

638

The South India

Motor Owner.

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NO. 1 to 3

Jan to March. 1937

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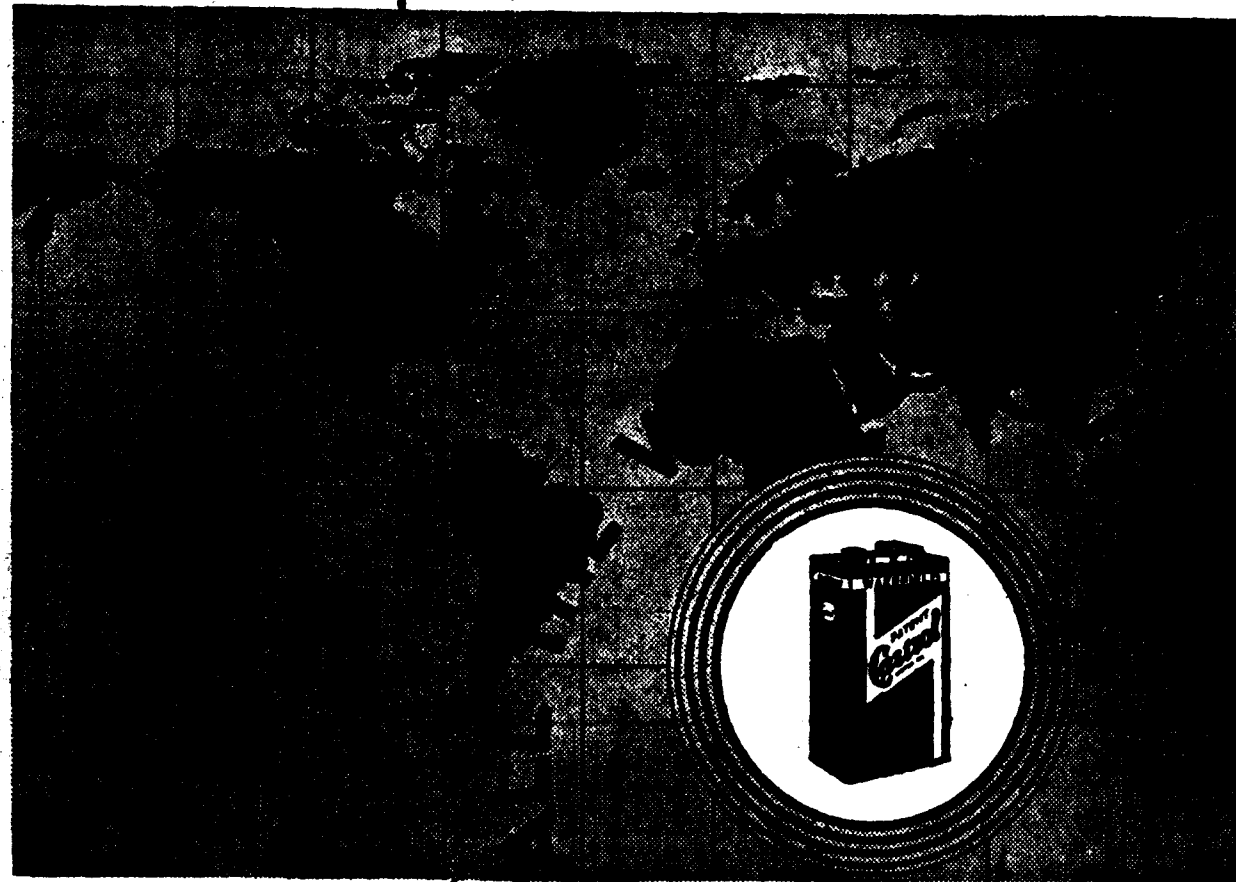
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JANUARY, 1937

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The Official Organ of the
Automobile Association of Southern India



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JANUARY 1937

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NOTES AND NEWS FOR A.A.S.I. MEMBERS

Payment of Subscriptions by Bankers' Orders

OLD members who have issued Bankers' orders for payment of their annual subscriptions in the name of the "South Indian Motor Union" are requested to give instructions to their Bankers to change the name into the Automobile Association of Southern India.

Road Information

The weather having been favourable throughout the month there is nothing unusual to report under this heading. Motorists who have toured by road during the Xmas vacation have been fortunate in not having to negotiate flooded unbridged rivers.

Madras-Ranipet Report.

Further to our report on the condition of this road in a previous issue of this journal, a member who has been on the road recently writes as under:—

"The road is bad in parts but the stretches are not very long, and repairs are going on over sections which may have been worse. I shall not hesitate to come back without much thought of inconvenience. A couple of years ago the portion Poonamallee-Sriperambadur was far worse than today. We arrived at Chittoor in just 4 hours and took the same time from there to Bangalore. On the whole certainly the condition throughout is not nearly so good as to allow of 6½-7 hours running through easy and pleasant."

Malabar-Coimbatore-Trichinopoly Road.

It has been reported by a member who has recently toured over this part of the Presidency that the roads in Malabar District are in excellent condition generally but on entering the Coimbatore District from Palghat the road was found to be deplorable—particularly the 14 miles into Coimbatore Town, and it is not possible to attain a speed of over 20 miles per hour without danger to the motorist's life and car.

Between milestones 120 and 115 on the Coimbatore-Trichinopoly road, the conditions are so bad that warning notices have been erected saying "Bad Road—go slow".

Madras-Bombay Trunk Road.

The roadway over the Bridge across the Hagari River at mile 316/1 to 4 of the above road will be closed to traffic from 10th January 1937 as cement concreting the surface of this roadway is to be commenced from that date. Arrangements have been made to divert all traffic across the Hagari river from the village of Paramadevanahalli.

Itineraries

During the month of December 150 route itineraries were issued covering a total distance of 50,082 miles.

In this connection an appeal is made to members who require route itineraries to give the Association sufficient time to obtain the latest information from its Honorary District Representatives and to prepare the itineraries: the latest date on which information is required should also be mentioned.

was more traffic (plus 18.2%) also on the Hastings route, attributable to the growth popularity of Greatstone and Camber Sands.

The six points of maximum traffic were:—

Census Point and Route	Total Vehicles	Change 1935-36 %	Change 1934-35 %
Callowland (Watford By-Pass) ...	111,197	50.6 inc.	16.0 inc.
Staines Bridge (Southampton Road) ...	99,372	6.1 dec.	18.3 ..
Mere Corner (Warrington Road) ...	98,812	15.3 ..	2.5 ..
Esher (Portsmouth Road) ...	98,459	6.0 ..	15.6 ..
South Mimms (Barnet By-Pass) ...	94,053	18.8 ..	27.2 ..
Leagate (Preston Road) ...	87,086	16.5	25.0 ..

Private Car Traffic.

The yearly fluctuations in the volume of private car traffic are greater than in other classes. In the Home Counties, private cars increased by 3.5% compared with the national increase of 7%. There was more traffic to East Anglia and the North. A definite diversion of southward traffic away from the Portsmouth Road and towards Worthing is recorded. North-Western car traffic through South Mimms was 23% less, but even here cars passed at the rate of 1,773 an hour, with an average time-interval of $4\frac{3}{4}$ seconds per car. The 'headway' or time gap for total traffic was 3 seconds.

The increase in private cars through Banstead (40.8%) is influenced by growing London-Brighton traffic. This route is slightly the longer but has less 30 mile an hour restriction stretches.

There were 16 points where car traffic exceeded a total of 35,000 varying in rate of flow from 500 to 1,000 cars per hour.

Observers of the Automobile Association have also taken recently a night census of traffic at a number of busy points.

Membership

44 new members were enrolled during the month of December 1936.

These new members were introduced by the following:—

2 each from Messrs. A. W. Hopton, U. R. Rao, K. Govindan, A. P. Madapa, Major A. W. Waters, M.B.E.

1 each from Messrs. S. F. Leslie, V. Doraisamy, A. E. Jack, C. B. Beadnell, P. Appu Nair, T. R. Bushanani, Rev. H. K. Moulton, Rev. S. D. Bawden, The Ocean Accident Guarantee Corp., Ltd., and C. H. D. Leonard.

The remaining 24 were enrolled by the staff.

LIST OF A.A.S.I. PUBLICATIONS

	Rs. A. P.
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"This Motoring" The Romance of the A. A. by Sir Stenison Cooke	2 0 0
List of Petrol Depots in Southern India	0 4 0
Great Britain and Ireland 1936 (A list of the principal events during 1936 with information for visitors).	
Touring in Great Britain and Europe 1935-36 A. A. publications ... Free to Members only	
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Prepaid Telegrams

Members are asked to note that the minimum charge for a telegram of twelve words or less is annas thirteen and that this sum should be paid in the case of reply-paid telegrams.

Bangalore C. & M. Station M. V. Taxation

Motorists will be glad to learn of the recent introduction by the Authorities of quarterly licenses in addition to the existing half-yearly and annual licences.

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For every Car 15 cwt. and over and Motor Bus		15 0
For every Car under 15 cwt.		8 0
For every Motor Cycle		4 0
Do. with side-car		5 0

Short Term Taxation in South India

Motorists are aware that the Mysore and Madras Governments have already adopted the system of issuing 7-day and 30-day licences to visiting motorists.

Coorg is the only other province in South India which levies a separate provincial tax on cars and it is hoped that it will also come into line with Mysore and Madras in this connection.

A. A. London's recommendation for a new signal for Motorists when the luggage is loose or the rear light fails

The need for some accepted and uniform method of communication between drivers of motor vehicles has been apparent for some time past. Hitherto there has been no recognised means whereby one motorist can signal to another to stop, when for instance luggage—or load—is observed to be working loose, a wheel shows signs of becoming detached, a door has swung open unknown to the driver or a rear light has failed.

To meet this need the Automobile Association, after consultation with the Ministry of Transport, suggests the following experimental signals:—

1. When it is desired to attract the attention of a driver who has been overtaken hold the forearm vertically with the palm to the rear, fingers and thumb close together and bend the hand horizontally to the rear, or when driving with an internally illuminated saloon switch the inside light off and on three times at rapid intervals.
2. When behind a car it is necessary to communicate with the driver, switch the headlights on and

off whether after dark or during the hours of daylight.

The A. A. recommends all drivers to use these signals when the need arises. The Association is of the opinion that the motor horn should not be used for attracting attention of other drivers, as to do so minimises its effectiveness as a warning of approach, and in any case is forbidden during certain hours in built-up areas.

In evolving this simple system of communication, care had to be taken to ensure that it was distinctive and not liable to be confused with any of the official signals in the Highway Code.

The A. A. particularly asks motorists to use the signals only in the proper circumstances. It is realised that any 'stop' signal is open to abuse and when in doubt drivers—particularly ladies if unaccompanied—should refrain from pulling up until encountering a policeman, an A. A. patrol or until a populous district is reached.

The A. A. London's Road Census—Traffic Increases by 49% since 1931

Continuous growth in the volume of road traffic is shown by the fifteenth annual road census conducted by the Automobile Association early in September.

The figures issued on 3rd December 1936 were taken during the A. A. census week of seven days of eleven hours each. There has been an increase of 49.2% of total traffic since 1931. The figures are:—

Year	Total Vehicles	Average per point.
1931	2,645,881	25,199
1932	2,769,302	26,125
1933	3,252,050	30,111
1934	4,093,671	34,232
1935	4,336,669	37,065
1936	4,463,384	37,507

Private cars make up 63% of the total traffic compared with 61% in 1935. The total of cars 2,830,962 shows an increase of 7%. Mechanically-propelled commercial vehicles have also increased and constitute 18.7% of all road traffic. Motor cycles at 5.7% are approximately stationary in volume.

There are clear indications of the continued tendency for cars to increase at a greater rate than other classes of traffic.

Census Point and Route	Decrease of total traffic on 1935 %	Private cars Change on 1935 %
Putney Hill (Portsmouth Road)	54.6	49.5 dec.
Kingston By-Pass (Portsmouth Road)	40.0	40.0 "
South Mimms (Barnet By-Pass)	18.8	23.2 "
Warlingham (Eastbourne Road)	8.0	0.6 "
Stanes Bridge (Southampton Road)	6.1	7.5 inc.
Esher (Portsmouth Road)	6.0	6.6 dec.
Cheshunt (Cambridge Road)	3.4	7.5 inc.

Investigations by the A.A. staff of skilled traffic observers throw light on the causes of these changes. Since the widening of Putney bridge last year there has been increased congestion in High Street, Putney, and traffic is known to go by the lower Richmond Road, via Roehampton Lane, rather than over Putney Hill. The decline of volume on the Kingston By-Pass is due to some extent to a preference for the Kingston route, in which town tramlines have been abolished and where there is improved control by automatic signals.

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Points of greatest increase

There were eight points where the traffic increase exceeds 25% compared with last year, viz.,

Census Point and Route	Total Vehicles	Increase %
Thursday (Carlisle-Cockermouth)	16,115	58.5
Colchester (London-Ipswich)	53,799	51.7
Callowland (Watford By-Pass)	111,197	50.6
Marton Cross (Stockton-Middlesborough)	51,445	49.9
Sawley (Nottingham-Leicester-Derby)	38,158	46.8
Yarcombe (Exeter-Bridgwater)	20,963	43.2
Banstead (London-Reigate-Brighton)	61,276	39.0
Gailey (London-Holyhead-Watling Street)	36,604	28.3

This list differs entirely from the list of points of greatest increase in 1935 and illustrates the tendency of road traffic to develop on unexpected routes not indicated by previous experience. It supports the general demand of road users that all main highways must be brought up to the standard of modern needs.

Compared with these points of greatest increase, there were some marked changes in the volume of traffic passing through the gateways of London. It will be seen that a decrease of total traffic was not always accompanied by decrease in the volume of cars.

Part of the loss at Esher is attributable to the new access to Staines via Hampton Court and so on to Winchester, Southampton and Bournemouth.

The decline at South Mimms (283 vehicles per hour less) and a growth of traffic at Callowland (485 per hour more) show the tendency of north-west traffic to proceed via the Watford By-Pass rather than by the Coventry road to Birmingham.

Points of Densest Traffic.

There were some unexpected changes in volume at the densest traffic points and obvious diversions into improved or less crowded routes. There were six points where traffic volume during the 77 hours of the A. A. road census exceeded 85,000 vehicles and at all of them there was an average of more than 1,100 vehicles per hour. The maximum traffic, 1,444 vehicles per hour at Callowland, was accompanied by an increase of 89% in private cars. Here the average time-gap or 'headway' between successive vehicles was only 2½ seconds, a figure which implies excessive congestion at the busiest times of the day. At South Mimms on the Coventry road where, in 1935 there was an increase of 27.2% this year, there was a decrease of 18.9%.

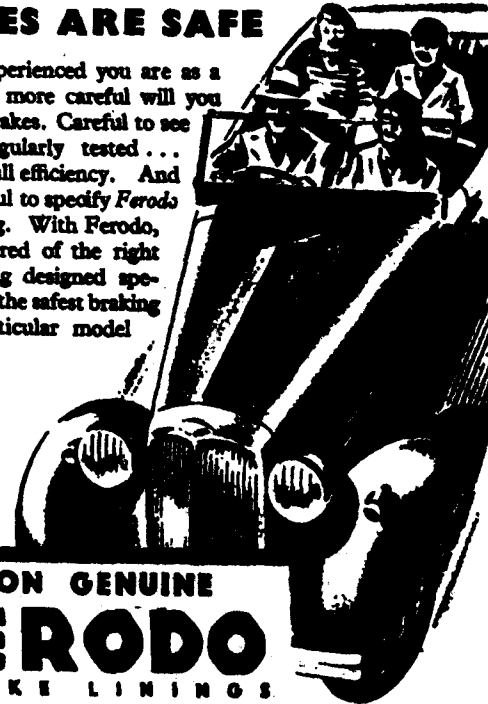
The Offington figure (50,407 cars passing at 654 per hour), shows the growing use of the Worthing route to the South Coast. Here, cars were 19.2% better. There

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The Indian Roads & Transport Development Association Ltd. Monthly News Letter

Railway Enquiry Committee

THE Council of the Association represented by the President, Mr. H. E. Ormerod, Vice-President, the Hon'ble Mr. R. H. Parker, Mr. G. O. Pike, Member of Council and the General Secretary, Lt.-Colonel H. C. Smith met the Railway Enquiry Committee in Bombay on the 10th December, when they were given an opportunity to place their views before them.

A memorandum had been presented to the Committee covering the following points and further elucidation on many of the points was given at the meeting which lasted more than two hours.

Points from the memorandum.

"At the outset the Council deplore the prominence given to competition between Road and Rail in the terms of reference, for it is their considered opinion that the root cause of the present financial difficulties of the Railways is due to the changed economic conditions of the past few years to which all commercial undertakings have had to adapt themselves. They have particularly in mind, apart from the world economic depression, the restriction of international trade by high tariffs and control of foreign currencies. The most superficial comparison between India and developed Western countries will show that road transport in the former is in its infancy, and the Association consider it their first and paramount duty to correct any impression that may have been formed in the minds of the Committee by the terms of reference that road competition is at the root of the Railway's financial difficulties or even, as yet, a serious factor in these difficulties. In fact the losses sustained by railways from road competition have in their opinion been grossly over-estimated.

Although road traffic has undoubtedly taken up some of the rail traffic, this is surely inevitable if the country is to have a road system at all, and the amount involved at present is infinitesimal compared with more highly developed countries. Furthermore against what motor transport has taken from the Railways, there must be set off the very considerable amount of traffic it has brought to them. In the opinion of the Association the solution of the problem here lies primarily in the adaptation of the Indian Railways, as we have said, to the changed economic condition, the improvement of their services and the adjustment of their working expenses to the lowered scale of income.

The losses incurred by strategic railways, perhaps the principal of many burdens thrown on railway finances by the Government of India, the Council regret, has been excluded from the consideration of your Committee, for reasons which have not been explained, by the inclusion of the following words: "otherwise than at the expense of the general budget" in the terms of reference.

On the other hand in this connection they wish to impress upon your Committee that any restrictions on

motor transport will not only directly affect the revenue of the Government of India and the Provinces, but will also react on railway revenue by the loss of traffic they derive at present from the motor industry itself which must amount to-day to at least one Crore of rupees. At present the Government of India benefit to the extent of some 7 Crores of rupees per annum from the taxation derived from motor transport.

Road and Rail co-ordination is admittedly necessary and the Association firmly believe in the need for the proper regulation of road transport in its own interests and that of the public but not merely for the sake of perpetuating an existing system of railway working if that system is unable to recover its costs of working on the merits of the service it is able to render to the public.

To bring about the proper regulation of motor transport they are in entire agreement that Provincial Government should be given powers to introduce a closer control as proposed in the Motor Vehicles Amending Bill with certain modifications, such as that the issue of road service permits for private goods vehicles should be nothing more than a formality and such vehicles should be free from the application of route or regional control; that controlling authorities should not have power to fix minimum rates of fare for any class of vehicles; that stopping places should not be fixed for goods lorries at all, nor for any buses outside Municipalities and Villages, etc., etc.

Control however must be introduced with considerable caution, taking into due consideration the urgent need in this country for improved communications and also local conditions and requirements. Restrictions in the number of vehicles on certain routes may be necessary to prevent cut-throat competition but generally speaking the Council believe that the introduction of compulsory insurance, the more rigid control regarding the maintenance of public vehicles, enforcement of time tables and tariffs, medical examination of drivers, etc., will tend to eliminate undesirable and unorganised road transport. The enforcement of this closer control will place motor transport on a more equal basis with railways as regards their obligations to the public as safe and efficient carriers.

