's mother will be here to-morrow and I am not sure whether Uma would not like to go back with her. After all, we have no right to separate a child from the rightful mother, is not it?"

The thought of separating from his beloved child drove Viji nearly mad. He had come to love this child dearly. The emptiness and void in their home had been filled up, or so he had thought. Moreover, Uma, their darling, had somehow brought about a re-union of the affectionate feelings of Viji and Sarala. Their common love and interest in the child had brought as a corollary renewed love for each other and now nothing on earth could destroy it. They ought to be thankful to Uma throughout their life. So mused Viji. Of course he would definitely miss his adopted daughter, but anyway he had his Sarala at least. He was confident now that she would always be true and loving to him. Her past detachment and her callousness to him had vanished. God had been kind to Viji, for He had made Sarala realise that her first duty in life was to her husband and that she should always act according to his wishes. These thoughts flashed across Viji's mind and now he did not mind so much the going away of the child.

A couple of nights wore on. Uma's fever had come to normal. The news of her mother's coming brought forth a radiant smile and her happiness knew no bounds.

"Is mummy reallling coming? Can I go back home with her?" were questions to which Sarala had to answer a dozen times. It worried her heart to think of the happiness

which she had kept back from the child all these days.

Kamala, Uma's mother, did not take long to come. "Uma, darling, how are you? I have been thirsting for you all these days" so saying she embraced her child. Uma was talking incessantly, telling her mother about her wonderful foster parents, their loving ways and kindness. But she made it clear that she wanted to go back.

Sarala and Kamala understood each other perfectly, and so, Sarala made no objection when Kamala said that she would go back with her child.

"I know you will think I am awfully ungrateful taking my child back after all that you have done for her. I am sure I can never hope to give her the comfort you have given her. But please understand a mother's feelings for her child and excuse me" was all she said.

It was night. Uma's luggage was packed and was ready to be dispatched. The chauffeur had brought the car to take Uma and Kamala to the station. The only thing now was to bid good-bye. Uma wept bitterly now, for even that small child felt that she was doing a great injustice to people who had treated her so well. Viji and Sarala smothered her with their kisses.

"Good-bye Daddy and thank you both for everything. I shall never forget you," so saying Uma got into the car which was waiting for her.

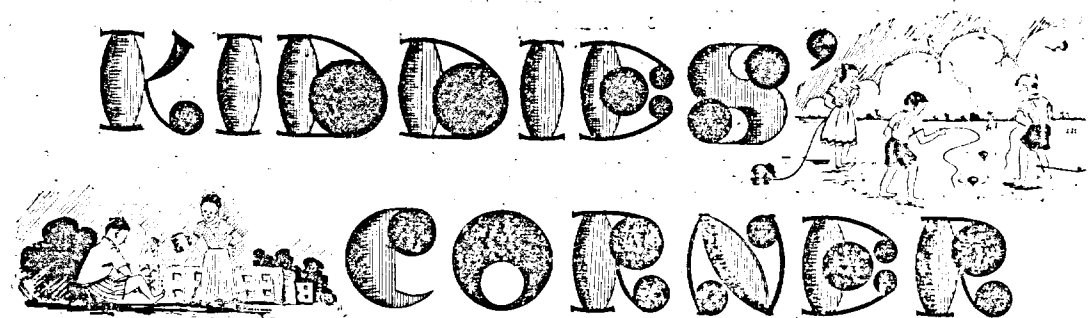
Once again Sarala and Viji were left alone. But Sarala would not be pessimistic. Through her tears she managed a smile and coupled her hands with her husband's and they walked in, obvious of everything save the fact that they were all in all to each other.

Southern Railway VISIT SOUTH INDIA AND SEE

BADAMI	Famous for Jain excavations and cave temples of the 6th Century A.D.
BIJAPUR	For the Gol Gumbaz, a perfect whispering gallery and the second largest dome in the world.
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HUMPI (Vijayanagar)	Marvellous ruins of the old capital of the Never-to-be-forgotten Hindu Empire, Vijayanagar.
KODAIKANAL	The charming hill station near Madura.
MADURA	Capital of the Ancient Pandya Kings, noted for its great Meenakshi Temple.
MYSORE	The city of lights. The enchanting Brindavan Gardens are only ten miles from Mysore.
OOTACAMUND	The queen of hill stations in India.
RAMESWARAM	For a holy bath and its famous temple.
TIRUPATI	The seat of the Lord Venkateswara or Balaji. Here every day is a festival day.
TRICHINOPOLY	Noted for its shrines at Srirangam and Tiruvanaikaval.
TRIVANDRUM	For its famous art gallery, museum and zoo.