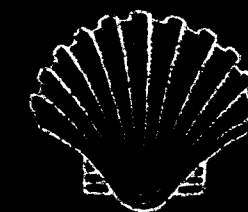
The Association however do consider that each form of transport offers special advantages and their operation should as far as possible be adapted to the spheres to which each is best suited. For instance motor transport is better suited to short distance haul and rail to long distance; and in order to keep their operation within limits, consideration might be given to the question of zoning on routes in competition with railways.

Providing motor services are subjected to a reasonable control and operate in the interests of the public complying with the proposed regulations, the question of restrictions to drive traffic back to railways is absolutely unwarranted in the interests of the country as a whole.

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If, however, the railways by improving and adapting their services and offering better facilities can attract more or all the traffic none can raise reasonable objection. If such a course is adopted with these results a surplus number of buses may eventually be operating on certain routes so that a restriction in the number of permits for buses on these routes might become advisable. Restriction under these circumstances would not be unreasonable but restriction purely to drive the traffic to railways without the railways making their services attractive to goods and passengers on their own merits would be retrograde. In fact it would be nothing more or less than imposing by means of indirect taxation an unnecessary check upon the movement of goods and passengers by that method which the public have found to be best suited to their requirements and modern trading conditions.

The only step therefore which the Association consider to be necessary at the present time is to bring into force the powers embodied in the Motor Vehicles Amending Bill.

Control of goods transport.

If immediate steps are taken to prevent overloading and regulations introduced regarding the condition of vehicles, also limitation of speed, it is believed that motor vehicles under such conditions could not compete economically with efficient railway traffic on long distance haul.

Co-ordination and through booking.

Co-ordination of road and rail services with through bookings should be effected wherever possible. The introduction of a closer control will tend to bring more reliable and financially sound people into road transport which will facilitate arrangements for the co-ordination of road and rail services. Railways might consider taking a financial interest in such road undertakings.

Closing of intermediate railway stations.

Where the public are provided with efficient and adequate communications other than by railway, consideration should be given to the closing of intermediate stations.

Railway contribution to cost of road construction.

In view of the urgent need for feeder roads and the lack of money for their construction it is recommended that railways should make a contribution of a fixed percentage from their gross receipts towards their cost.

Construction of feeder roads and operation of services by railways.

The construction and maintenance of feeder roads in outlying districts by railways and the grant of a monopoly to operate motor transport has been suggested by the Chairman of the Bengal-Nagpur Railway at their recent annual meeting. This Association is in favour of such development by railways, particularly in backward areas, provided the monopoly is for a limited period.

Commercial.

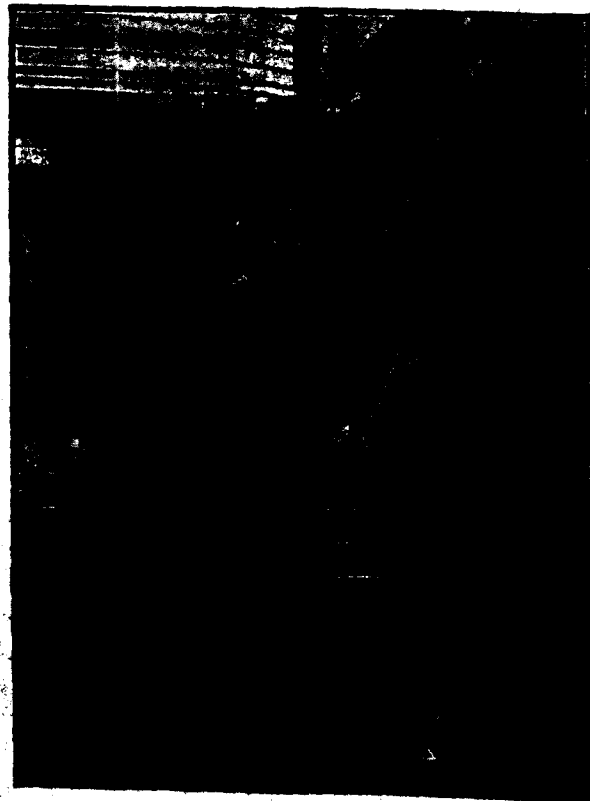
Mr. Colam in his presidential address at the Railway Conference referred to certain nebulous demands that Railways should be run commercially. These demands are, in the opinion of the Council, not so nebulous and should not be dismissed without very grave deliberation. In this regard it is, the Council contend, necessary only to appreciate the interference with operation on a commercial basis which arises out of Government's demands upon the Railways for information with which to satisfy the legislatures and particularly such information regarding the working conditions of staff.

Moreover the Chairman of the Bengal-Nagpur Railway, at their recent annual meeting referred to the lack of commercial spirit on Indian Railways in the following terms:

"I am inclined to think that the working of Indian Railways lacks something of the real commercial spirit and that the railways are not so closely in touch with trade and agriculture as they might be."

In addition the following recommendations are made to the Committee for improving railway receipts:

1. A more prompt enquiry into and settlement of claims.
2. A less onerous system of refunds for unused passenger tickets.
3. Speeding up of passenger and goods service.



The Judges in the Win-A-Car Contest (left to right): Mr. F. W. Klatt, Managing Director, General Motors India Ltd., Mr. C. W. Hayden, Superintendent of the Indian Branches of the National City Bank of New York, and Sir Homi Mehta, Member, Council of State. The Contest was organized by General Motors India Limited and a Chevrolet Master Sedan was the prize awarded for the correct solution. This was won by Rev. P. J. Philip of Travancore, South India. Over 3,326 entries were received, and Rev. Philip's entry came closest to the solution established by the Judges.

4. Collection and delivery of goods by motor transport in all large centres.

5. Improvement in first class accommodation, by provision of heat, dirt and sound proof compartments and if possible air-conditioned, provision of fittings to suit convenience of modern up-to-date travel, collection of passenger's luggage from and delivery to his residence, delivery of baggage on the train without necessity and inconvenience of having it weighed, etc.

6. Co-operation with Provincial Governments in regard to the improvement and use of travellers' and inspection bungalows.

7. Wider publicity to encourage travel.

Road Fund Resolution.

The memorandum also referred to the new Road Fund Resolution and strongly opposed Clause 3 (3) (a) which seeks to give powers to the Central Government to withhold allotments from the Road Fund to any Province failing to take such steps as the Central Government may direct for the regulation and control of Motor Vehicles.

It was urged in addition that permission to capitalise the provincial shares for road development should remain, and if the Government of India wanted authority to specify the percentages of provincial shares to be spent on different classes of roads, a minimum of 50% of the total amount of the fund should be allocated for the development or maintenance of arterial and inter-district roads whether or not those are deemed by the Government of India to be competitive with railways.

In conclusion the memorandum also reiterated the Association's recommendation for a Ministry of Transport embracing all forms of communications.

Railway Request to Build Road

The Chairman of the Bengal-Nagpur Railway at their annual meeting recently held in London referred in the following terms to a proposal made to the Railway Board to be allowed to build a road in the vicinity of the railway on which they would be permitted to operate road transport.

"I will now touch on another interesting matter. On our Raipur-Vizianagram branch there is a plateau from 3,000 ft. to 4,000 ft. in height and parallel to our railway for 150 miles and only 10 miles from our line. On the top of this plateau there is a vast area for cultivation, and the soil is of excellent character. The rainfall, which never fails, is 70 inches per annum. The population of this area is about 1,000,000 people.

This plateau, if provided with means of transportation, would become a valuable feeder to the railway. At the present time an inferior road exists to the top, used by a few buses and lorries. We have surveyed all possible routes for a railway branch to the plateau from the main line and the lowest cost of a 2 feet 6 inches railway to the top of the plateau would be 187 lakhs.

The construction of a railway as a business proposition cannot be justified; but a road would be. This

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would increase our earnings on the main line. The board are, therefore, proposing to the Railway Board to be allowed to make a road to be owned by the railway and worked on railway principles, with facilities for both goods traffic and passengers and the further advantage of through booking to and from any railway station in India."

Road and Rail Position Throughout the World

We reproduce below an article under the above title issued by the Society of Motor Manufacturers and Traders Ltd., London, which, at the present time, in view of the examination of the question in India by the Railway Enquiry Committee, will be of interest to our members:

"The rise of the motor industry, and the consequent development of road transport in a flexible and facile form, has provided for modern industry and commerce a system of transport which previously was not at their disposal. The handling of goods has now been reduced to a minimum; special packing is not necessary; goods can be despatched at any hour convenient to the factory, and can be delivered from door to door within a specified number of hours in accordance with the distance to be traversed. These are the fundamental advantages which cannot be provided by railway transport, but there are also many other minor benefits which arise from the use of road transport.

The railways have now become aware of the fact that their system does not lend itself to the development of transport on the lines which industry is being educated to demand, and they fear that the monopoly which has been at their disposal for nearly one hundred years is definitely threatened. This was clearly stated by the railway representatives at their Conferences in Madrid and Cairo in 1930 and 1933 respectively, and this agitation provided the foundation of the railway case against road transport all over the world. The case itself has nothing to do with the financial position of the railways in any one country, but is for general application only.

The method adopted by the railways to approach the public on this subject was by instilling a fear that the money invested in railways, either publicly or privately, was being placed in jeopardy through the competition of road transport. A certain amount of colour was lent to this, owing to the incidence of the world depression, but no railway has, so far, produced the slightest evidence to prove that it has, directly or indirectly, suffered from competition by road transport. Investigation of the railway accounts, and knowledge of the circumstances in Great Britain, go to show that the railways have profited very considerably by the existence of a prosperous motor industry, and the development of road transport, both for passengers and goods. A great deal of political influence has, of course, been used in the interests of the railways, and a rather shortsighted view has resulted in legislative action which is endeavouring to deny, both to industry and the public generally the advantages of a freely-developed motor industry, and the benefits which competition provides. In the view of

the railways and their supporters, the correct way to develop transport to-day is to confine it to the smallest number of operators possible in the circumstances, and to deny entrance to the industry to anyone with fresh ideas. This is tantamount to declaring that the industry has reached its peak of attainment, and that it can now be left in charge of the monopolists of the past century.

Unfortunately, the influence of these companies in the countries where they are privately-owned—and of course still more in countries where the State has provided the capital—has inculcated the view that public capital is in need of protection from private competition and, based upon this fallacy, most countries are attempting to "co-ordinate" road and rail transport. The definition of the words "to co-ordinate" apparently is "to restrict." Unfortunately, the restriction is to be applied to the newcomer, and the motor industry and road transport in general, which is in its infancy, is suggested as being a suitable subject for immediate curtailment in the interests of its competitors.

The motor industry holds the view that the highest possible standards of vehicle condition, drivers' ability and, compatible with other local industries, wages and conditions of service, should be required from road operators offering their vehicles for hire either in respect of passengers or goods, but that there should be no restriction on the number of operators willing and able to reach such required standards, who may be granted licences.

Road transport has, by its flexibility, created entirely new forms of travel and traffic, and has induced millions of people, who previously never moved from one village to another, to broaden their outlook and to travel considerable distances from their homes. Where longer distances are concerned, the railways inevitably benefit from this education, but it must be borne in mind that such education was never effectively developed by the railways, nor was it apparently possible for them to provide facilities holding out sufficient inducement to people to move. In the same way, in goods transport, new methods, new ideas and considerable saving of the capitalised costs of industry have been instituted by the introduction of motor transport, and these are advantages which industry as a whole is not disposed to forego.

Many of the countries are now concerned with taking advice on the subject of co-ordination, and unfortunately either financial or railway experts almost invariably are selected to advise on such subjects. In the nature of their calling, they cannot be independent, and it is to be regretted that a subject which is of such vital interest to progress in all countries should be relegated to the biased opinion of railway—or financial—trained mentalities.

In Great Britain, a political method of dividing types of transport carriers into categories marked "A", "B" and "C" has led to a general suggestion that there is something fundamentally different in services given to industry by these three classes. Actually, while the "C" licence holder is the owner of his own transport, and therefore can obtain the full facilities which the use of his vehicles provides, the "A" and "B" licence holders are those who equally endeavour to provide for the small

users the same functions which the "C" licence holder is able to provide for himself. Notwithstanding this, because the "A" and "B" licence holders draw a reward for their services, they are classed as "hired transport," which is supposed to be in the same category as the railway companies. Needless to say, their services and facilities have to be equal to those provided by the vehicles of the "C" licence holder, and cannot in any way be compared to railway capabilities which are not able to provide modern industry with the advantages inherent in road transport. It is a common suggestion that suitable transport already exists in the district, as provided by a railway company, and that therefore new licences for road transport are unnecessary, but in point of fact, no railway can supply equal advantages to that afforded by road transport.

The railway function to industry is a well-defined and essential one. Certain types of goods are invariably carried and, in spite of road competition, will continue to be carried on the railways, but also there are certain products which will invariably, in the future, be carried by road, wherever road vehicles are available.

It is very essential that those who are guiding the destinies of railways and road transport should be fully alive to the fact that they are not competitive, in the strict sense of the word, but really complimentary and that competition which has already produced from the railways, facilities which never previously existed, both in passenger and goods transport, should be allowed to have its free play, with a view to bringing all forms of transport up to modern standards, and still more to keep them at this high and continuously advancing level.

ORGANIZATION OF TRANSPORT

Suggested National Scheme

Before the Sheffield branch of the Industrial Transport Association recently a paper prepared by Mr. Frederick Smith, chief transport executive, Unilever, Limited, was read. In the paper Mr. Smith put himself in the position of a person who had been vested with dictatorial powers to arrange the transport services of the country in the national interest. He said that in less than three years after the passing of the Road and Rail Traffic Act strenuous efforts were already being made to establish the right of the railways to a controlled monopoly which, by its very nature, must soon lead to the destruction of the means provided by Parliament to avert the evils of monopoly, namely, the right of the trader to carry his own goods.

The author, in his dictatorial powers, was to be assisted by a Council experienced in the various carrying industries affected, but not representative of those interests. It included an eminent authority experienced in industry and another who would look after the general interests of the public. It consisted of six members, each of whom would be personally concerned in the transport system as a whole and not in any particular branch of it.

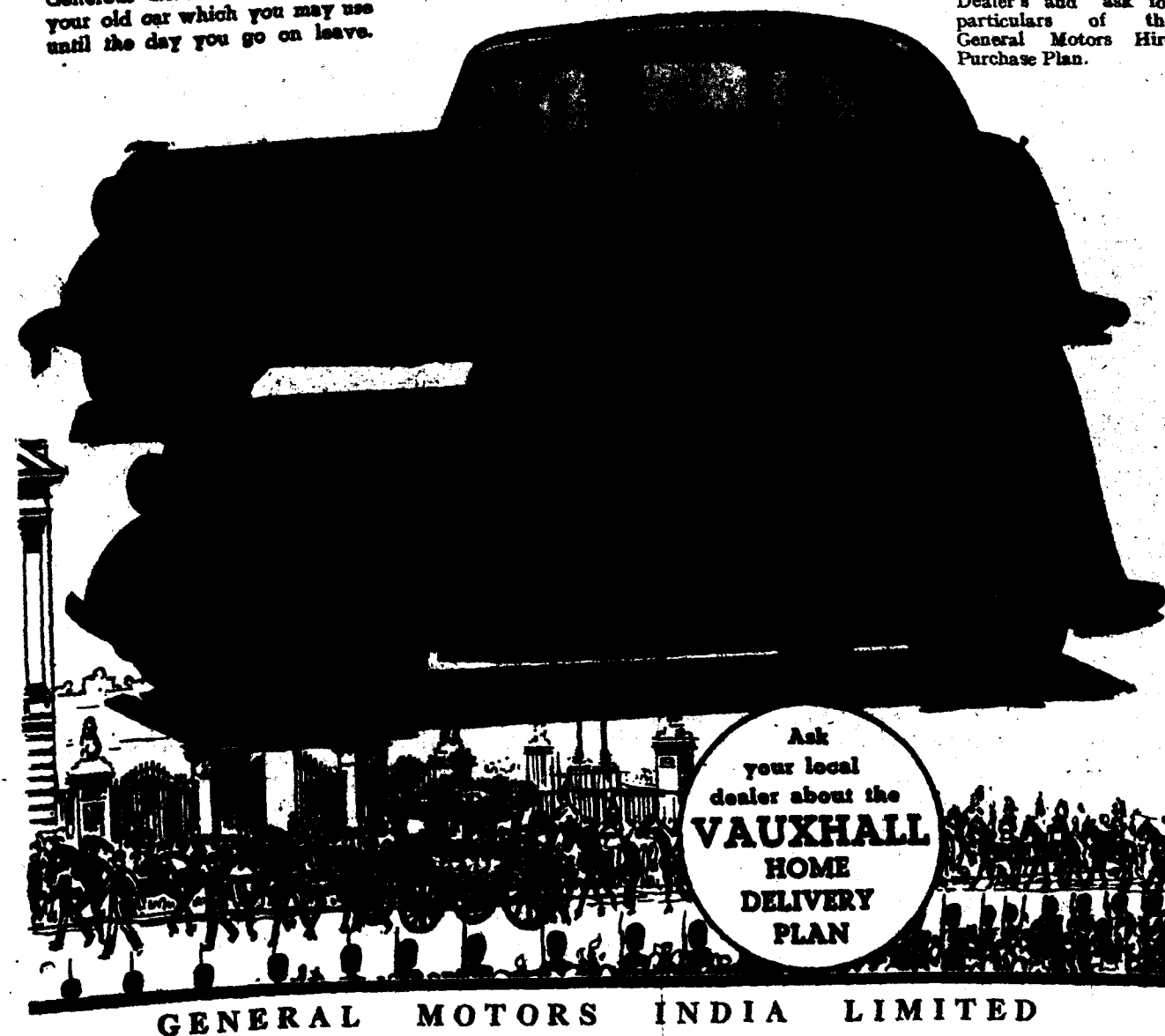
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Traffic co-ordination.

In the organisation of the department responsible to this Council there would be an officer charged with the duty of co-ordinating the manipulation of traffic, who would be assisted by a statistical officer to provide him with the data upon which the problem as a whole could be settled. It would be the duty of the latter to obtain a complete analysis of all traffic movements through the medium of the licensing authorities' organisations, suitably strengthened by statistical staff experienced in traffic statistics. It would be necessary to make a comprehensive study of the reactions of such a scheme upon purely railway operating policy, for the present method of handling railway traffic involved a vast amount of intermediate shunting and marshalling. This was, of course, inevitable as long as it was necessary, by reason of the limited radius of distribution possible by horse transport, to carry traffic to the nearest station from which delivery could be made; but with the advent of motor transport and the extension of the effective range of distribution, the methods of operation which had hitherto prevailed upon the railways were to-day obsolete, or at any rate obsolescent, and it had been a grave weakness that this had not been sufficiently realised. The statistical officer, therefore, would present, alongside his analysis of the traffic itself, an analysis of the railway operations involved, and measure these statistics as the cost against the methods which might possibly be employed under a unified system of control.

Vehicle Obsolescence.

There would be another officer responsible to the Council for capital and financial questions. At the present time, under existing legislation, it was possible for a motor vehicle costing £1,000 or £1,200 to have a life of only two years, as the licence, which really represented the goodwill of the haulier's business, was not transferable. The very challenge of the railway companies in recent licensing cases showed that they were not attempting merely local attrition but wholesale elimination of public carriers by road. The remaining heads of departments would be in the nature of liaison officers with the railways, canals, and coastwise shipping companies, and they would, in due course, gradually assimilate the administrative control of the carrying services. The whole of the traffic operations in a particular area would be brought under the control of one officer.

No restriction on ancillary users.

The position of the private carrier, as established under the Road and Rail Traffic Act, 1933, specifically as a safeguard against a transport monopoly, should be allowed to continue. There was so much to be done in the co-ordinating of transport services that it would be folly to interfere with the private carrier until public transport had been reduced to a completely efficient and economical basis. In this respect the policy of the Northern Ireland Road Transport Board was sound and statesmanlike. He understood the Board took the view that it was the business of the public-carrying interests so to order their organisations, that they were able to provide services of a character

such as would attract the private carrier voluntarily to use them in preference to his own. His own view was that had the railway companies tackled the problem from this standpoint immediately following the war there would have been no serious problem to-day.

Dealing with the question of charging, Mr. Smith said he felt satisfied that a reformed system applied to the transport problem as a whole and giving to rail, road and water that traffic which they could most economically and efficiently carry, would so reduce the general level of transport operating costs as to allow full play to the application of the principle of charging what the traffic would bear. This could be done without penalising those whose traffics were in the higher classes by depriving them of the use of the petrol vehicle. At the same time, he thought that justice would be done to those industries whose traffics were not really available to road transport by passing to them some of the benefits which the petrol vehicle had conferred upon society as a whole.

Jaipur-Delhi Bus Service

Jaipur and Delhi have recently been connected with a well maintained road which is now thrown open for through motor-bus traffic.

A Jaipur State Gazette notification states the terms on which motor buses will be allowed to ply on the Jaipur-Alwar-Delhi road. All Jaipur motor buses plying from Jaipur to Delhi will be required to pay a registration fee of Rs. 16 per annum and a road-tax of Rs. 20 per annum in Alwar, and will not be allowed to pick up or drop any passengers within Alwar State. If, however, the lorry owners pay the seat tax, which is at present Rs. 10 per seat per annum on a pacca road and Rs. 5 per seat per annum on a kaccha road in addition to the registration fee and road tax, they will be allowed to pick up or drop passengers en route.

In the case of the Alwar-Jaipur motor bus service, the buses will be in the ratio of two to three. Their release will be regulated by a competent police officer. Alwar motor buses will be registered and pay taxes in Alwar only, while Jaipur buses will be registered and pay taxes in Jaipur only. Jaipur driving licenses will be recognised by Alwar State and vice versa.

The timings and the rates of fares fixed for the service show that passengers will not only save time but money. A motor bus leaving Jaipur at 10-30 a.m., a little before the departure of the B. B. & C. I. Railway express, will arrive in Delhi at 6 p.m. about two hours before the express. The fare for each passenger from Jaipur to Delhi will be Rs. 3, about 12 annas less than that of the fast passenger train. Children below 10 will pay half-rate and below 5 will be carried free.

Vehicles may stop anywhere en route for the purpose of dropping and picking up passengers, but may not take any passenger for a place within Jaipur State from the Alwar, Shapura, or Achhol motor stands.

In the case of the Jaipur-Alwar journey the fare will be Rs. 1-10 only for each passenger and the journey will take about 3½ hours.

Need for Aerodromes in India

In a recent letter published in the *Times of India* the author points out the lack of Aerodromes throughout the country. He explains that it is fully appreciated that the Department of the Director of Civil Aviation is doing everything possible with the available funds at its disposal, to develop aerodromes, but an examination of its programme brings to light that at any rate in the early stages this work must be confined to the Empire air route, with a few exceptions, such as Bombay.

If Indian aviation is going to be developed so that Rulers of States and their important officials may make full use of the air, and the private owner or business man may be encouraged to adopt aircraft as vehicles of transport, it is essential that more aerodromes should be made available with the minimum delay. It is not suggested that great sums of money should be expended on an elaborate aerodrome programme, but in nearly every part of India the big cities or important towns have within easy reach of them comparatively level ground, which in many cases might be termed as "waste grounds." Such sites as I have in mind could very easily be made suitable for the use of aircraft, and it would only be necessary to mark out the corners and the boundaries and put up a wind indicator. The total cost of such markings would not be more than a few hundred rupees, whilst in the majority of cases the levelling of the ground could be carried out for something under Rs. 5,000.

It seems a pity that States, which have progress at heart, should not turn some of their interest towards aviation and make available, not only to the private owner, but to the air taxi proprietors, landing grounds such as I suggest, as if this were done they would very soon find that instead of days of railway travel air travel would bring them within a few hours of the important centres of India.

In these early days of aviation to recover capital expenditure on the development of ground services is not an easy matter but if a far sighted view is taken of the position the general benefit to the town with an aerodrome will most readily be appreciated, as it will bring that town on to the aerial map of India, which will give it prominence and should in a few years be beneficial to local trade and commerce.

Manufacture of Tyres in India

Last month the Governor of Bengal opened the new Dunlop's Rubber Factory at Sahaganj near Calcutta.

From the prospectus issued by the Company, out of a total capital of 120 lakhs of preference and ordinary

shares, shares worth 66 lakhs have been offered or will pass into Indian hands.

It is understood particular attention will be paid to the manufacture of tyres for bullock cart transport which will provide substantial economic advantages to the user, greatly minimise the strain on draught animals and almost eliminate damage to the road surfaces.

The factory is equipped with most up-to-date machinery for the standardised production of tyres for motor trucks, buses, lorries, tongas, bicycles as well as the bullock carts mentioned above.

With the saving of public money in the maintenance of roads which will result from the more extensive use of pneumatic tyres for bullock carts we wish the new Company every success in their enterprise and congratulate their Directors on the initiative they have shown.

Encouragement for use of Pneumatic Tyres in Punjab.

It is understood that the Municipalities of Ferozepur and Amritsar have recently put a large number of pneumatic-tyred carts in use for Municipal purposes.

The tax on bullock carts levied by the latter Municipality is Rs. 18 and Rs. 12 per year for double and single carts respectively. They have passed a resolution that no tax on pneumatic-tyred equipment will be levied for three years, and are also issuing notices and hand bills urging people to adopt this equipment.

Assam Motor Vehicle Taxation.

The Assam Motor Vehicles Taxation Bill which was introduced in the Assam Legislative Council early in the year and referred to a Select Committee has now been passed by the Council with certain modifications and will come into force on 1-3-1937. Under the provisions of the Act, the present taxation of motor vehicles at varying rates by Local Boards and Municipalities will be abolished and after compensating these authorities for their loss of revenue from the proceeds of the new tax, two-thirds of the surplus will be distributed to local bodies for the development and improvement of roads and the other one-third will be similarly spent on roads maintained by the P.W.D.

The new tax will be Rs. 20 on a private car below 35 cwt. unladen weight and Rs. 100 on other cars; Rs. 100 on a private goods vehicle authorised to carry 20 cwt. and Rs. 30 for every additional 10 cwt. of authorised load; Rs. 30 for motor cabs; and from Rs. 50 to 150 on a graded scale on buses seating from 10 to 25 persons.

CALCUTTA Standard Buildings 32, Dalhousie Square	MOTOR OCEAN POLICIES	BOMBAY: Churchgate House Churchgate Street
LAHORE: The Mall	THE OCEAN ACCIDENT & GUARANTEE CORPORATION LTD.	RANGOON: 128, Phayre Street
KARACHI:—New Forbes Buildings		MADRAS:—169, Popham's Broadway

THE SEVEN PAGODAS

MAHABALIPURAM, or The Seven Pagodas, lies about 55 miles south of Madras. It is an ideal spot for a picnic, with its ancient rock carvings and temples charmingly situated within sight and sound of the surf.

Driving along Mount Road and turning right over Marmalong Bridge, one soon leaves St. Thomas' Mount behind and is speeding to Chingleput, along a palm-lined road which unfolds constantly varying panoramas of beauty before the windscreen.

Chingleput is reached after about 37 miles, and here one branches left for Tirukalikundram, which lies about 9 miles further on. Rounding a bend into the village one sees a temple perched on the very peak of a hill to the left, whilst to the right of the road the five temples of Tirukalikundram rear their carven heads into the sky.



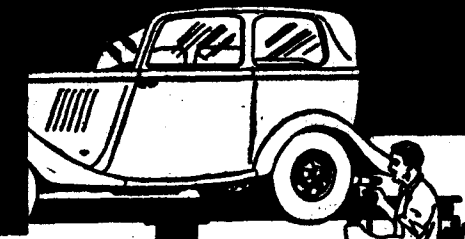
Hill Temple, Tirukalikundram

Branching left again, the road leads on another seven miles to Mahabalipuram, through truly beautiful scenery. Here one leaves the car under the shade of a tree (securely locked, of course), and boards a ferry to cross the Buckingham Canal, about two hundred yards wide at this spot. Coolies and fishermen cluster round and from them one or two are selected as porters for bags, thermos flasks, cameras and other baggage.

After the crossing is safely accomplished, a stroll of about a quarter of a mile over the sand and fields brings one at last to The Seven Pagodas. Here are solid rock carvings of untold antiquity, four temples and three figures of an elephant, a bull and a yali. All of them are hewed out of one piece of rock by some forgotten hands which left for us this splendid monument to their labours. The central building is the abode of the

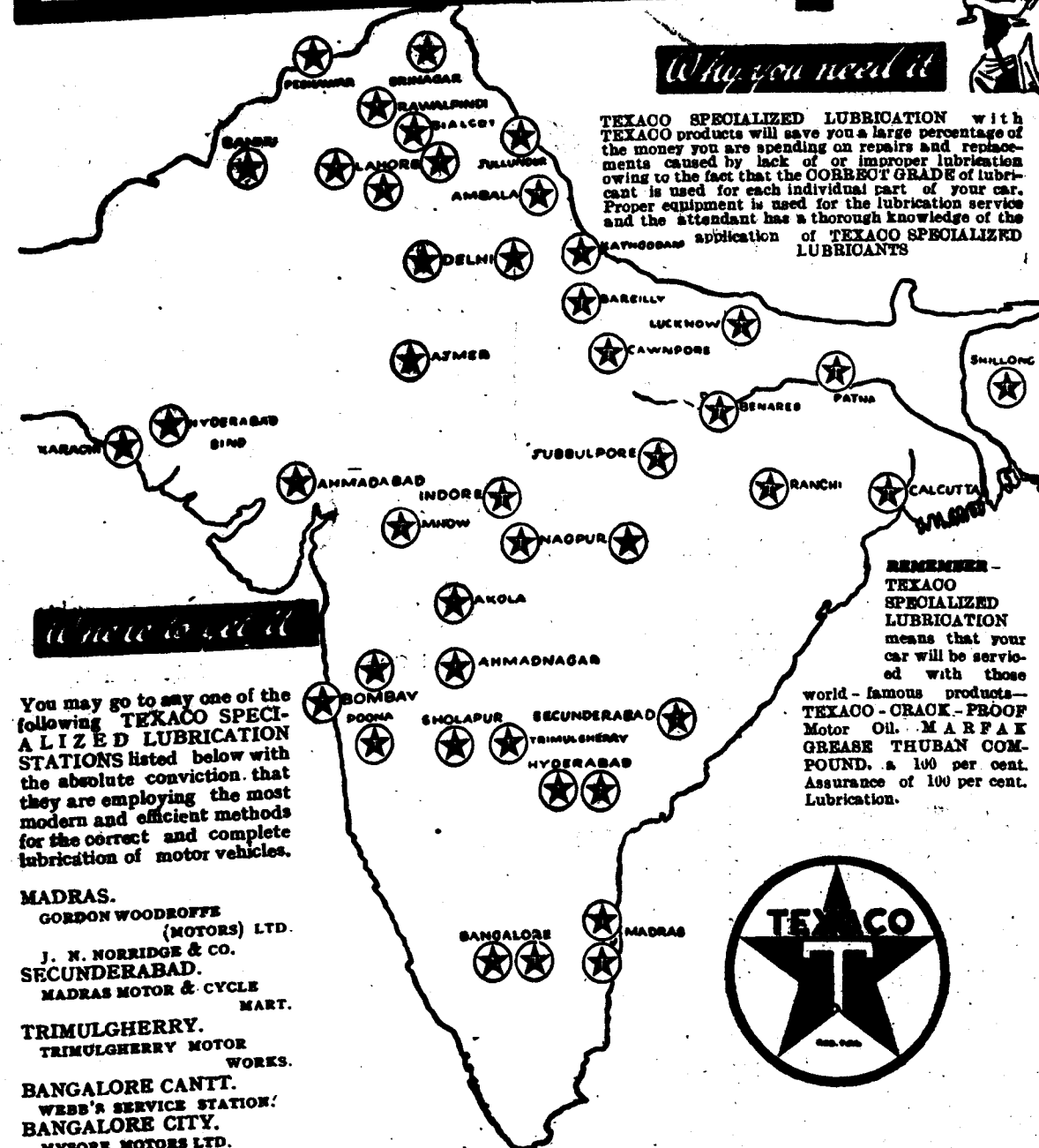
Bird's-eye view of the five Temples of Tirukalikundram.

SPECIALIZED LUBRICATION



Why you need it

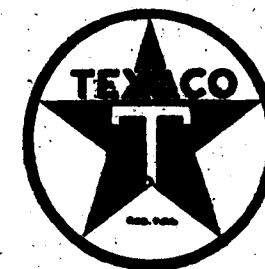
TEXACO SPECIALIZED LUBRICATION with TEXACO products will save you a large percentage of the money you are spending on repairs and replacements caused by lack of or improper lubrication owing to the fact that the CORRECT GRADE of lubricant is used for each individual part of your car. Proper equipment is used for the lubrication service and the attendant has a thorough knowledge of the application of TEXACO SPECIALIZED LUBRICANTS.



It is well to

You may go to any one of the following TEXACO SPECIALIZED LUBRICATION STATIONS listed below with the absolute conviction that they are employing the most modern and efficient methods for the correct and complete lubrication of motor vehicles.

MADRAS.
GORDON WOODROFFE (MOTORS) LTD.
J. N. NORRIDGE & CO.
SECUNDERABAD.
MADRAS MOTOR & CYCLE MART.
TRIMULGHERRY.
TRIMULGHERRY MOTOR WORKS.
BANGALORE CANTT.
WEBB'S SERVICE STATION.
BANGALORE CITY.
MYSORE MOTORS LTD.
HYDERABAD (DECCAN).
HYDERABAD MOTOR & OIL CO.
A. D. GRANT.



REMEMBER - TEXACO SPECIALIZED LUBRICATION means that your car will be serviced with those world-famous products - TEXACO - CRACK-PROOF Motor Oil - MARFAK GREASE - THUBAN COMPOUND - a 100 per cent. Assurance of 100 per cent. Lubrication.

THE TEXAS COMPANY (INDIA), LTD.

(Incorporated in U.S.A.)

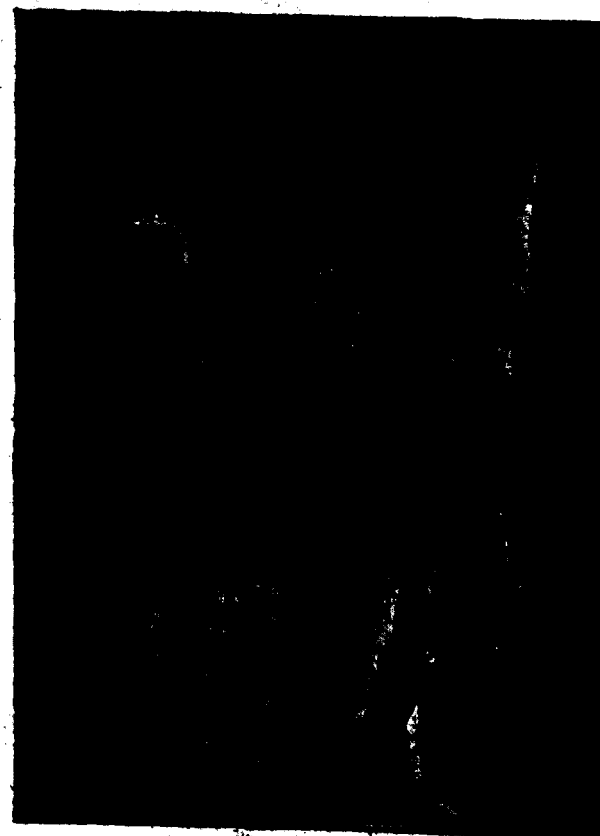
Head Office: BOMBAY.

Branches: CALCUTTA, COLOMBO, KARACHI, MADRAS.

A Complete List of Texaco Lubrication stations in India can be had on application to our Head Office, Bombay.



Ancient Rock carving of Elephant, Mahabalipuram.



Seaward Gateway of the Last of the Seven Pagodas.

Pancha Pandavas, sons of Pandu and favourites of Vishnu. Their images may be seen, one in each of the five niches facing the front of the building. The carvings of the bull and elephant are marvellously executed, larger than lifesize, but at first sight so real that one expects them to move.

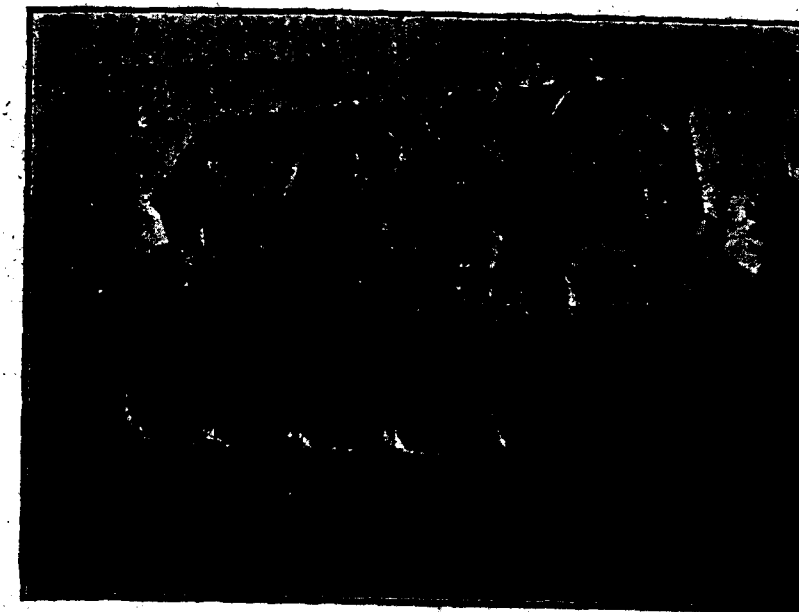
After resting awhile and, if one likes, disposing of lunch, another stroll between the tall trees lining the sandy avenue brings one past the old and new lighthouses to the seashore about half a mile distant, where stands the last of the seven pagodas. Six of them have been inundated by the sea, and sad relics of their former glory in the shape of rocks and pillars may still be seen, washed by the waves which roll up to the very foot of the last of the temples. This, although sadly dilapidated, still stands its ground amid the surrounding shrubs, proudly pointing its tall spire to the sunlit sky, while the gulls wheel overhead and the breakers crash madecingly at its foot. Creeping in and out of its gloomy aisles, one sees the dim figure of Vishnu, recumbent on a rocky couch, sleeping the last sleep ere the waves roll up and over, and turning,



The Last of the Seven Pagodas.

comes to a massive doorway looking out upon the sea, with a forlorn pillar jutting from the surf a few yards beyond.