MADRAS

Chief Commercial Superintendent



The King and the Beggar Maid

BY

HARSHA

Long, long ago, there was a king named Mohammed Kadar who ruled over the kingdom of Syria. He was an ideal ruler, keen in looking after the welfare of his subjects. He attended personally to almost every detail pertaining to the work of governing his people, because he was anxious that justice should be rendered to his people.

He was young and active. Daily he used to go round the city, in disguise; mostly during nights, to personally see that peace reigned in the city and people lived without fear or worries.

In one of these rounds he came across a mother and a daughter, who had their place of rest in the outskirts of the city under a large banyan tree, near the big mosque. He found that they were beggars and that every day they returned late at night to cook and have their meal.

The mother was old and the daughter was young and beautiful. The king was wondering about the ways of God, who had in many instances combined beauty with poverty and ugliness with riches. One of those days, he hid himself behind a pillar of the mosque and heard the conversation between the mother and daughter.

"I have become too old, Rehana," the mother was telling, "and I fear I may not be able to come with you for the daily rounds. But you are very young and I am a little timid about letting you go alone on rounds."

Rehana said, "You need not follow me, mother; no harm will come to me. I am confident about that."

The king thought about the predicament of the old lady and the beggar maid and walked back to the palace in contemplation.

The next morning, he ordered one of his old servants to go and remain with the beggar family until further orders, helping them in all possible ways. He instructed her not to let the beggar family know who she was, and under whose bidding she had been sent to help them.

The servant was a little surprised, but did as she was ordered. The beggar family were happy about the help that came to them from an unexpected quarter. The mother and the daughter thought that it was Allah's doing.

The king remained satisfied for some time, but at a particular stage he felt miserable about the position in which the whole life of the maid had to be conducted. He found that apart

from sympathy, he loved the maid. He decided that he would marry her and bring her to the palace, to remain there as his queen.

The next day when he went for his rounds at night, disguised as usual, he went to the mother and sought the hand of her daughter in holy wedlock. The mother was a little surprised at the stranger's request. The king did not reveal his identity but told them he was a decent merchant of that place. The mother kept quiet, but the daughter spoke: "We are beggars and you are a rich merchant of this place. However much we may try, we cannot go together. I am not sure whether I love you or not for your kindness, but I beg to decline your offer."

The king was greatly disappointed. He re-

turned to his palace but could not sleep the whole night. He felt that all his kingdom, and wealth and power were nothing before the dignity of that beggar maid. He decided to relinquish his kingship and marry the beggar maid at any cost.

The next morning he called all his ministers together and told them that he was going to leave the country in their hands. That same night, he donned himself as a beggar and went to the banyan tree in the outskirts of the city beside the mosque. In the course of a few days he got into the confidence of the mother and the daughter and finally married Rehana, the beggar maid. Well children, what do you think of the deed of king Mohammed Kadar?

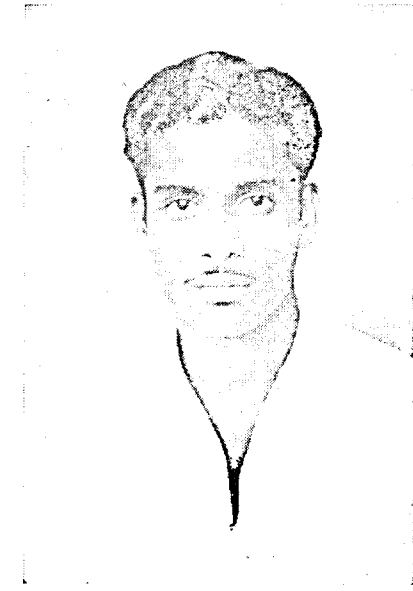
OUR FAMILY



MUNUSWAMY KOTHANDAPANI BHASKARAN, Captain of the ICF Hockey Team, can very well be called a "true chip of the old block" as his father was an excellent hockey player in his days and brought many laurels to the Madras State.

Born in Cannanore in 1928, he had his early education in Madras and right from his younger days has shown an aptitude for hockey. From 1948 onwards he has been representing the Madras Hockey Association in the various tournaments held in India.

He joined the Integral Coach Factory in January, 1956 as a Progressman in the Deputy Chief Mechanical Engineer's Office. He is a very popular leader and has led the ICF Hockey team with distinction. Besides Hockey, he is good at Badminton and Table-tennis.



PERUMAL NAIDU JANAKIRAMAN, Captain of the ICF Foot-ball Team, is a versatile sportsman. The fact that the ICF Team won the Presidency Foot-ball Cup is itself a tribute to his ability as a Captain.

Born in Rangoon in 1933 he came over to Madras in 1939 and had his education here. He represented the Pachaiyappa's College in Foot-ball, Hockey and Boxing. He has represented the Madras University in Foot-ball and Boxing and led the University Boxing Team to success in the Inter-University Championship in 1953. He also represented the Combined Railways in the exhibition foot-ball matches played at the end of the Inter-Railway Tournaments in 1954 and 1955. He has a keen sense of anticipation and he is reputed for his robust tackling and fine heading.

He joined the Integral Coach Factory in September, 1954 as a Progressman in the Production Engineer's Office. By his work he has shown that he is a sportsman both on and off the field.

Obituary

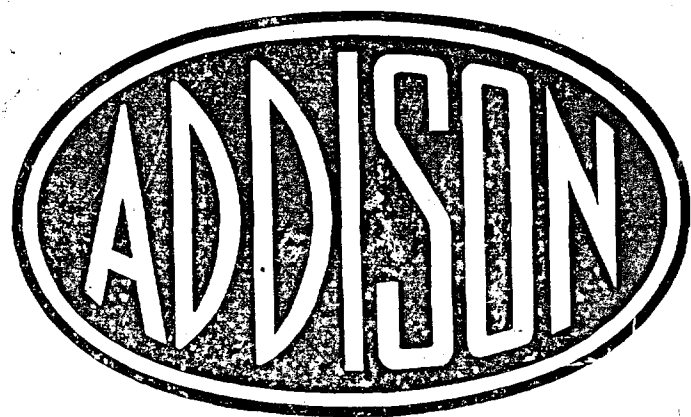


We regret to record the death of Shri A. M. Kannabiran on 10-11-56 at his residence in Perambur.

He joined the ex. M. & S.M. Railway as an Apprentice and by sheer dint of merit rose to the rank of a General Foreman. He showed special aptitude for repair of Diesel Rail Cars and was in charge of the Diesel Rail Car Repair Shop at Cocanada, till his retirement.

After serving for 2 years with the Government Electricity Department, he joined the Integral Coach Factory on 17-7-54 as Foreman of the Plant Park. He retired from the Integral Coach Factory on 1-3-56 and during this period he endeared himself to one and all of his subordinates as being a capable worker and a sympathetic leader.

Our heartfelt condolences to the bereaved family.



ENGINEERS' CUTTING TOOLS

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1. A worker to whom X rupees and Y annas were due, received by mistake Y rupees and X annas, the figures having been inadvertently transposed. He spent 2 rupees and 9 annas and found that still he had double the amount he should have received with him. What was the amount due to him ?

2. A bar of steel weighs 40 lbs. Neglecting the wastage in cutting, how can you cut it into 4 pieces to make use of it in weighing any weight from 1 to 40 lbs. (both inclusive) ?

3. Some years ago Shanti's brother's age was twice her age and her father's age was twice her brother's age. Nine years from now her brother's age will be twice what her age is now and five years from now her father's age will be three times her age now. How old is Shanti ?

4. What will be the actual time in a clock when each of its hands is pointing to a minute division on the clock face, the minute hand being four minutes divisions ahead of the hour hand ?

5. If 100° centigrade represents 212° in Fahrenheit and 0° centigrade represents 32° Fahrenheit at what temperature will the readings be same ?

6. Four teams—the southern, eastern, northern and western—meet each other in Association Hockey Competition. Each team plays each of the others once. Two points are awarded for a win and one point for a draw. The northern team scores five points, the easterners three points and the westerners

one point. Eleven goals in total were scored and of these five were by easterners. The easterners defeated the westerners by 2 goals to one. What was the score in the game between westerners and northerners ?