The porters will speedily furnish some sweet coconuts, which will provide a long and cooling drink, badly needed, as the broiling sun beats fiercely on the rock and envelopes one in waves of heat. Afterwards, a slow stroll back through the tree-shaded avenues brings one again to the abode of the Pancha Pandavas and thence over the fields to the canal, where the ferry waits to carry you to your waiting car. An hour and a half to two hours drive back along the red-brown roads, with the shadows of the palms falling athwart your path brings you, tired but happy, to the end of a very pleasant picnic and an instructive visit to a place where ancient craftsmen plied their trade to such good effect as to leave these colossal reminders of their faith and their skill.



Abode of the Pancha Pandavas, Mahabalipuram.

CROSSING A RIVER

NEWS has been received by Breakwell & Co., of Calcutta, of the excellent performance of a Morris Eight tourer in their territory. This car, carrying four adults, is stated to have crossed the bed of the Mahanadi River, at a point where it was partially dried up.

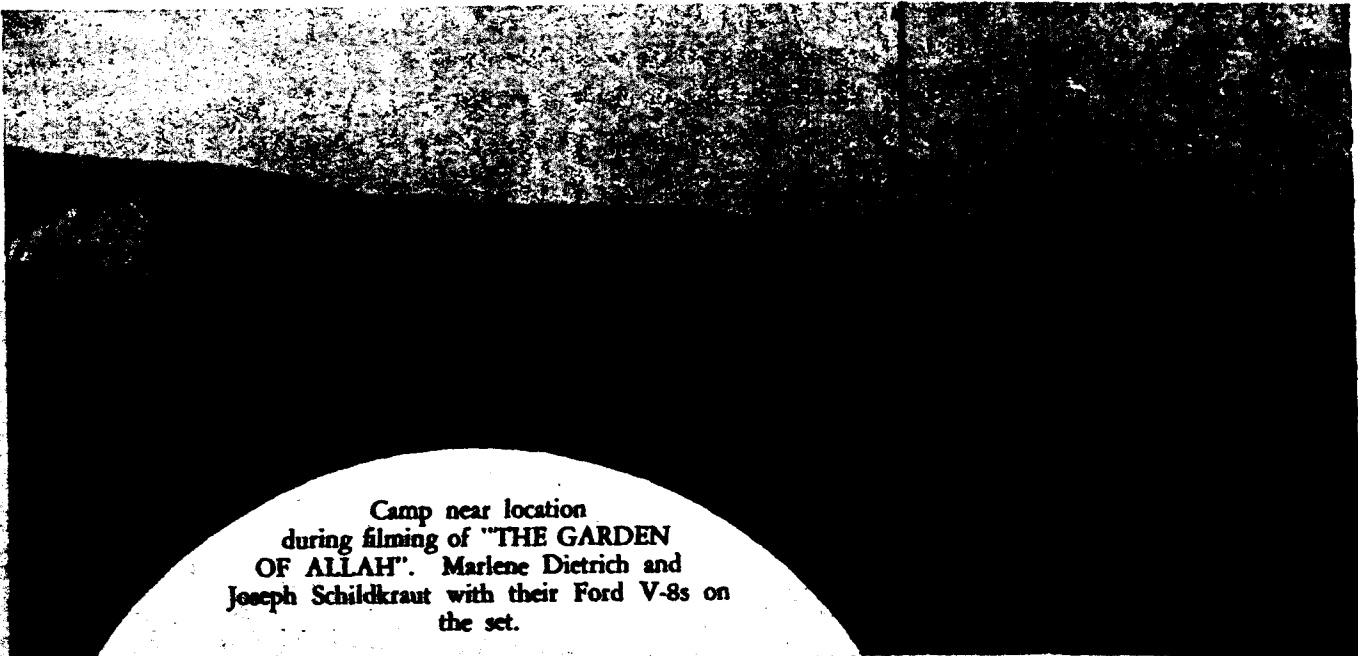
The extent of the crossing was two miles and, writes the driver, "up till now this river has never been crossed in this way and no one ever thought it possible for a small car to pull herself out of this without doing damage to its engine. But this little car performed the trip well, and came back from the other side of the river in less than two hours".

Specialised Casting

The Morris policy of "specialised testing", in which nothing whatever is left to chance, begins right from the

time when the cylinder blocks are cast in the foundry. The normal method of casting cylinder blocks utilises green sand cores, which are damp. This dampness chills the molten iron as it is poured into the mould, with the result that the outer surface of the metal is rendered extremely hard while the centre—which is given longer to cool—remains relatively soft. Thus with normal methods the outside is either too hard to machine, or, if the composition of the metal is adjusted to give a machinable exterior, the interior is too soft to give reliable service and long life.

Morris have developed the oil sand core method, in which the cores are baked dry, thus avoiding all local chilling and ensuring even cooling throughout the casting. This produces cylinder blocks whose material is completely uniform, hard, and wear resisting. A particularly close check is kept on the quality of the castings by the extensive laboratory staff attached to the Morris foundry, who are continually engaged in sample testing.



Camp near location during filming of "THE GARDEN OF ALLAH". Marlene Dietrich and Joseph Schildkraut with their Ford V-8s on the set.

Filming "The Garden of Allah"

Location crews are a notoriously hardy lot. They plunge into wildernesses with the intrepidity of explorers; they brave the dangers that faced the early pioneers; they cut paths through jungle—they are mountaineers and seafarers. There are no demands made upon them that they consider too exciting; no labours too arduous. But few crews have ever been put to the extreme test imposed upon "The Garden of Allah" troupe.

EIGHT weeks in the Arizona desert! Two months of heat, where regularly the thermometer registered 120 degrees in the shade, 140 to 148 degrees in the sun. For eight weeks a struggling, sweating location crew laboured with heavy equipment, shifted reflectors, hauled on ropes and pulleys, ploughed through deep sand with heavily-laden Ford trucks and performed inhuman labours on the desert set near Yuma, Arizona, where the outdoor sequences of David O. Selznick's production of the Hitchens' masterpiece, "The Garden of Allah", was filmed in technicolor.

Not only the robust technical workers, cameramen, electricians and others, but even the more delicate feminine stars were subjected to a gruelling ordeal, working under a sun that would put the Sahara sun in the shade. Marlene Dietrich, co-starred with Charles Boyer in the picture, twice succumbed to heat prostration. Similar casualties among the hardy workmen were of daily occurrence.

A tremendous organization was necessary to maintain the workers and actors under conditions that would have proved too much for a Bedouin of the Sahara. Under these conditions it was necessary to erect a tent-city, completely equipped for community life; with commissary,

(Continued on page 31).

MADRAS RACES

SEASON 1936-37

(Under R.C.T.C. Rules of Racing)

FIXTURES

FIRST SPRING MEETING (Six Days)

Third Day ... SATURDAY ... 9th Jan. 1937

The Trades Cup

Fourth Day ... WEDNESDAY ... 13th Jan. 1937

The Mysore Cup

Fifth Day ... SATURDAY ... 16th Jan. 1937

The Venkatagiri and The Ceylon Cups

Sixth Day ... SATURDAY ... 23rd Jan. 1937

The R.C.T.C. Cup

SECOND EXTRA MEETING (One Day)

First Day ... WEDNESDAY ... 27th Jan. 1937

SECOND SPRING MEETING (Four Days)

First Day ... SATURDAY ... 30th Jan. 1937

Second Day ... SATURDAY ... 6th Feb. 1937

The Merchants and The Bobbili Cups

Third Day ... WEDNESDAY ... 10th Feb. 1937

Fourth Day ... SATURDAY ... 13th Feb. 1937

The Ramnad Cup

SUMMER MEETING (Four Days)

First Day ... SATURDAY ... 20th Feb. 1937

Second Day ... WEDNESDAY ... 24th Feb. 1937

Third Day ... SATURDAY ... 27th Feb. 1937

Fourth Day ... SATURDAY ... 6th Mar. 1937

The following Cup Races are proposed to be run at the Summer Meeting

The Bangalore Cup The Willingdon Plate
The Maharani of Venkata- The Cochin Cup
girl Cup

RATES OF ADMISSION

Season Tickets (Public)

	Gentlemen.	Ladies.
1st Enclosure only.		
Ticket for Season (Including Tax)		
(Excluding Hunt Gymkhana Meeting)	Rs. 60	Rs. 30

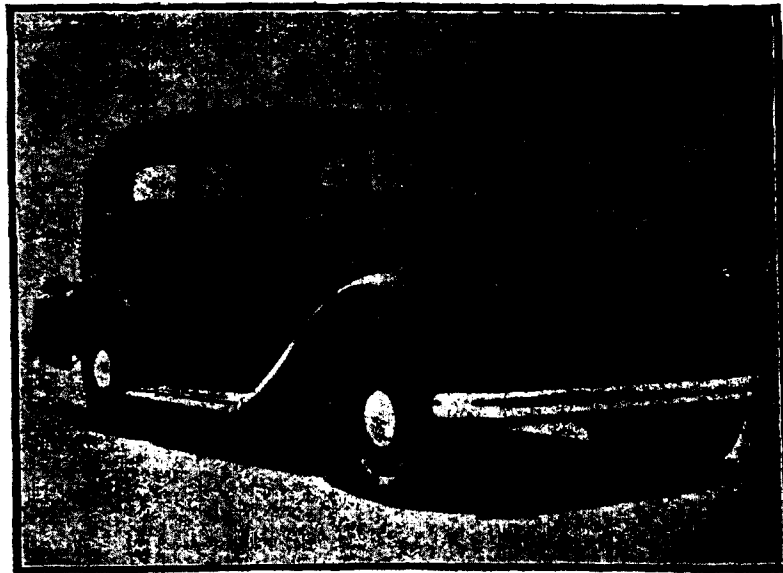
DAY TICKETS (Including Tax)

1st Enclosure.						
Gentlemen	...	...	...	...	...	Rs. 3 8 0
Ladies	...	...	...	...	...	.. 2 4 0
2nd Enclosure	...	...	Gentlemen	...	...	Re. 1 0 0
Do.	...	...	Ladies	...	...	As. 0 8 0
3rd Enclosure	...	...	All persons	...	...	As. 0 4 0

Note.—There may be one or two Extra Days' Racing after the Summer Meeting.

1937 VAUXHALLS

Independent Springing
on New Cars



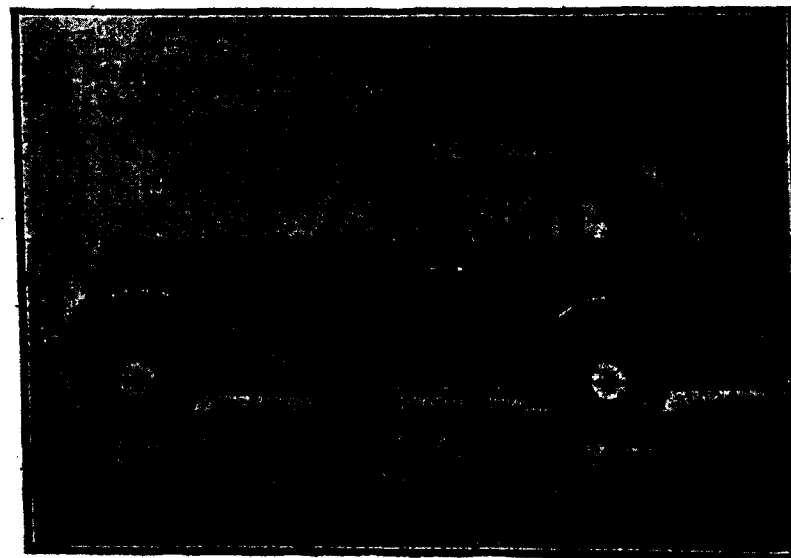
The New 1937 Vauxhall 14 H.P.

THERE are two new cars for 1937—the 14 horse-power Vauxhall Light Six and the 25 horse-power Vauxhall Big Six.

Many improvements are embodied in the new Vauxhall Light Six to equip this car better than ever for service under all motoring conditions. An additional model has been introduced to the range to meet the demand for enclosed luggage accommodation outside the car and it seems likely that this car will appeal to many motorists.

There is a roomy luggage trunk built into the rear with a well-designed lid that excludes all dust and rain. In addition to its usefulness the luggage trunk adds considerably to the attractive appearance of the car, by giving a pleasing rounded effect that accentuates the sweeping lines of the body.

Features that made the 1936 Light Six so popular are retained and improved. New features are added. The independent front wheel suspension has been modified in a number of details to increase the efficiency and reduce servicing. Improvements made to the six-cylinder engine give cooler running, increased efficiency and yet longer life. Better control at slow speeds is achieved by altering the carburettor throttle con-



The New 1937 Vauxhall 25 H.P.

trol. Lighter steering and better braking promote driving confidence and mean greater safety.

Pleasing body lines and dignity of appearance are enhanced by a more imposing radiator shell and grille, with new bonnet louvres. New headlamps and mountings are in keeping with the general design of the car and a further improvement in appearance is effected by new bumpers. There is now a full bumper at the rear. Pressed steel wheels with chromium-plated hub caps add a note of modernity, and have the advantage of being easily cleaned.

THE VAUXHALL BIG SIX

"Designed to Meet World Competition." That is the story behind the entirely new Vauxhall "25".

Performance, comfort, roominess, luggage space—all the features the car-buyer seeks are strong points of the Vauxhall "25". Quick acceleration, rapid hill climbing, and a top speed of around 80 miles per hour—such is the performance that will make the "25" tremendously popular at its price. By "performance" we do not restrict our meaning to speed alone, for there is excellent braking without

(Continued on
page 32).

Automobile Association of Southern India

To members of the A.A.S.I. **10% REBATE** on the premia of all private individual cars and motor cycles insured with any of the "TARIFF" Companies (List on application.)

Join **NOW** and secure this 10% reduction given on the insurance of your car. A 10% REDUCTION which will pay your subscription to the A.A.S.I. or go a long way towards it—according to the value of your car.

Fuller details may be had from the Secretary.

Dear Sir,
I forward herewith my application for membership of the Automobile Association of Southern India and enclose Rs. being my annual subscription for one year from this date, the badge fee and cost of fitting (see below).

Please send me a copy of the rules and a badge with a fitting suitable for (see below).

(Signature).

To
THE SECRETARY,
A.A.S.I., P.O. Box 352,
Mount Road, MADRAS.

For Office use only

Date
Name of Member
Address
Member proposing

Ackd.
Entd.
Cheque/Cash/M.O.
Badge No. Fitting
Elected

ANNUAL SUBSCRIPTION.

Motor Car Owner	Rs.
Motor Cycle owner or non-motorist	15
There is no entrance fee and subscriptions are current for 12 months from date of signing application	5

form. Non-returnable fee for a badge is Rs. 5. Badge includes two small bolts with double nuts

Special fittings can be supplied, if required, as follows:—

	Rs.	A.	P.
No. 1 for Any round bar (state diameter)	1	4	0 each.
No. 2 " Radiator cap or any vertical bolt	0	12	0 "
No. 3 " Any horizontal bolt	1	0	0 "
No. 4 " 60° Angle bracket for bolt securing Dumb iron apron	0	12	0 "
No. 5 " Any flat bar or plate	2	8	0 "
No. 6 " Two long bolts with plates for securing badge to front of radiator	0	12	0 "

ST. JOHN AMBULANCE ASSOCIATION

IT is gratifying to see that the Local Provincial Centre of the St. John Ambulance Association has managed to put several Motor Ambulances at the disposal of the Hospitals of the C.P.

Before 1934 throughout the Province, there was no hospital equipped with a Motor Ambulance and when the present Inspector-General of Civil Hospitals came to this Province he saw a necessity of providing Motor Ambulances to at least four different centres for the use of the sick, hoping that as time went on the people of the C.P. would, by degrees, insist on other Ambulances being supplied to other centres.

The first Motor was presented to the Mayo Hospital, Nagpur, by the St. John Ambulance Association which was followed by the presentation of an Ambulance to the

Irwin Hospital, Amraoti, by a philanthropic donor in the person of Seth Laxminiwas Ramlal, Jagirdar of Walgaon.

Mahant Vishnudas of Doodadhari Temple, Raipur, another philanthropic donor came forward and presented

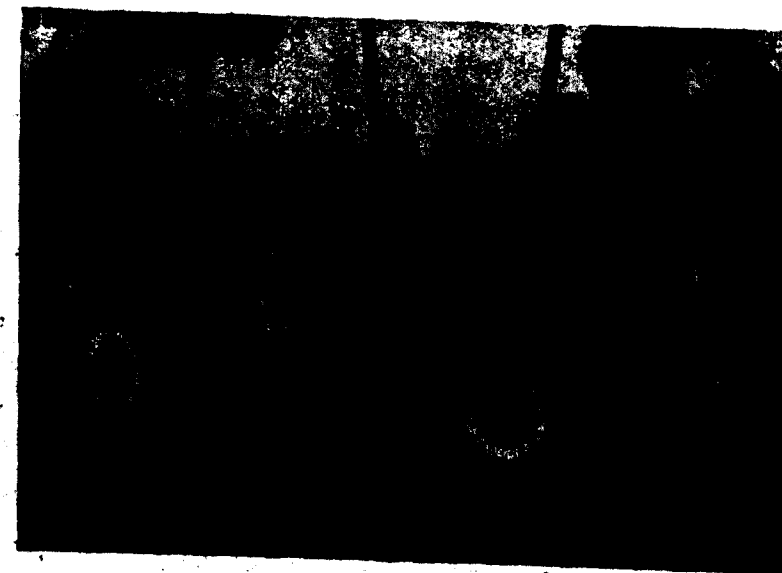
to Main Hospital, Raipur, with a Motor Ambulance, and lately orders were given by the St. John Ambulance Association for building two more Ambulances for use in the Province.

These Ambulances have been built on a "Ford Chassis" by the Provincial Automobile Co., Nagpur, and they are to be

congratulated on the very workmanlike Ambulances they have turned out.

These Ambulances fulfil a long felt want and are invaluable in road accidents and illness in conveying the sick, without discomfort to the Hospitals.

ANOTHER LINCOLN V-12 FOR TRAVANCORE



H. H. The Maharaja of Travancore recently took delivery of his second Lincoln V-12, from the Ford Dealer, Messrs. Marikar & Co., Ltd., Munnar.

"THIS MOTORING IN INDIA"

TO THE EDITOR OF "THE TIMES OF INDIA."

SIR,—Recently I had an occasion to travel by car as far as the Nilgiris in the South, and I wish to place my personal experience before the motoring public.

The condition of roads within our Bombay Presidency towards the Mysore State Frontier is indeed good. The only indelible scar is the notorious Bombay-Poona section. It is impossible to conceive any reason, why this important section is never done up as a whole and kept and maintained in a first class condition. Reviewing this part of the Southern Section only, one cannot fail to see such an apparent difference in the management of the Road Departments of the different districts of the Public Works Department. While running on Belgaum, Dharwar and Sirsi Districts roads, one cannot fail to realise that the authorities concerned in the districts for making and maintaining transport roads are quite alive to their responsibilities and that they feel it incumbent on them to give you better and better roads. Can you say the same thing of our own Bombay District? Here the persons in charge of our purse seem to throw doles at us, out of our own money, and expects us to feel grateful for it. The Bombay-Poona road is perpetually under construction. We must put up with all the inconvenience and the damaging of our cars, because the roads are under construction. Half the section is under construction and the other half is thoroughly out of repair. Look at the Bombay-Thana section. A narrow track hardly sufficient for the heavy bus traffic, either for overtaking or for crossing, is looked upon as a great gift to the motorists and before the whole of it is completed, a portion near Thana, which was only very recently done, is already out of repair. This is how our good money is thrown away. One would any time welcome less expensive but thoroughly made good metal roads and broad enough to avoid unnecessary risk while overtaking or crossing heavily loaded trucks rather than such a dangerously narrow so-called asphalted track, unsuitable for the modern heavy traffic.

Dharwar District provides good roads, but its road sign posts are worse than useless for guiding a touring motorist. While entering Dharwar District from the Portuguese Frontier there is just one insignificant indication pointing Dharwar, at the junction of Astoli. From this end, you enter into one of the thickest jungle roads, for several miles, without once being re-assured that you are running on the correct road to your destination. Leaving the mileage post alone, you come across several junction roads, usually indicating the names of the nearest villages, in all the four directions, but nowhere the name of the principal town or Head-quarters of the District is shown. While visiting the famous Jog Falls you

encounter the same difficulty. These famous Falls are about 100 miles from Hubli and Hubli is the first nearest approach to these Falls and also an important junction for Bangalore and such an important junction is lamentably lacking in the method of road signs. The tourist is expected to know the local topography like the bus driver. At such important junctions, you have to make enquiries to start on your journey. After running some eleven miles on main Bangalore road, the road to Jog Falls branches off, and instead of showing the road to Sirsi for Jog Falls, the name of a small village Taloda, about 11 miles off, is mentioned on the junction sign-post. This is ridiculous. I have already taken up this matter with the Public Works Department at Dharwar, and I do hope, they will put right this defective system.

On entering the Mysore Frontier the first toll bar man will require you to pay Rs. 18, as licence fee for the Mysore State and over and above this amount, you are further required to pay all the Provincial Tolls of Rupee one each on all Provincial Roads. They are, of course, over 50 miles apart from one another, and while touring about in the State, I had to pay 22 tolls of one Rupee each in addition to the Rs. 18. The moment you enter Madras Presidency, you are further required to pay a quarterly tax of Rs. 25 to the Government. A certain refund in both the cases will be due to you, if you do not stay more than a few days. This is Motoring in British India in the year 1936.

It would be interesting to know that our Bombay Presidency has not lost its sense of fairness and hospitality towards the touring motorists, like its neighbours, the Mysore State and Madras Presidency. This Presidency exempts all touring cars from payment of any tax for a period not exceeding 30 days, in any one year. I wish this limit was extended to 90 days.

As far as Madras Presidency is concerned, we need entertain no hope of any improvement in the outlook of those who are responsible for such harsh and unfair treatment to touring motorists. We are treated no better than absconded criminals. We are pursued and chased to serve with a notice to pay the tax within seven days, no matter, if we are leaving within seven minutes of our arrival. No grace, no exemption, no quarter. This is indeed worthy of Madras only, but when we have to say the same thing of such an enlightened and hospitable state as Mysore, we indeed feel sorry for it. It is understood, that Mysore has to retaliate against its neighbour Madras, but I would appeal to the sense of fairness of the State Authorities to copy the example of its good neighbour on this side, the Bombay Presidency and leave Madras alone. The treatment meted out to touring motorists in compelling them to pay a heavy licence fee

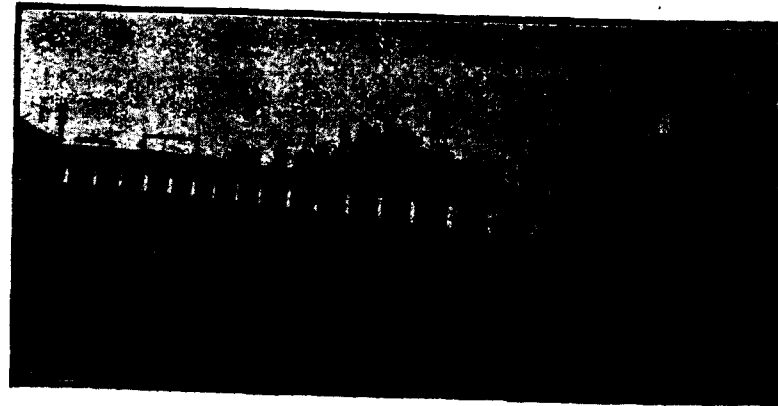
(Continued on page 32)

A LARGE ORDER FOR BEDFORD TRUCKS

MR. G. D. NAIDU, Managing Agent of Messrs. United Motors (Coimbatore) Ltd., Coimbatore, writes to say that while he was in England in 1932 he had the opportunity of observing the performance of British-made Bedford buses manufactured by Messrs. Vauxhall Motors Ltd., Luton, Bedfordshire. He was impressed by what he saw and on his return to India, though he was not sure of the suitability of Bedfords to Indian road conditions and other requirements, (Bedfords being practically new to his area) he placed an order for 40 new Bedford W.S. models which were put into service on 3rd July 1933. This fleet was followed by another for 20 trucks in the same year.

According to the policy of the firm that no buses should be in service for more than three years, all the existing buses which were found unfit for service were subsequently replaced by Bedfords in batches of six and twelve at a time.

Today there are more than 100 buses in service, many of these have done more than 200,000 miles and a few



not less than 150,000 miles with the minimum of maintenance expenses. Recently an order for a further 150 Bedford units was placed with Messrs. General Motors India Ltd., Bombay. The first 20 units of this order is depicted in the accompanying photograph lined up in front of Messrs. United Motors Workshop for fitting up saloon bus bodies. These buses will replace the 1933 Bedfords that have completed the three years' service and Mr. Naidu expects that by April next the entire fleet of more than 150 units will be all Bedford 1936-37 models.

"FIT AND FORGET"

K. L. G.

SPARKING PLUGS

Rs. 2-0-0 each. Set of 4 Rs. 7-8-0 Set of 6 Rs. 10-8-0

Sole Agents:—

J. N. NORRIDGE & CO.

**3/33 MOUNT ROAD
MADRAS**

Telephone 3329

(Continued from page 24).

barber shops, swimming pools, showers, laboratories, dressing rooms, recreation halls, cooling equipment, etc. It was necessary also to construct elaborate sets representing Algerian villages, and oases dotted with date palms, necessitating a literal irrigation of that portion of the Arizona desert.

Add to this the actual filming of the scenes under rigorous desert conditions that included unbearable temperatures and frequent sandstorms, and it will be understood why the palm is being awarded to Selznick International for having completed perhaps the most difficult motion picture assignment in the history of the cinema. It was, moreover, an all-colour film, doubling the equipment, time and labour ordinarily required. Actual shooting under these conditions averaged about two minutes of finished film each day.

Transportation problems were unlike those ever before faced by a moving picture company. Ford cars and trucks were used extensively to transport men, equipment and building materials through desert rivaling the Sahara. More than 25 vehicles were in constant use, both in handling the enormous quantities of supplies and equipment and in moving people promptly to and from location.

Every day the impressive caravan moved from the camp into the desert with lighting equipment, properties, costumes, medical supplies, accessories of all sorts, quantities of building materials, platforms, cameras, film and numberless appurtenances of picture-making.

Vast quantities of material also had to be moved on trucks through loose-sifting sand in constructing the five largest desert settings.

Heading the items needed for construction were 125,000 feet of lumber. Other materials were 3,500 adobe bricks, 250 sacks of plaster, 60 kegs of nails, 1,500 yards of burlap, 200 sheets of Celotex, 25 palm trees and additional bulky articles. For one location, nearly a mile off the highway, it was necessary to construct over the sand a plank road which required an additional 95,000 feet of lumber and 45 kegs of spikes.

The part of "The Garden of Allah" filmed on location was largely concerned with the unfoldment of the romance between the beautiful Dominie, played by Dietrich, and the mysterious Boris, Charles Boyer's characterization.

Their first realization of love comes to them at an almost fantastical oasis near Beni-Mora, described by Robert Hichens from the actual Black Pool near Biskra.

This setting was erected among the rolling dunes in the open desert. It was designed by Art Director Sturges Carne.

The water for the pool was transported six miles in tank trucks.

An entirely different type of location and construction was required for the setting of Sidi-Zerzour, a large oasis where the young lovers first met the strange desert philosopher, Count Anteoni, played by Basil Rathbone. Here, also, "Honest" Mustapha, played by Adrian Rosely, appeared as a guileful guide. Joseph Schildkraut, as Batough, had important scenes in this setting.

The location was found ten and one-half miles off the main highway between Bard's and Laguna Dam, near the Arizona-California line. The roads were rutty and full of holes. It was very difficult to reach with the heavy equipment.

The main building on the oasis was a house with a flagged patio. Simple enough as a construction project, it became a serious undertaking on account of difficult haulage of materials.

The most spectacular setting of any of the desert locations was an entire section of an Algerian city. This was the locale that was reached by the plank road, built of two by four surface timbers laid on a foundation of four by six pieces.

It was situated in Buttercup Valley, near Grays Wells, California, a saucer-like formation entirely surrounded by mountains of sand. When the Ford cars and trucks triumphed over these natural difficulties they survived the most gruelling tests, perhaps, to which machines have ever been subjected.

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(Continued from page 26).

pitching; and remarkable stability on corners is achieved by the special suspension system.

Comfort is assured, for independent front wheel suspension is now a feature of the big Vauxhalls. The torsion bar and torsion tube system is employed and is designed to give progressive springing, automatically adjusting itself to suit the road conditions—soft for slightly irregular surfaces but harder where the going is rough. Body conformity front seating and arm-chair type rear seat complete the sense of well-being for driver and passengers.

There is a surprising amount of room for five people to be accommodated with comfort. The back seat is 47½

inches wide, providing ample room for three, and the centre arm-rest lets down to form two delightfully comfortable arm-chair seats.

A spacious luggage trunk built into the rear is longer than is usual on this class of car. Externally it is not noticeably large and enhances the flowing body lines, but it has room for several suit-cases and smaller cases to be stowed away, completely protected from dust and rain. The lid lets down to form a platform for additional luggage. A separate compartment beneath the trunk houses the spare wheel and tyre.

The new Vauxhalls are on show at all Vauxhall dealers.

(Continued from page 29)

and again tolls in addition is in direct contrast to the traditional and proverbial courtesy extended to a visitor by the people of the State in general and the State Officials in particular. Apart from this fact, the State roads are not in such condition as to require such heavy penalty from a mere visitor. I would draw the particular attention of the State to the wretched condition of the main road between Arsikheri and Bangalore and between Bangalore and Sravanabelagola and then to Arsikheri via Chandraypatnam. The last portion between Chandraypatnam and Arsikheri is in a most disgraceful and neglected condition and it would be an act of mercy to an un-

wary motorist if he was warned of the danger of a breakdown particularly about 20 miles nearer Arsikheri. And I would ask the State Authorities to consider the feelings of a touring motorist who is required to pay so heavy a penalty for having accepted the invitation extended to him in the Mysore State guide, "Picturesque Mysore."

NOTE.—The above article was written before the introduction of Short Term Licences and the present position of motorists visiting Mysore State and the Madras Presidency for short periods has been altered.

This new system is of course a boon to motorists.

MADRAS FLYING CLUB NOTES

DECEMBER proved a dry month with nothing wetter than showers now and again.

On the first Sunday morning of the month a bombing competition was held, in pursuance of which small sand bags with coloured streamers were dropped from a height of 400 feet with the object of striking the middle of the home circle. (The Meenambakkam aerodrome boasts two quite separate circles incidentally, possibly the only aerodrome in the world to do so). There were nine entrants, each dropping four bombs including a sighter to start off with. Dr. Dyson was the winner with two bulls eyes and a close inner and he duly annexed a silver spoon as trophy.

The Club's brand-new Leopard Moth VT-AIL to replace the superannuated Puss arrived in a couple of crates during the month and was erected and tested and immediately in great demand. She did her first cross country flight at the very end of the month, a charter flight to Colombo by the Pilot Instructor taking Mr. Morris of Harrison's & Crossfield, who had come by train from Calcutta. The 495 miles to Colombo, via Trichy and Adam's Bridge, was done in 3¾ hours flying. The return empty in 5½ hours. Mr. Nowroji of Tata's accompanied Mr. Morris as far as Trichy. There was a certain amount of cross country flying during the month in the Gipsy Moths, the Puss being no longer available. Mr. Sundarajan flew Mr. Narayanan on business to Bombay and back early in the month and Mr. Bhuyan next flew Mr. Mathai to Trivandrum, returning empty. On the 9th an expedition to view and photograph possible sites

for a landing ground near Ramnad set forth and returned in the day in the two Gipsies, Capt. Elkington, R.E., in one and Capt. Wyatt, R.E., with the Pilot Instructor in the other, refuelling at Trichy both ways. On the 12th and 13th Dr. and Mrs. Dyson flew to Trichy and back to see a play staged by the Trichy Dramatic Society, "A Murder has been arranged." Mrs. Dyson's navigation *en route* proved remarkable for its precision.

Two business flights to Bangalore and back with the Pilot Instructor were performed, the one by Monsieur Triou and the other by Mr. Prynne, both there and back in the day. The distance of these various places from Madras by air are 645 miles to Bombay, 380 to Trivandrum, 185 to Trichy and 170 to Bangalore.

A new *ab-initio* flying member joined in the person of Mr. H. T. Grubb from Cochin who straightway took to the air as a duck to water, and Mr. S. Thirumalai passed the flying tests for his "A" licence. After a long absence Mr. Avadiappa Chettiar, who owns a Puss Moth now in Rangoon which he flew to Saigon in 1934, has returned to flying activity.

In the way of visitors Mr. P. M. Reddy came in a Hyderabad Aero Club Tiger Moth from Hyderabad and returned on the same day, and in addition to the bi-weekly Tata Air Mail, in and out, the first air mail to Ceylon went through on the 23rd, flown by Mr. Bharucha, to be followed next day by another, flown by Mr. Rao, carrying the Christmas mails from England.

RADIO

BROADCASTING MISCELLANY

200,000 at Prayer

CANON W. H. ELLIOTT, of St. Michael's, Chester Square, London, in one of his weekly broadcasts, suggested the formation of a League of Prayer. His intention was that listeners at 10 o'clock each evening should engage in prayer for universal peace. Canon Elliott was overwhelmed with requests for particulars of his scheme, and now over 200,000 people have intimated their desire to join this League of Prayer. Two great meetings are to be held in the Albert Hall in connexion with the League. Further evidence of the popularity of the BBC religious broadcasts was the demand for *New Every Morning*, the Book of Prayers used in the Daily Service. Over 60,000 were sold in a few weeks.

The Crystal Palace Fire

Perhaps in years to come popular imagination will rank the Crystal Palace Fire second to the Great Fire of London. It was a never-to-be-forgotten spectacle for those who saw the fire, and a thrilling event for those who heard the broadcast commentary. The BBC engineers were early on the scene with a microphone and amplifiers, and an obliging cafe proprietor nearby allowed them to use his premises. An unlimited telephone call was put through to Broadcasting House, and the fixing of a microphone and amplifiers in a place convenient to the fire brigades and the police was the work of a minute. Listeners were repeatedly requested not to go near the fire. The following appeal was broadcast: "Fire engines are still making for the scene and we suggest that, in view of the difficulties still confronting the police, people should not go to the fire, and so make matters worse for them."

Bringing the Empire to the Schools

The *Young Ideas* of the British Empire's tropical dependencies should be at least an accurate idea as a result of a series of travel talks which the BBC has included in its programme of broadcasts to schools. T. Cullen Young, Deputy-Secretary of the United Society for Christian Literature, and before that a missionary in Nyasaland, will be the first speaker in the second term of the series, which will begin on January 22. Nyasaland, of course, will be his subject. A week later L. S. B. Leakey, Ph.D., will talk on Kenya—to which, by the way, he will return immediately after the broadcast. He was born in the colony and is one of the very few European initiates of the Kikuyu tribe.

An ex-Private Secretary of the Sultan of Zanzibar, C. F. Battiscombe, will be the next speaker, his subject being: "The Spice Island of Zanzibar." Then G. T. Swann will tell his listeners (and by no means all of them will be at school) of British Somaliland, Aden, and the Red Sea. Through the Northern Sudan is the title of the next talk. It will be given by E. G. Sarsfield-Hall, C.M.G., ex-Governor of Khartoum Province. Mr. Sarsfield-Hall joined the Sudan political service in 1908 and his long and distinguished service in the East needs no emphasis.

C. D. Forde, Ph.D., who planned this series of talks, will follow Mr. Sarsfield-Hall and will talk about Northern Nigeria. Dr. Forde spent the whole of the summer of 1935 in Nigeria studying a Cross River tribe. His wife accompanied him on that expedition and will herself give the next talk. She will speak under her maiden name of Joyce Stock, and her contribution to the series is entitled: Southern Nigeria: a Village in the

Forest. "The Gold Coast"—on March 12—and "Trinidad and British Guiana"—on March 19—will end the term, Denis Vincent and L. Dudley Stamp, D.Sc., being the speakers.

Unusual Broadcast Messages

British listeners were thrilled when some time ago they heard a message of cheer broadcast to the thirty men and women of a film unit who were storm-stayed on the Island of Foula in the Shetlands. The message was: "If the marooned party is listening to the broadcast, we take this opportunity of sending them a word of greeting along with the hope that the sea will soon subside."

Messages of this character (as distinct from S.O.S. appeals, police messages, and other communications of a grave character) are not often broadcast. In the early days of the Spanish conflict an appeal was broadcast to British nationals in Spain, urging them to take advantage of the facilities offered for leaving the country. In a less serious vein was the appeal to the patrons of a great sporting meeting in the North of England who had hired cushions and gone home with them. About 4,000 cushions were missing, and in response to the broadcast message about 600 were returned. Another message which caused some amusement was sent by Sir Harry Lauder at the end of one of his programmes. He informed his wife of the time of his departure from London, and of his arrival in Dunoon. As he said, "That will save me the price of a wire, ye-ken."

Television and Health Culture

The first television demonstration of health and beauty culture has been given by Miss Prunella Stack. Miss Stack showed exercises designed for all ages, some of which were calculated to bring hope to those who could no more touch their toes (without bending the knees) than swim the English Channel. There has never been any demand for broadcast physical jerks in Britain—not even when attempts have been made to whip up enthusiasm in the subject. But, apart from any physical benefits received, there might be considerable entertainment value in such transmissions by television.

Running Commentary

Mr. S. J. De Lotbiniere, Director of Outside Broadcasts for the BBC, recently stated that he is experiencing considerable difficulty in finding persons capable of giving running commentaries. Since making that admission, he has been inundated with letters from all parts of Britain, many of the writers of which seem to think that the prime qualification is a knowledge of elocution, but this is, of course, insufficient training for giving extemporary descriptions of swiftly passing events.

Other applicants say that they have agreeable voices and that they have to spend a considerable amount of time at the telephone; this has developed a certain fluency and aptness of speech. Alas, expert telephone conversation style is, again, no criterion of success in a one-way means of communication such as a running commentary.

A more hopeful note is struck by some who say that they have had considerable experience in describing things for the benefit of others. Performing such a service for blind people may possibly be a good training for the art of running commentary, but even if a person should be gifted in such a direction, he might be utterly lacking in microphone personality.