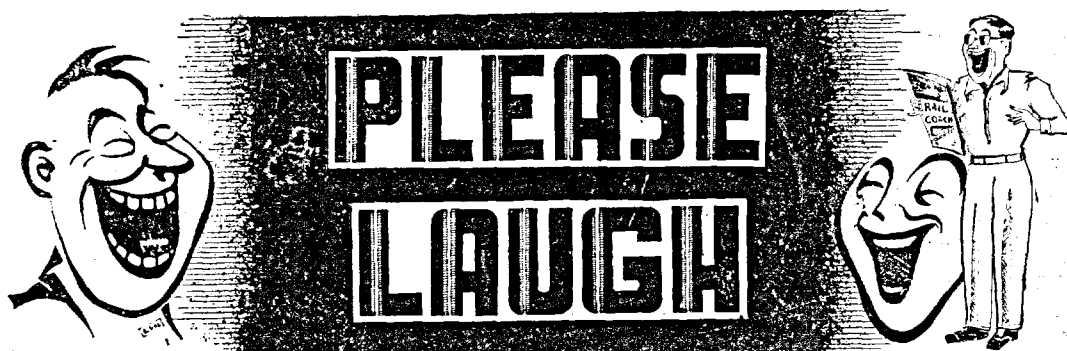
7. Somu having a great belief in his luck once decided to gamble on the toss of a coin. Starting with Re. 1 he betted half that amount on the first toss. Six times in all he did this, each time betting half the money he had then. He won three times and lost also thrice. Did he win or lose at the end and how much ?

8. A courtyard which measures 14 yards 1 foot 11 inches by 6 yards 5 inches is completely paved with square tiles of the largest possible size. How many tiles are there ?

Solution to last month's Brain Teasers

1. 14 leap years.
2. A little past 7-38 hours.
3. The ages are 23, 29, 35, 37 and 41.
4. Speed of Train A — 45 miles.
Do. B — 30 miles.
5. 45.
6. $A = 6$ $E = 7$
 $B = 3$ $F = 0$
 $C = 4$ $G = 5$
 $D = 2$ $H = 8$

(The first all correct solution was received from Shri T. K. Balasubramanian of the Accounts Department, Integral Coach Factory.—Ed.).



1. After the dog show was over Papa asked the youngster, "Well Lalloo! Which among the crowd fascinated you the most?"

The bright little Lalloo unhesitatingly replied,

"The young one which came in the end."

"What" exclaimed the surprised father, "You mean the plain young one which was all the while wagging its tail mischievously?"

"Yeah, Papa", answered the cool little Lalloo, "I like the one with the happy ending."

2. The first man while talking to his neighbour said, "I wanted to go to the cricket match to-day but you see how difficult it is to catch a bus, fight in the crowd for a ticket, secure a proper seat and bake in the scorching sun missing the lunch also, hence I dropped the idea."

"Even I am prepared to undertake all these troubles," replied the neighbour glumly, "my wife won't let me go."

3. The captain grew very angry with his Lieutenant and said, "Look here, if you were in civilian life would you come to me with such a frivolous complaint?"

"No, Sir," came the reply, "I would send for you."

4. Ahmed had once an unhappy task to perform, in informing his pal's accidental death to the widow. He wandered aimlessly trying to evolve a good method of breaking the news to her. Finally he made up his mind and called on her.

"Mrs. Mistry!", started Ahmed, "Isn't it to-day the agent calls for the monthly premium on Mistry's life insurance?"

"Yes, it is," answered Mrs. Mistry in a surprised tone.

"Well now, a word in your ear," whispered Ahmed.

"You can surely snap your fingers at the agent this time when he comes."

5. The sergeant was explaining the finer points to the cadets on the firing range.

"This type of bullet," he said impressively, "will penetrate into eighteen inches of solid mud, so remember to keep your heads down."

6. After the parade in a function was over the Colonel asked the Captain, "What is the idea of parading all the big men in front of little men?"

"Well, Sir," explained the Captain, "It is the mistake of the Lieutenant, Sir. He used to run a fruit shop before joining service."