B. B. C. Empire Service Programmes

Transmissions 2 and 3

NOTE.—All times given are Indian Standard Time which is five hours and thirty minutes ahead of Greenwich Mean Time. Wavelengths shown for each Transmission are those in use at time of going to press. Changes, if any, will be duly notified by microphone which should be listened for in the announcements made at frequent intervals.

Transmission 2:—4.30 to 7.15 p.m. I.S.T. (11 a.m. to 1.45 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSG 17.79 Mc/s (16.86 m.).
GSB 9.51 Mc/s (31.55 m).

Transmission 3:—7.30 to 10.30 p.m. I.S.T. (2 to 5 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSG 15.14 Mc/s (19.82 m.).
GSB 9.51 Mc/s (31.55 m.).

WEDNESDAY, JANUARY 27

4.30 p.m.—Big Ben. A Cinema Organ Recital.
5.0 p.m.—Talk*: World Affairs.
5.15 p.m.—A Programme of Light Music.
6.0 p.m.—A Variety Feature Programme.*
6.25 p.m.—The News and Announcements.
6.45 p.m.—The Birmingham Hippodrome Orchestra.
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. Act 4 of Gounod's Opera, "Faust".†
8.5 p.m.—Talk*: Empire Exchange.
8.20 p.m.—A Brass Band Concert.
9.0 p.m.—A Pianoforte Recital.
9.30 p.m.—"Bristol and Beyond". No. 2.*
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

THURSDAY, JANUARY 28

4.30 p.m.—Big Ben. A Programme of Music.
5.0 p.m.—"John Londoner at Home". No. 4.
5.30 p.m.—A Variety Feature Programme.*
5.45 p.m.—The Orchestra of the Trocadero Cinema, Elephant and Castle.
6.25 p.m.—The News and Announcements.
6.45 p.m.—A Musical Comedy Overture.†
6.53 p.m.—"Food for Thought".*
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. A Cinema Organ Recital.
8.0 p.m.—"Captain Cook".*
8.45 p.m.—The Bournemouth Municipal Orchestra.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

FRIDAY, JANUARY 29

4.30 p.m.—Big Ben. "Scrapbook for 1919".*
5.30 p.m.—An Instrumental Recital.
5.45 p.m.—Talk*: This is England, No. 4.
6.0 p.m.—The BBC Dance Orchestra.
6.25 p.m.—The News and Announcements.
6.45 p.m.—A Commentary on the 4th Test Match.*
7.5 p.m.—A Programme of Pokas and Veletas.†
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. The BBC Military Band.*
8.5 p.m.—Talk.
8.20 p.m.—The BBC Dance Orchestra.*
9.10 p.m.—A Commentary on the 4th Test Match.*
9.30 p.m.—"Children of the Stars". No. 2.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

SATURDAY, JANUARY 30

4.30 p.m.—Big Ben. The BBC Military Band.*
5.5 p.m.—Talk.*
5.20 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
6.5 p.m.—For the Children: A Toytown Play.
6.55 p.m.—The News and Announcements.
6.55 p.m.—A Commentary on the 4th Test Match.*
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. "Girl Missing".*
8.17 p.m.—Classical Symphony Records.
8.45 p.m.—Interval Summary and Commentary on the second half of a match in the fourth round of the F.A. Cup.
9.45 p.m.—A Commentary on the 4th Test Match.*
10.5 p.m.—The News and Announcements.
10.30 p.m.—Close down.

SUNDAY, JANUARY 31

4.30 p.m.—Big Ben. The BBC Empire Orchestra.
5.40 p.m.—A Commentary,* on a Match in the 4th Round of the F.A. Cup.
6.0 p.m.—The London Palladium Orchestra.
6.25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
6.50 p.m.—A Short Religious Service.*
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. A Programme of Indian and Cingalese Music.
7.50 p.m.—The BBC Military Band.
8.50 p.m.—A Religious Service from York Minster.
9.35 p.m.—The Dorothy Hogben Players and Singers.
10.0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
10.30 p.m.—Close down.

MONDAY, FEBRUARY 1

4.30 p.m.—Big Ben. A Programme of Light Music.
5.0 p.m.—Talk: I Was There. No. 3.
5.15 p.m.—Haydn Heard and his Band.
5.25 p.m.—"The Children of the Stars". No. 2.*
5.55 p.m.—"London Theatres and their Musical Successes". No. 3.†
6.25 p.m.—The News and Announcements.
6.45 p.m.—A Commentary on the 4th Test Match.*
7.5 p.m.—Dance Music.†
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. "John Londoner at Home". No. 4.*
8.1 p.m.—"Syncopation".
8.15 p.m.—Talk*: Tales of the Sea. No. 3.
8.30 p.m.—A Programme of Light Music.
9.5 p.m.—A Commentary on the 4th Test Match.*
9.30 p.m.—A Sonata Recital.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

TUESDAY, FEBRUARY 2

4.30 p.m.—Big Ben. A Commentary on a Boxing Match*: Petersen v. Foord.
4.50 p.m.—Interlude.†

* Electrical Recording.

† Gramophone Records.

4-55 p.m.—"Winter Mosaic".
 5-20 p.m.—The BBC Empire Orchestra.
 6-20 p.m.—Interlude.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Commentary on the 4th Test Match.*
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-46 p.m.—Geiger and his Orchestra, from Claridge's Hotel, London.
 8-13 p.m.—A Commentary on a Boxing Match,* Petersen v. Foord.
 8-30 p.m.—The Torquay Municipal Orchestra.
 9-40 p.m.—A Commentary on the 4th Test Match.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.
 10-30 p.m.—Close down.

WEDNESDAY, FEBRUARY 3

4-30 p.m.—Big Ben. Cinema Organ Recital.
 4-45 p.m.—Talk*: World Affairs.
 5-0 p.m.—The Orchestra of the New Victoria Cinema, London.
 5-25 p.m.—"Ghosts of London".*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital from the Town Hall, Birmingham.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Act 5 of Gounod's Opera "Faust".†
 8-5 p.m.—Talk*: I Was There. No. 3.
 8-20 p.m.—A Brass Band Concert.
 9-0 p.m.—Light Programme.
 9-45 p.m.—Variety.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

THURSDAY, FEBRUARY 4

4-30 p.m.—Big Ben. Henry Hall's Music Makers.*
 4-50 p.m.—"John Londoner at Home". No. 5.
 5-20 p.m.—The BBC Welsh Orchestra.
 6-15 p.m.—Light Programme.*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Syncopated Piano.†
 6-53 p.m.—"Food for Thought".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Theatre Organ.
 8-0 p.m.—A Programme of Cavalier Songs.†
 8-15 p.m.—Scenes from the play "Charles the King".*
 8-45 p.m.—The Royal Air Force Band, Uxbridge.
 9-30 p.m.—"Sealed Orders".*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, FEBRUARY 5

4-30 p.m.—Big Ben. Cinema Organ Recital.
 5-0 p.m.—Light Programme.*
 5-40 p.m.—Interlude.†
 5-45 p.m.—Talk*: This is England. No. 5.
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—"Made in Scotland".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Dance Music.*
 8-15 p.m.—A Pianoforte Recital.
 8-45 p.m.—Talk: A Countryman's Diary.
 9-0 p.m.—The Gershwin Parkington Quintet.
 9-30 p.m.—"London Pie". Second Edition.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, FEBRUARY 6

4-30 p.m.—Big Ben. Variety.*
 4-50 p.m.—Dance Music.†

5-0 p.m.—Talk*: A Countryman's Diary.
 5-15 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
 6-15 p.m.—A Programme for the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—A Programme of Maori Songs.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The last act of the play "Love from a Stranger", with Marie Ney.
 8-16 p.m.—The Coventry Hippodrome Orchestra.
 8-30 p.m.—"Oddities".†
 8-40 p.m.—A Commentary on a Rugby Match: Wales v. Scotland.
 9-30 p.m.—A Programme of Light Music.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, FEBRUARY 7

4-30 p.m.—Big Ben. The BBC Theatre Orchestra.*
 5-22 p.m.—A Song Recital.
 5-40 p.m.—A Commentary* on a Rugby Match: Wales v. Scotland.
 6-0 p.m.—The BBC Military Band.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—A Short Religious Service.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Pianoforte Recital.
 7-50 p.m.—An Orchestral Concert.
 8-30 p.m.—A Religious Service (Baptist)* from the Studio.
 9-40 p.m.—The BBC Theatre Organ.
 10-0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 10-30 p.m.—Close down.

MONDAY, FEBRUARY 8

4-30 p.m.—Big Ben. A Pianoforte Recital.
 5-0 p.m.—Talk: Empire Exchange.
 5-15 p.m.—Haydn Heard and his Band.
 5-25 p.m.—London Pie—2nd Edition.*
 5-55 p.m.—London Theatres and their Musical Successes—4.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. John Londoner at Home—5.*
 8-1 p.m.—The BBC Scottish Orchestra.
 9-0 p.m.—A Cinema Organ Recital.
 9-15 p.m.—Suggestions for your Bookshelf—3.*
 9-30 p.m.—A Sonata Recital.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, FEBRUARY 9

4-30 p.m.—Big Ben. "The Roosters".*
 5-10 p.m.—"Round and About".
 5-20 p.m.—The BBC Empire Orchestra.
 6-20 p.m.—Interlude.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Troise and his Mandoliers.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-46 p.m.—Interlude.†
 7-50 p.m.—Light Programme.*
 8-0 p.m.—Geiger and his Orchestra.
 8-30 p.m.—"Ghosts of London".*
 9-30 p.m.—A Programme of New Gramophone Records.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

* Electrical Recording.

† Gramophone Records.

WEDNESDAY, FEBRUARY 10

4-30 p.m.—Big Ben. Dance Music.*
 5-0 p.m.—Talk: World Affairs.*
 5-15 p.m.—The Orchestra of the New Victoria Cinema, London.
 5-35 p.m.—Light Programme.
 5-50 p.m.—Scenes from the play "Julius Caesar."
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Musical Programme.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Light Orchestral Concert.
 8-0 p.m.—The British Industries Fair, 1937. An Introductory Talk by General Smuts, from Africa.
 8-20 p.m.—A Brass Band Concert.
 9-0 p.m.—A Pianoforte Recital.
 9-30 p.m.—A Folk-lore Programme.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

THURSDAY, FEBRUARY 11

4-30 p.m.—Big Ben. Songs from the Early Talking Films.†
 5-0 p.m.—A Talk on the British Industries Fair* by General Smuts.
 5-15 p.m.—A Cinema Organ Recital.
 5-40 p.m.—The Old Folks at Home.*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Dance Music.†
 6-53 p.m.—"Food for Thought".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Violin Recital.
 7-50 p.m.—Talk: Lady Reading.*
 8-5 p.m.—"The Roosters".*
 8-45 p.m.—The Bournemouth Municipal Orchestra.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, FEBRUARY 12

4-30 p.m.—Big Ben. Cue for Adventure—4.*
 5-1 p.m.—Dance Music.†
 5-10 p.m.—Light Programme.
 5-35 p.m.—A Pianoforte Interlude.
 5-45 p.m.—Talk: This is England—6.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Studio Concert.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: Empire Exchange.*
 7-46 p.m.—Regimental Marches.†
 7-55 p.m.—A Short Actuality Programme.*
 8-15 p.m.—Scottish Country Dances.†
 8-25 p.m.—Talk.
 8-40 p.m.—The BBC Theatre Orchestra.*
 9-30 p.m.—John Londoner at Home—6.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, FEBRUARY 13

4-30 p.m.—Big Ben. A Cinema Organ Recital.
 4-45 p.m.—Talk.*
 5-0 p.m.—John Londoner at Home—6.*
 5-30 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
 6-15 p.m.—A Programme for the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Scottish Orchestra.
 8-30 p.m.—Mantovani and his Tipica Orchestra.
 8-55 p.m.—A Commentary on a Rugby Match: England v. Ireland, from Twickenham.
 9-50 p.m.—A Commentary on a Football Match: British Army v. French Army, from Selhurst.

10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, FEBRUARY 14

4-30 p.m.—Big Ben. The BBC Empire Orchestra.
 5-30 p.m.—A Commentary on a Football Match: British Army v. French Army.*
 6-0 p.m.—The BBC Theatre Orchestra.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—A Short Religious Service.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Programme of Light Music.
 7-50 p.m.—The BBC Military Band.
 8-50 p.m.—A Religious Service* from Bower Park Methodist Church.
 10-0 p.m.—Weekly Newsletter, Sports Summary and Announcements.
 10-30 p.m.—Close down.

MONDAY, FEBRUARY 15

4-30 p.m.—Big Ben. The BBC Dance Orchestra.*
 5-0 p.m.—Talk: I Was There—4.
 5-15 p.m.—Haydn Heard and his Band.
 5-55 p.m.—The London Theatres and their Musical Successes—5.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Cue for Adventure—4.*
 8-0 p.m.—The BBC Scottish Orchestra.
 9-0 p.m.—A Cinema Organ Recital.
 9-15 p.m.—Tales of the Sea—4.*
 9-30 p.m.—A Sonata Recital.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, FEBRUARY 16

4-30 p.m.—Big Ben. A Cinema Organ Recital.
 5-0 p.m.—Light Programme.*
 5-20 p.m.—The BBC Empire Orchestra.
 6-20 p.m.—Interlude.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Light Entertainment Programme.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-46 p.m.—Variety.
 8-30 p.m.—The Torquay Municipal Orchestra.
 9-30 p.m.—"Made in Scotland".*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, FEBRUARY 17

4-30 p.m.—Big Ben. Talk: World Affairs.*
 4-47 p.m.—A Pianoforte Interlude.
 5-0 p.m.—The Forum Theatre Orchestra.
 5-30 p.m.—Variety.
 5-50 p.m.—A Talk on the British Industries Fair.
 6-0 p.m.—A Programme of Light Music.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—The Birmingham Hippodrome Orchestra.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Mendelssohn in Kensington.*
 8-1 p.m.—Talk: I Was There—4.*
 8-20 p.m.—A Band Concert.
 9-0 p.m.—"Hyde Park".*
 9-25 p.m.—Interlude.†
 9-30 p.m.—Studio Concert.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

* Electrical Recording.

† Gramophone Records.

430

MOTOR OWNER

THE OFFICIAL ORGAN OF THE AUTOMOBILE ASSOCIATION OF SOUTHERN INDIA

MOTORING
FLYING
RADIO

8

VOL. IX FEBRUARY 1937 No. 2

22 APR 1937

The magazine cover features a high-contrast, black and white illustration. At the top, the title 'MOTOR OWNER' is prominently displayed in large, bold, sans-serif capital letters. Below the title, a smaller line of text reads 'THE OFFICIAL ORGAN OF THE AUTOMOBILE ASSOCIATION OF SOUTHERN INDIA'. The central illustration depicts a vintage open-top car driving on a road that curves through a landscape with dark, silhouetted mountains in the background. To the right of the car, a tall, lattice-structured radio tower stands against a light sky. In the upper left corner, the number '430' is printed. On the right side, near the car, there is a small rectangular box containing the words 'MOTORING', 'FLYING', and 'RADIO' stacked vertically, followed by a large number '8'. At the bottom of the cover, a white horizontal band contains the text 'VOL. IX FEBRUARY 1937 No. 2'. A circular postmark stamp is partially visible on the right side of this band, showing the date '22 APR 1937'.

Buy

DUNLOP
FORT 90

The NATIONAL TYRE With the INTERNATIONAL REPUTATION

This is a black and white advertisement for Dunlop Fort 90 tyres. The background is a dark, grainy image of a road winding through a hilly or mountainous landscape. In the upper left corner, the word 'Buy' is written in a stylized, cursive script. On the right side, the words 'DUNLOP' and 'FORT 90' are printed in a bold, sans-serif font, with 'DUNLOP' positioned above 'FORT 90'. At the bottom of the advertisement, a white horizontal band contains the text 'The NATIONAL TYRE With the INTERNATIONAL REPUTATION' in a bold, sans-serif font.

THURSDAY, FEBRUARY 18

4-30 p.m.—Big Ben. "Round and About".
 4-40 p.m.—Henry Hall's Music Makers.*
 5-0 p.m.—John Londoner at Home—7.
 5-30 p.m.—An Operatic Concert.*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Violin Solos.†
 6-53 p.m.—Food for Thought.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Theatre Organ.
 8-0 p.m.—"The Table under the Tree".*
 8-45 p.m.—The Royal Air Force (Uxbridge) Band.
 9-30 p.m.—Variety.*
 9-50 p.m.—A Talk on the British Industries Fair.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, FEBRUARY 19

4-30 p.m.—Big Ben. Light Programme.*
 5-30 p.m.—Talk: This is England—7.*
 5-45 p.m.—The Rutland Square and New Victoria Orchestra.
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Classical Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Scottish Orchestra.
 8-15 p.m.—A Pianoforte Recital.

8-45 p.m.—Talk: Under Big Ben.
 9-0 p.m.—The BBC Dance Orchestra.*
 9-30 p.m.—Light Programme.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, FEBRUARY 20

4-30 p.m.—Big Ben. Cinema Organ Recital.
 5-0 p.m.—Talk: Under Big Ben.*
 5-15 p.m.—A Song Recital.
 5-30 p.m.—Variety.*
 5-45 p.m.—The Leslie Bridgewater quintet.
 6-15 p.m.—A Programme for the Children. A Toy Town Play.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Light Programme.*
 8-30 p.m.—Syncopation.
 8-45 p.m.—A Commentary on a Football Match in the 5th Round of the F. A. Cup.
 9-45 p.m.—A Programme of Light Orchestral Music.†
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

* Electrical Recording.

† Gramophone Records.

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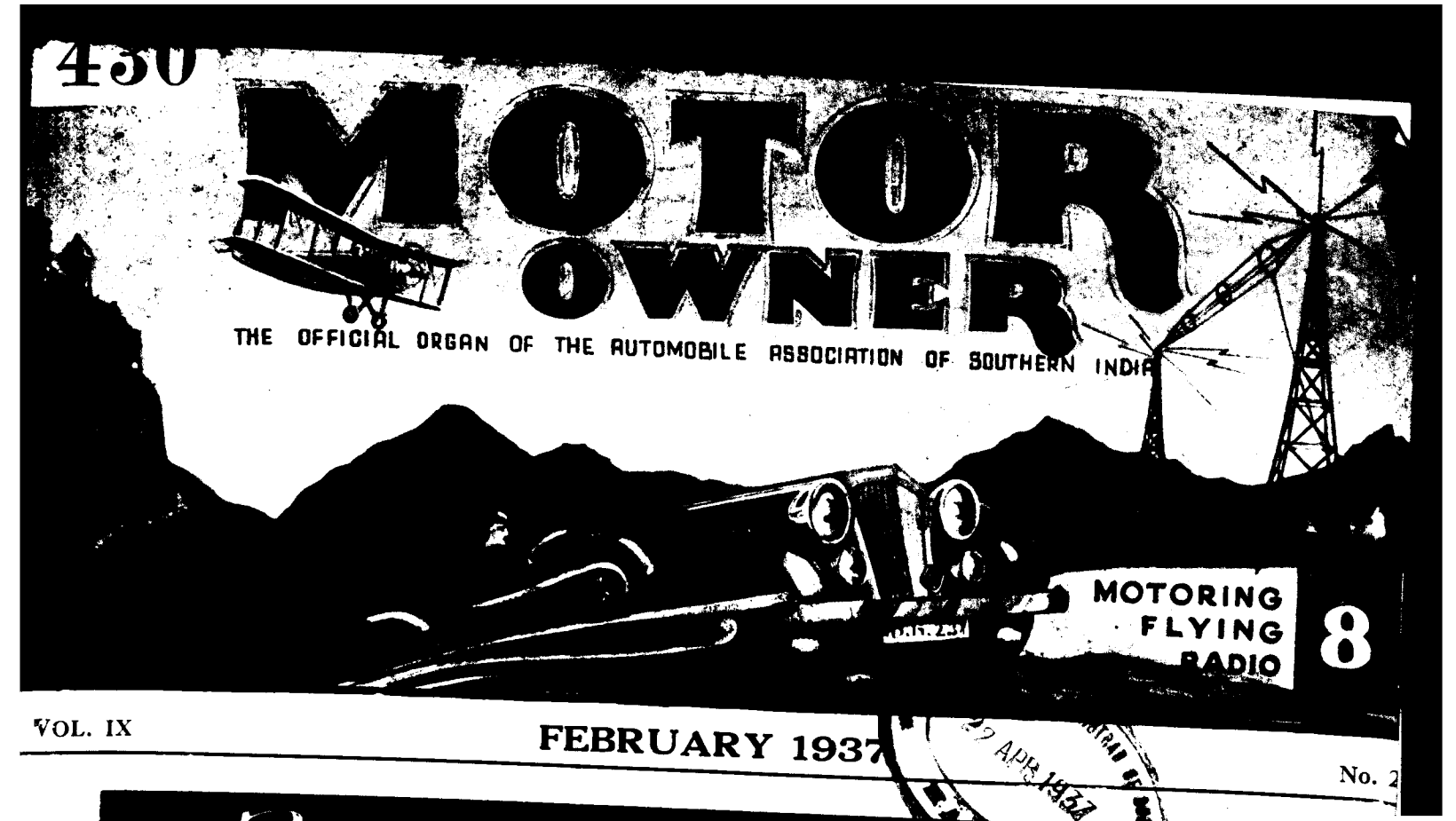
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Wolf Motor Cycles

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Wolseley Cars

MADRAS—Union Co.

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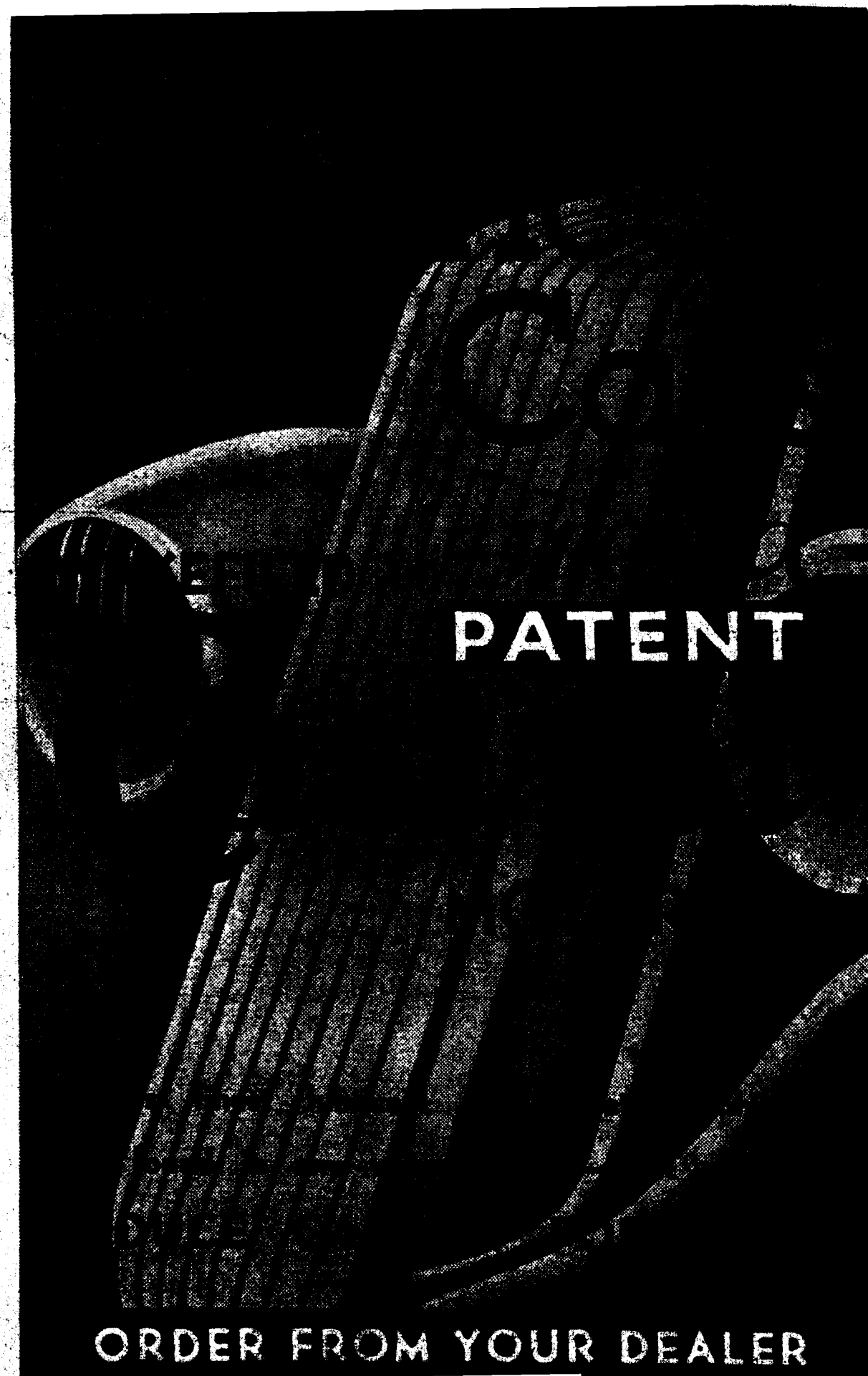
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THE SOUTH INDIA MOTOR OWNER



The Official Organ of the
Automobile Association of Southern India



Vol. IX, Number 2]

FEBRUARY 1937

[Single Copy As. 8

NOTES AND NEWS FOR A.A.S.I. MEMBERS

Road Information

AN important item of road information, so far as touring motorists are concerned, is that the Kistna Anicut near Bezvada is now free from water and the roadway over it has been opened to traffic. The road will again be closed early in June as usual in anticipation of the periodical floods which are expected at that time of the year.

Ootacamund/Mettupalayam Road.

Information has been received that the 2 wooden decked bridges at 14 miles and 22 miles 2 furlongs from Ootacamund on the Ootacamund/Mettupalayam road are being converted into Reinforced Concrete bridges and work is in progress at these two places.

Motorists are warned to proceed very cautiously over these bridges at not more than 5 miles an hour as indicated in the warning notice boards.

North Trunk Road—Madras/Nellore Road.

It has been reported by a member of this Association that the Northern Trunk Road from Madras to Nellore is now in a better condition than it has been during the past three years.

There are a few short, bad, patches between Madras and Red Hills and between miles 14 and 25 but on the whole, that portion of the road in the Chingleput District is better than usual.

From mile 33, where the road enters the Nellore District, it is in excellent condition right up to Nellore, except for a short distance about mile 37 where it has become rutted, making fast driving risky.

B

Bombay M. V. Taxation for Visiting Motorists

From recent correspondence it would appear that members are doubtful of the procedure to be adopted by motorists visiting the Bombay Presidency in connection with motor taxes.

An extract from the Bombay M. V. Taxation Rules, together with the schedule of taxes payable, is therefore published below for general information.

23. "Declaration by owner of motor vehicle visiting Bombay Presidency.—Any person bringing a motor vehicle temporarily into the Presidency shall within seven days of his arrival fill in and sign a declaration in Form 'E' which can be obtained either from the Motor Vehicles Department of the Commissioner of Police, Bombay, or from a Police Station. The declaration shall contain the particulars prescribed therein.
24. "Declaration by owner of motor vehicle visiting Bombay Presidency to whom to be delivered.—The declaration in Form 'E' shall be delivered in the City of Bombay to the Superintendent of Police, Motor Vehicles Department, Office of the Commissioner of Police, and elsewhere, to the District Superintendent of Police.
25. "Visiting motor vehicles.—Any person bringing into the Presidency a motor vehicle for temporary use and keeping it for use therein for a period not exceeding thirty consecutive days in any one financial year shall be exempt from the payment of the tax.

"Provided that if he keeps such vehicle longer than this period he shall be liable for payment of the tax for the whole of the period of his stay:

"Provided further that this exemption shall not be granted more than once in any one financial year.

26. "Registering authority to decide whether a motor vehicle is or is not used temporarily.—The registering authority shall from time to time determine whether any vehicle is or is not temporarily used in the Presidency.

27. "Token.—When an exemption from the tax is claimed on the ground that a motor vehicle brought into the Presidency for temporary use will not be kept in the Presidency for a period exceeding thirty consecutive days, the registering authority or the District Superintendent of Police to whom the application in Form 'E' has been submitted shall, if he is satisfied that the claim is valid, provide such person with a token in Form 'F', after writing the word 'Free' in the space opposite 'Tax-paid.'

Rates of Taxation.

Class	Type	1 Month	2 Months	3 Months
		RS. A.	RS. A.	RS. A.
V (a)	Other motor vehicles not exceeding 15 cwts.	3 15	7 4	10 10
(b)	15 cwts. to 30 cwts.	5 15	10 15	15 15
(c)	30 cwts. to 45 cwts.	7 14	14 9	21 4
(d)	Exceeding 45 cwts.	10 14	20 1	29 4
(e)	(i) Each trailer not exceeding 1 ton	2 8	4 9	6 11
	(ii) Each trailer over 1 ton	4 15	9 2	13 5

Itineraries

During the month of January 101 itineraries covering a distance of about 42,815 miles were issued.

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28. "Payment of tax by owner of motor vehicle visiting Bombay Presidency.—If a motor vehicle is brought into the Presidency for temporary use for a period exceeding thirty consecutive days, the person bringing such vehicle shall pay within seven days to the registering authority or the District Superintendent of Police, as the case may be, the amount of the tax due for the number of months the vehicle is to be kept in the Presidency as computed on the last page of Form 'A'. Such payment shall be made either to the registering authority or to the District Superintendent of Police, as the case may be, and the person paying the tax shall be supplied with a token in Form 'E' showing the amount of the tax paid.

"Note 1.—For the purpose of this rule part of a calendar month shall be considered as one month.

"Note 2.—A temporary visitor's token need not necessarily expire at the end of a quarter, that is to say, if he comes into the Presidency for two calendar months, he shall be taxed for those two months only, whether the said months be in one or more quarters."

This opportunity is taken to thank those members who have furnished the Association with up-to-date road information. It is needless to say that if every member would oblige the Association with similar information, the office staff would be able to keep their road information more up-to-date.

Map of Madras City

A map of Madras City showing the principal roads and buildings is available at the A.A.S.I. Office—price Re. 1, either folded or flat. The map has been produced by the Madras Calling League.

Automobile Rally—Imperial Delhi, to be organized by The Automobile Association of Northern India (in conjunction with the recognized A.As. in India)

Of recent years there has been in Great Britain and on the Continent of Europe a decided swing by car owners to the sporting side of motoring and chief among the attractions have been touring contests based on sporting reliability lines. Of these the most important have been the International Monte Carlo Rally—the annual Blue

Riband touring contest of Europe—and the English rallies promoted each year by the various motoring organizations.

Motorists in India have not hitherto had the opportunity of taking part in such rallies; but one will exist in Northern India when, in conjunction with the other A.As., the Automobile Association of Northern India will conduct the first All-India Motoring Rally ever held in British India.

This will enable competitors to witness the Coronation of His Majesty the King-Emperor, and attend the various Coronation celebrations which will be held during the Royal visit to India. During that period Delhi will present the finest pageant India has ever seen.

WHAT A MOTOR RALLY IS.

In the first place, a rally is not a race. Speed is not a determining factor in such a contest.

It is a tour conducted on the lines of a reliability trial, but the conditions are not usually nearly as exacting. It is simply a test of a competitor's ability to drive between two fixed points some miles apart within a given time, and to follow a road from a map correctly. The fixed points are known as "controls" because the time a competitor has to depart from and arrive at them is controlled by the times set out in his "route book."

The time at which a competitor is due to leave a control in the morning, the distance to the next control, and the time allowed for the journey between them, is shown in his route book. All he has to do is to work out the average speed at which he must cover the distance to "clock in" at the next control in the time allowed him, and ensure that he maintains that average speed throughout that particular part of the test.

The average speed to be maintained by competitors in this rally will vary from day to day according to the condition of the roads to be traversed, higher speed naturally being set for first-class roads than for those which are not so good.

In this rally speeds which any ordinary car can maintain without being ever-driven have been fixed, in order that as many motorists as possible might be able to take part in what in years to come will be recognized as one of the outstanding events in the history of Indian motoring.

The rally will finish at New Delhi two or three days before the Coronation. The list of starting points will be printed in the press at a later date.

Unlike the English and Monte Carlo rallies, however, where competitors have to drive both day and night (two drivers being allowed per car) competitors in this rally will drive only by day. But the same driver must drive throughout the rally without assistance, and competitors will be required to sign a declaration to this effect on arrival at New Delhi.

The programme has been so drawn up that competitors will stop overnight at towns where hotel accommodation or camping facilities are available.

A number of valuable prizes will be awarded to the winner of the rally and the winners of the various classes.

LIST OF A.A.S.I. PUBLICATIONS

Rs. A. P.

Road Map of Madras Presidency.
Mounted on linen and folded into covers ... 4 8 0

Road Map of Northern India. Scale 16 miles to 1 inch. Mounted on linen and folded in stiff covers ... 6 8 0

A. A. Handbook of Northern India ... 5 0 0

A. A. Handbook of Ceylon ... 6 8 0

Road Map of India. Scale 50 miles to 1 inch. Mounted on linen and folded into covers ... 2 0 0

"This Motoring" The Romance of the A. A. by Sir Stenison Cooke ... 2 0 0

List of Petrol Depots in Southern India ... 0 4 0

Great Britain and Ireland 1937 (A list of the principal events during 1937 with information for visitors).

Touring in Great Britain and Europe 1936 A. A. publications ... Free to Members only

Rs. A. P.

"My Glorious Adventure," by Captain T. Yates-Benyon. A record, written in a light, amusing style, of the author's trip by car from Ficcaddilly to Calcutta ... 5 0 0

Map of Madras City showing principal roads and buildings produced by the Madras Calling League. Folded or flat ... 1 0 0

Postage extra in all cases.

There will also be special prizes for women drivers, and for those who put up the best performance on each route.

Copies of the Regulations governing the rally will be issued from the Offices of the A.A.N.I., Lahore or Delhi, or from the Organizing Secretary, Captain T. Yates-Benyon, Head Office, A.A.N.I., The Mall, Lahore.

Arrangements by the A.A., London, for visiting Motorists during the Coronation Year

Members are informed that the A.A. at Home are making elaborate arrangements for the convenience of visitors for the Coronation to whom all possible help will be given.

Head-light Dazzle in Bangalore

A member writes as follows:—

"May I bring to your notice for any action you deem to be best, either by a note in the Journal or a reference to the Commissioner of Police, Civil and Military Station, Bangalore, etc. I refer to a new aspect or type of headlamp-dazzle constantly met with in this Station.

beam either because the lamps are focussed at a time when the front tyres are rather flat; or insufficient allowance made to offset a full load of passengers in the back seat which tends to throw up the beam of the headlamps:

This is very common defect but not so important as:—

"(b) The faulty 'Dip' or turning right instead of left: (This is the real danger).

"It would seem, that when the near-side lamp has for some reason been removed, the dipping reflector (which has two alternative holes at the top of the lamp for the fixing screw) has been re-assembled in the right-hand hole (which is for use where the rule of the road is right hand) instead of fixing the screw in the left-hand one which is provided for use in the U.K. and India of course—where the rule of the road is left hand.

"Members might be asked to look to their lamps."

Erratum

1. Apologies are due to Lt.-Col. J. F. Meiklejohn

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"I refer to dazzle from cars fitted with an electrically operated anti-dazzle device operated by a switch on the steering column. When the switch is moved to the 'Dip' position, the near side headlamp beam is dipped and turned to the near-side of the road, while at the same time the off-side headlamp is switched off.

"Now, assuming that the headlamps are properly aligned and bulbs focussed, this arrangement is a thoroughly good anti-dazzle device.

"Now I am constantly meeting cars which 'Dip' and Switch' but the near-side lamp—instead of turning to the near-side of the road—dips and turns across the road to the right with insufficient dip, which brings it right into the eyes of the approaching driver and is far worse than leaving both headlamps on and facing forwards.

"It is blinding and terribly dangerous, yet, I have no doubt that the driver and occupants of the cars referred to are completely innocent of any intention to cause dazzle and are in blissful ignorance of what is happening. I have come to the conclusion that the defects are due to

(a) insufficient dip: lamps set too high on the lamp brackets etc., which gives too high a

whose name was incorrectly spelt in our last issue.

2. Pre-paid telegrams.

In the paragraph published under this heading in the last issue, the words "or less" after twelve words should be omitted.

Membership

42 new members were enrolled during the month of January 1937.

These new members were introduced by the following:—

3 each by Md. Kasim Khaleeli and Major A. W. Waters, M.B.E.

2 " " Messrs. C. H. D. Leonard and V. Duraisamy.

1 " " Messrs. A. W. Hopton, C. A. V. Grant, S. Ramanujachari, R. H. Cass, C. H. John, K. Govindan, B. J. Purohit and The Ocean Accident and Guarantee Corporation Limited.

The remaining 24 were enrolled by the staff.

Here are four new Buicks—aces all!—surpassing in engineering and appointment even the Buick Triumphs of 1936. They are:—

- THE 1937 BUICK SPECIAL—with power, style and roominess that are greater, at a price that's still the same.
- THE CYCLONIC CENTURY—quicker, quieter than ever before.

- THE ROADMASTER—easier than ever to handle, with bigger power and finer comfort.
- THE LORDLY LIMITED—impressive and luxurious. Our dealers will gladly demonstrate the 1937 Buicks.

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164, Broadway, Madras.
- N. Krishnasagar, Esq.,
Executive Engineer, Buildings Division, Bangalore.
- Rev. Neil McBrearty,
Apostolic Delegation, 17, Palace Road, Bangalore.
- Mrs. M. F. Moffat,
9, Miller's Road, Bangalore.
- N. H. Daniell, Esq.,
Hill Grove Hotel, Coonoor.
- Ahmed Khaleeli, Esq.,
"Khaleelabad", Pantheon Road, Egmore.
- Capt. R. M. Garnett, R.E.,
Garrison Engineer, Bangalore.

The Indian Roads & Transport Development Association Ltd. Monthly News Letter

Road Fund Resolution

THE Council of the Association in addressing the Government of India on the proposed new Road Fund Resolution which is expected to be placed before the Central Legislatures at the forthcoming session have pointed out that, in view of the urgent need for road development and in particular feeder roads to railways, if any extensive or continuous programme of work is to be carried out, greater permanence should be given to the availability of this fund than is the case with a Resolution. They have therefore asked Government to examine the possibility of the Resolution being substituted by a Bill.

The most contentious of the new clauses in the Resolution against which Council have taken strong objection is clause 3, (3), a, which would permit the Governor-General in Council to resume the whole or any part of the sums allotted for expenditure to any particular province, if they had failed to take steps to control motor vehicles to his satisfaction.