(Continued on page 49)

Personnel Notes

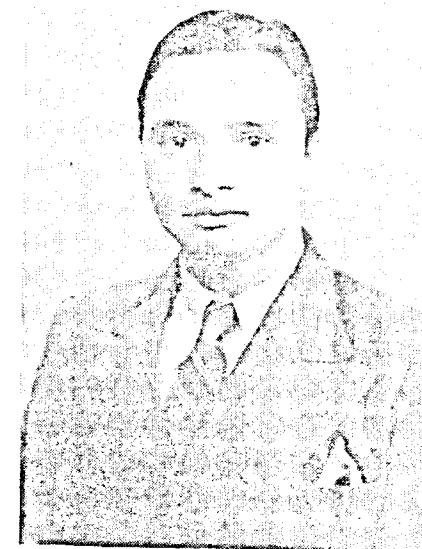
Our Felicitations to:

(1) Shri Achuthan Nair, Senior Clerk in scale Rs. 160—220, Dy. C.O.S's. Office, promoted as Chief Clerk in scale Rs. 200—300 in the same office with effect from the 11th December 1956.

(2) Shri D. Selvan, Chargeman, 'C' Grade in scale Rs. 150—225 promoted as Chargeman, 'B' Grade in scale Rs. 200—300 with effect from the 3rd December 1956.

Our Welcome to:

Shri G. M. Gadgil, Works Manager, Central Railway, posted Mechanical Engineer, Temporary Furnishing, I.C.F. with effect from the 3rd December 1956.



Shri G. M. Gadgil

(Continued from page 48)

7. In a hospital corridor a husband was pacing nervously up and down. Obviously his wife was in the delivery room. Finally when the nurse showed up her face and said "It is a girl."

"Oh! Thank God!" the new father

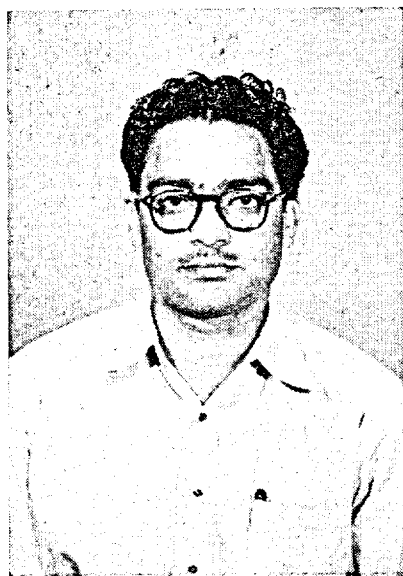
said in a joyful mood.

"Why are you so thankful? It is only a girl" said the puzzled nurse.

"Because," said the man, "at least my daughter will not have to go through the agony I have gone through."

Personnel Notes—(Contd.)

Our best wishes to:



Shri Baboo Lal Narway, Instructor in grade Rs. 300—400 transferred to Southern Railway on the 18th December 1956 for being posted as Assistant Mechanical Engineer.

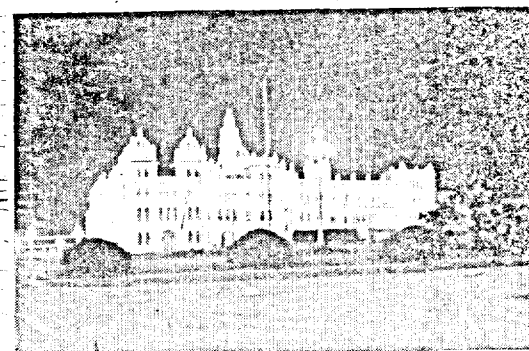


Mr. E. Frei, Swiss Instructor attached to the Technical Training School returned to to Switzerland on completion of the contract period.



Mr. A. Gahler, Swiss Expert attached to the E. Shop returned to Switzerland on completion of the contract period.

MYSORE SIDELIGHTS



The Palace, Mysore



The Brindavan Gardens at night



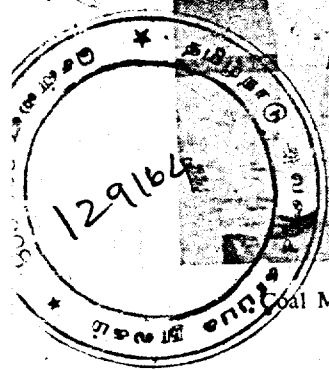
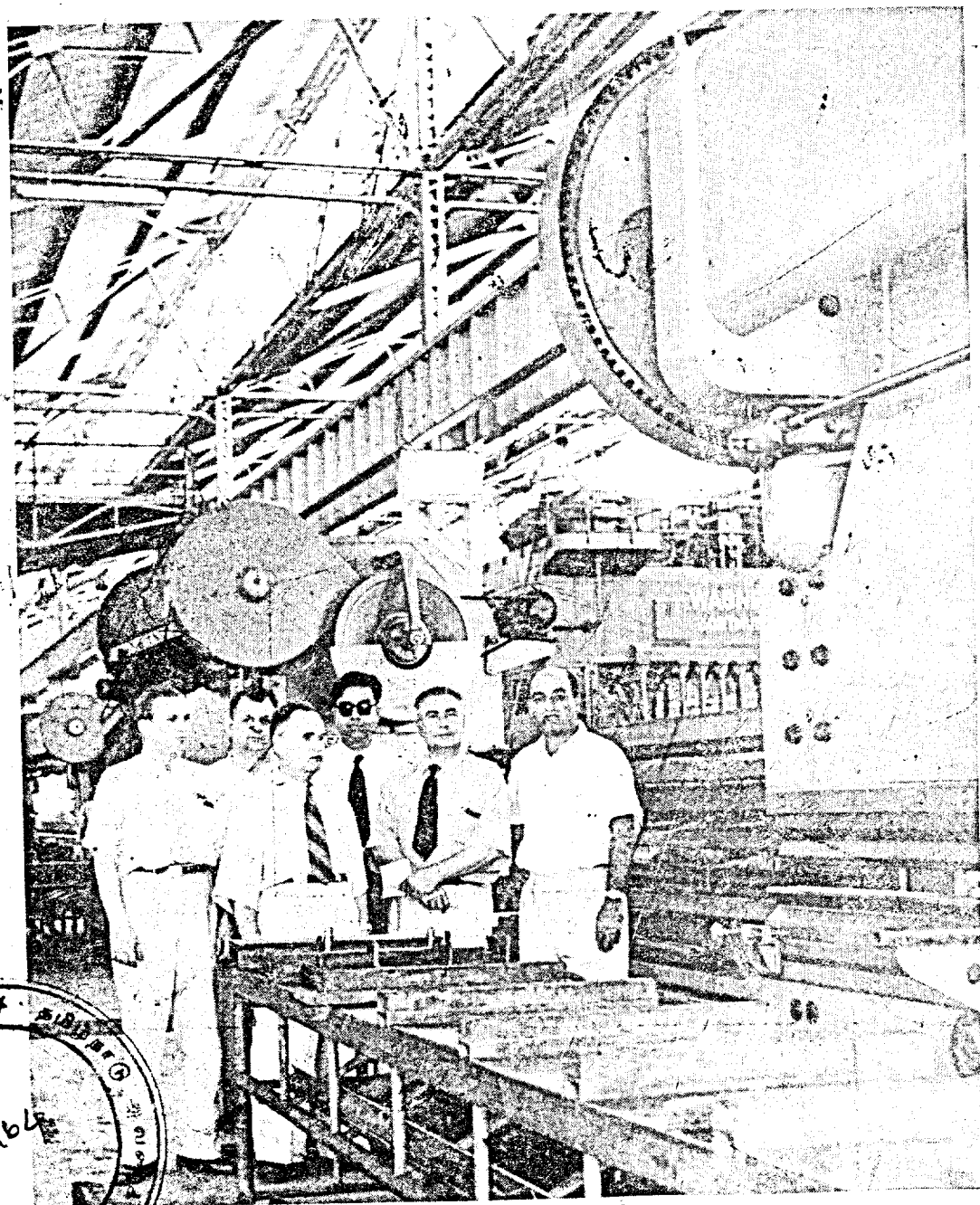
Goddess Chamundeswari



The Nandi on the Chamundi Hill



The Brindavan Gardens, another view



Coal Mining Equipment Experts from the U.S.S.R. visited the I.C.F. on 11-12-1956

JL
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