The principal reason for their objection is that it will establish in the hands of the Central Administration powers more arbitrary than will be necessary or advisable in that administration's relations with Provincial Legislatures under the New Constitution. Clause 7 (vi) cancels the use of the Fund for the specific purpose of payment of interest and amortisation of road loans, which due to constitutional changes has become necessary. In order to overcome this difficulty Council have again impressed upon Government the importance of giving greater permanence to the fund by the substitution of the Resolution by a Bill so that the Provincial Governments may be able to count on their share of the fund as being continually available, although it may not be specifically earmarked, to meet the interest on and amortisation of loans raised for road development under guarantee of their general revenue.

Clause 8 has the object of giving the Central Authorities powers to specify the proportion of the Provincial shares of the fund which may or may not be spent on specified classes of roads and bridges. As the Provinces are considered to be in a better position to judge what their road requirements are, Council have urged that the latter part of the clause dealing with this point should be deleted.

traffic congestion and of the financial position of the older forms of transport which, he suggested, could only be solved satisfactorily and economically by careful regulation. Sir Shenton referred to the appointment of an official from the Ministry of Transport, who, in addition to assuming duty as Chairman of the Transport Board, was assisting in the preparation of a draft bill to consolidate and revise the existing law. The Transport Board will, he said, include representatives from each State and will replace the various licensing authorities. Its functions will be to solve some of the problems connected with transport, to control the use of the public roads and to co-ordinate all forms of transport, including rail transport. The Board's duties would not be merely restrictive; it would aim at securing adequate and dependable services for the general public in place of the present haphazard and wasteful system and would be able, by improving road transport facilities, to assist materially in the development of agricultural areas.

Motor Vehicles Amending Bill

The above Bill which is in circulation to elicit public opinion has been examined by the Council and branches of the Association. The branches have addressed their respective Provincial Governments expressing approval of the principle of the Bill subject to one or two amendments.

It is now understood that Government have decided not to go on with the Bill. It would appear they have been led to this decision partly by the opinions expressed by Provincial Governments and partly by the fact that it would be unreasonable and impractical to go on with the Bill before the recommendations of the Wedgwood Railway Enquiry Committee are known.

This Association has given full support to the principle of this Amending Bill in the belief that it is necessary and in the interests of motor transport and the public. The Council have therefore again addressed the Government of India regarding their decision not to proceed with the Bill, particularly as in the opinion of Council, the Railway Enquiry Committee whose object is to examine the question of railway finances has no bearing on this measure.

Motor Insurance Committee

This Committee, which was appointed to consider the question of making insurance against passenger and third party risks compulsory, has issued a very comprehensive questionnaire. The Council of the Association after examination considered that as the Association was not in a position to give the Committee the detailed information called for, in replying they should confine themselves to the general principle of compulsory insurance, with which they are in agreement.

Transport Board In Malaya

Speaking in the Federal Council on 4th November, the High Commissioner, Sir Shenton Thomas, foreshadowed the introduction of some form of road and rail co-ordination. The development of motor transport, he said, had created new problems in Malaya, as it had done in other countries. Problems of public safety, of

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The General Secretary gave oral evidence before the Committee on their visit to Bombay.

Public Transport in Britain

That people in Britain spend 450,000,000 hours in public transport vehicles in the course of a year was revealed recently by Professor Gottfried Feder, a former Secretary of State in the Ministry of Economics, to a gathering of engineering students in Berlin. This figure was the total number of passenger hours in trams, buses, underground trains, and all other means of public transport. In London alone no fewer than 3,647,962,683 persons were carried by the buses, coaches, trams, railways and trolleybuses operated by London Transport, and if each passenger spent only fifteen minutes in the vehicle the resulting total of hours would be double the aggregate for Berlin.

Motor Parks and Dimensions of Motor Vehicles

The following is an extract from a publication by A. Leopold on the above subject, which, in view of the extensive development now taking place in Municipal areas in India, may be of interest to our readers:

"The provision of parking accommodation should form a part of all road reconstruction in urban areas, and the possibilities of existing roads and spaces should be examined in this relation. The design of new municipal and business buildings should include adequate garage accommodation. In the author's opinion, the design of motor parks must be based on the requirements of vehicles of average rather than exceptional size. Replies to a questionnaire circulated to leading German motor manufacturers showed that a maximum of 14 ft. long x 5 ft. 5 in. wide is rarely exceeded, and this area is taken by the author as a basis for calculations of parking space. With the requisite allowances for side space he arrives at a minimum area per vehicle of 14 ft. x 8 ft. 5 in. The space required for longitudinal, oblique and transverse parking is calculated. Longitudinal parking is the only practicable method where the carriageway is narrow, in wider roads oblique or transverse parking may be adopted with a considerable increase in the number of cars accommodated in the

same length of road. It is stated that in 310 ft. of road 16 cars can be parked longitudinally as against 27 at an angle of 45° or 38 transversely. Local examples illustrate each method of parking and the use of central and lateral parking strips.

The Economic Value of Road Improvements

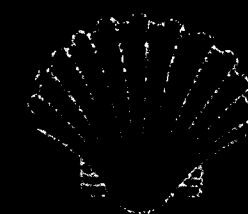
The following is an article by Mr. E. W. Richards reproduced from "Highways and Bridges," which will be of interest to our readers, particularly in view of the need for improvements and the haphazard methods of road maintenance at present in existence on some of our rural roads, which represent a serious loss to the public as explained in the article:

"The public cannot by any stretch of imagination be conceived to have more than a remote idea of the economic loss that results from improper highway design or construction, or from the retention of highways unsuited to the traffic conditions of the present day. This loss is unquestionably enormous, but it is made up of millions of small items that are concealed in the everyday expenses of vehicle operation or road maintenance that are taken as a matter of course. In each individual case the increase may be small, even minute, but when it is distributed over a very large road mileage, or multiplied by the huge tonnage now using our main roads, the immediate cost to the community becomes great and the capitalised cost enormous.

"Not many years ago it was thought that highway economics concerned the roads only and that a highway administrative department was fulfilling its functions admirably if it kept construction and maintenance costs as low as possible by only making occasional grudging and reluctant concessions to the demands of the motoring community. As long as the maintenance cost of a poor class surface was not excessive, it was believed that the economical thing to do was to retain it, regardless of traffic conditions, rather than to build a better type of surface; whilst the economic loss to the community from bad gradients and poor alignment, not being directly apparent, was either lost sight of or ignored. Nowadays, however, a more enlightened view is beginning to prevail. "It is beginning to be generally understood that the main

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function of roads is to serve the traffic, and that the total economic cost, or value, of any highway is the cost of the road itself, plus the cost of operating vehicles over it; and, indeed, that the costs of traffic operation constitute the largest factor in most problems of highway economies.

"From the point of view of road operating costs, heavy gradients, unnecessary length, and poor standards of surface and alignment are directly reflected in large inflated maintenance charges. From this point of view alone, it has been recognised as sound financial policy to increase the immediate cost of construction or improvement, even on secondary roads, in the application of more rigorous and exacting standards of gradient, surface, and alignment, with the full knowledge that the ultimate benefit to the community will far outweigh the increased cost of construction.

"Losses due to inferior road conditions.—The direct economic loss to the community from the effect of inferior and inadequate road conditions upon transportation and traffic operation arises from heavy fuel costs, increased wear and tear upon the vehicle, the increase in the time spent upon a journey, and the consequent general increase in transport operating costs. The total annual cost of operating the private and commercial vehicles of this country amounts to roughly ten times as much as the total annual cost of the highways, so that if, through the improvement of highways, the operating costs of the average vehicle can be reduced 10 per cent., then the annual saving will equal the total annual cost of all the roads and streets, and this without giving any consideration at all to the immensely important item of travelling time saved, which may have a money value measurable only in terms of millions.

"The value of the improvement of transport conditions may not be quite so nebulous and intangible as at first sight appears, if it be remembered that the roads are the principal assets of one of the greatest and most prosperous industries of the present day—the motor industry; and are, furthermore, the assets of the touring industry which, even in comparison with the professions and heavy industries, is third in importance in point of the number of people it employs. The benefits to transportation which arise from the improvement of road conditions can be divided loosely into two large classes. The first, and perhaps the greatest, benefit is the result of the broad economic effect of a general improvement in transport conditions through the elimination of delays to private and commercial vehicles. There can also be no doubt that the saving of time will have general, though perhaps indirect, repercussions on many, if not all, forms of industry, since delays through inadequate transport conditions must have virtually the same effect on the community as a general slowing down of industrial activities. The second class of benefits comprises the direct, easily assessable, pecuniary advantages of savings in petrol and oil, and wear and tear, through improvements such as the reduction in length of an existing road by a new location, the easing of sharp and dangerous corners, and the flattening of steep gradients.

"The adverse effect of any poor section of road, particularly of a heavy gradient, may not be confined to

any local disadvantages; its effect as will be shown may be very far reaching.

"Gradients govern gear ratios.—As a result of information derived from replies to a questionnaire issued to the principal transport services for the purposes of this paper, it has been ascertained that the operation of any transport service is governed to a large extent by the worst gradient on its route. Consider, as a significant example, the main entrance to the county of Argyll, the route from Glasgow to Campbeltown, in relation to its steepest hill, the Rest and Be Thankful, where the gradients are as heavy as 1 in 6 or 1 in 7 for about a mile. From the established practice of heavy vehicle designers it appears that the immediate running costs and the characteristic performance of any vehicle are largely dependent on the reduction in the rear axle, which may vary between, say, 5 to 1 and $7\frac{1}{2}$ to 1. The nearer this ratio is to 5 to 1 the lower will be the petrol consumption and the better the general economy of the vehicle, there being fewer engine revolutions, and less wear and tear per mile travelled on any given route. On a transport service operating over a specific route, the reduction fixed is largely determined by the maximum gradient which the vehicle will have to climb on the route. To climb the present gradients on the Rest and Be Thankful requires a rear axle ratio of about $6\frac{1}{4}$ or $6\frac{1}{2}$ to 1, though for the whole of the rest of the run $5\frac{1}{2}$ to 1 would do very well.

"The effect of this necessary reduction in the rear axle ratio is that, with a vehicle tonnage of 150,000 tons per annum passing over this route, the additional cost to the community, in fuel consumption alone, of retaining gradients steeper than 1 in 10 to 1 in 15 on the Rest and Be Thankful, amounts to roughly £5,500. The additional annual cost in fuel consumption to any transport service operating, say, eight vehicles a day over this route, would be somewhere in the vicinity of £500. To put it in another way, the additional total annual cost of £3,500 is equal to the repayment of sums of capital and interest on a sinking fund loan of £150,000, assuming the repayment period as twenty years and the prevailing rate of interest as 3 per cent.

"Wastage due to delay.—Looking at the matter from the point of view of the economic waste through delay, the figures are equally impressive. It has been established by an analysis taken both in this country and in America, over a census of vehicles comprising heavy transport services, lorries, commercial delivery vans and private cars, that one minute of delay, from whatever cause, to an average vehicle, represents the loss of one penny. The universal force of this estimate is, in some circumstances, difficult to realise, and in explanation it may be stated that in this computation the value of the time of lorries and heavy commercial vehicles was assessed at $1\frac{1}{4}$ d. per minute, that of light commercial vehicles at $\frac{1}{2}$ d. per minute. The census further established that 50 per cent. of the passenger car mileage was for business, and that on business trips the average number of persons per car was two. Thus all mileage, both for pleasure and business, could be converted to a business basis by assuming that all mileage was for business but that there was only one person per trip, and that the time of persons not travelling on business was worth nothing. On this basis

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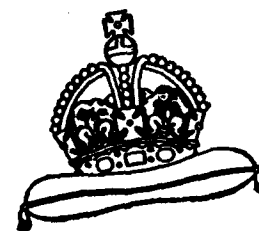
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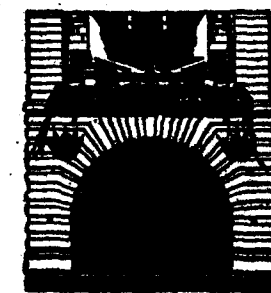
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it would seem that the foregoing valuation of one penny per minute for the average vehicle is moderate, but this figure will be taken in the following consideration.

"Now, the average speed of a vehicle on a 1 in 10 gradient may be 15 m.p.h., but on anything steeper than this it might drop to 7½-5 m.p.h.; over one mile the delay due to the difference in speed is about six minutes. The passage of 150,000 vehicles per annum over the Rest and Be Thankful represents, therefore, 900,000d., or £3,750, as an annual loss to the community through delay. On the same basis as the previous calculation for the capital value of the increase in fuel consumption this is the equivalent of a capital sum of £101,350. Thus, lumping the two calculations together, it appears that the retention of gradients steeper than 1 in 10 to 1 in 15 on this particular hill, represents, for the route under consideration, an annual loss, or economic waste to the community, of £9,250. That is to say, the expenditure of a capital sum of £261,350 (if such a sum were necessary) on reconstructing this hill would balance itself in a period of twenty years through the accumulation of equivalent benefits to the community at large.

"Further, consider on the same basis of delay the value of the construction of another important Argyll route, which was severely criticised from the utilitarian point of view—the New Glencoe Road, costing £512,000 for a distance of 30 miles. The average speed of 15 m.p.h. over the old road has been increased to an easy 30 m.p.h., a saving of 60 minutes over the whole journey. Taking, as before, the value of one minute of delay to be one penny to an average vehicle, the passage of 200,000 vehicles per annum over this route represents an annual saving of £50,000, which again is the annual sum for repayment of capital and interest on a sinking fund loan of £1,350,000. Evidently these roads pay good dividends, even without considering the additional pleasure, comfort, and convenience afforded to the users of the roads.

The other indirect benefits which arise from the improvement of transport conditions are more difficult to compute and often difficult to perceive since they may only be manifested in a general improvement in economic conditions. So far as highways are concerned, it is unfortunate that Local Authorities do not see direct tangible evidence of the financial and other advantages of their enterprise; and perhaps doubly unfortunate that the benefits actually derived are in many cases so intangible that it is difficult to perceive that any benefits really exist. Nevertheless, they are not less valuable for the difficulty of perceiving and assessing them since there can be no doubt of their reality.

"In conclusion, it should not be forgotten that benefits arise from the improvement of road conditions that are not susceptible of pecuniary computation: the saving of human life, the amelioration of health conditions, the penetration of civilising ideas and influences, all depend upon efficiency of our road systems.

"Roads are the arteries of the body politic, and the very life-blood of a country flows along their courses; upon their adequacy or inadequacy depends the richness and the fullness with which we live. For if there is any motion in society the road, which is the symbol of motion, will indicate the fact. When there is activity, or enlarge-

ment, or a liberalising spirit of any kind, then there is intercourse and travel, and these require roads. Nothing makes an inroad without making a road. All creative action, whether in government, industry, thought or religion, creates and is created by roads."

Some Facts about Rubber Tyres

The following facts demonstrate the progress made in the manufacture of rubber tyres over the last 30 years, which is the result of years of effort and painstaking research:—

Rubber tyres now cost one-quarter as much as they did before the European War, and last 10 times as long.

Of the raw materials essential to tyre making, rubber is the chief. There were days when motor car tyres were made of solid rubber. They were uncomfortable and dangerous. They cost much more than the best tyres do now.

In 1908, a rubber tyre was not expected to last more than 2,000 miles, and remember cars travelled far slower in those days.

In 1912—twenty-five years ago—a tyre cost between seven and ten times as much as it does now. A rupee spent for rubber tyres in 1912 bought 25 miles of travel. Now a rupee buys a thousand miles—an increase of 4,000 per cent.

Road-building in Soviet Russia

Since the roads in the U.S.S.R. were put in the charge of the Commissariat of Home Affairs, the rate of road-building has continually increased. During the first nine months of this year 53,640 miles of roads have been constructed, and more than 770,000 miles of local roads now connect the villages and settlements of the Soviet Union with the regional centres, railway stations, harbours and factories. The lack of roads in the Ukraine, White Russia, the Kirov Territory, the Western and Kalinin regions and in Kazakhstan, has been successfully overcome, and collective farmers devote much care to the roads in their areas and endeavour to keep them passable the whole year round.

Road Transport in Czechoslovakia

The Czechoslovakian State Railways operate 298 passenger transport services, covering a route mileage of 5,008 miles. They have 152 lorries and 720 cars and buses. In 1935 road transport services covered 14,904,000 route miles, but estimates for 1937 prophesy a decrease in this figure, passenger services being estimated to cover 11,907,000 miles and goods transport services 1,584,000 miles.

Increased Bus Speeds in Germany

Because the buses operated by the German National Railways on the motor roads do not run as a rule as fast as the "D" trains and expresses between the same places, chiefly owing to the care that must be exercised in driving through towns, the speed of the buses, which at present averages 53 m.p.h. on the motor roads, and 35 m.p.h. on other roads, is to be increased by the installation of more powerful engines. In the vehicle-purchasing programme for the first half of 1937 are included

buses fitted with engines giving an average speed of 63 m.p.h. on the motor roads.

Transport Co-ordination in Buenos Aires

A law providing for the formation of the City of Buenos Aires Transport Corporation was passed by the Argentine Senate on September 30, and a commission composed of the various representatives, under a president appointed by the Government, was set up by decree on November 18. The commission will operate the new corporation and allocate the capital. As soon as the ultimate proposals are ready, they will be submitted to the various transport undertakings concerned, and in the event of acceptance the new corporation will be definitely constituted. The Coordination Bill embraces all forms of transport, including railways in which some £277,000,000 of British capital is invested.

Discussion on Railway Budget

It is understood the Railway Budget will be presented in the Legislative Assembly in Delhi on February 16 next, general discussion will take place on February 18 and

voting on demands for grant on February 19, 23, 24 and 25.

The General Budget will be presented on February 27. General discussion will be held on March 2 and 3 and voting on demands for grant on March 5, 6, 8, 9 and 10.

Department of Communications

At the annual meeting of the Associated Chambers of Commerce held in Calcutta during December a resolution was again passed urging the Central Government to expedite the creation of a Department of Communications.

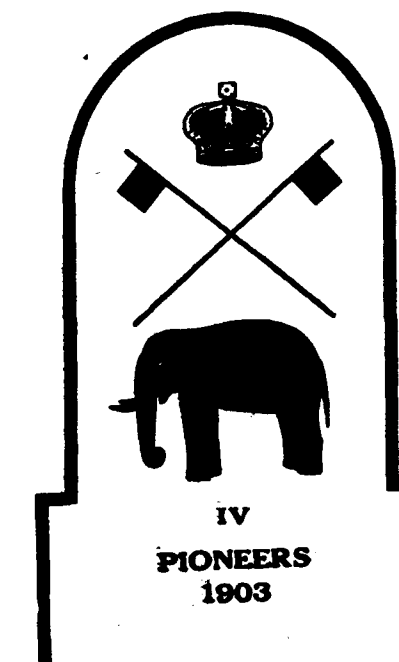
The Government of India have already accepted the principle of bringing communications under one portfolio, and it is hoped that effect will be given to it without undue delay.

In this connection it is interesting to note that at the Indian Economic Conference held in Agra early in January one speaker urged that to secure proper co-ordination of the different means of communications in India a permanent whole time body should be established at the centre to be called The Central Board of Communications.

A TRIP TO HASERGHATTA FOR BANGALORE MOTORISTS

By F. H. S.

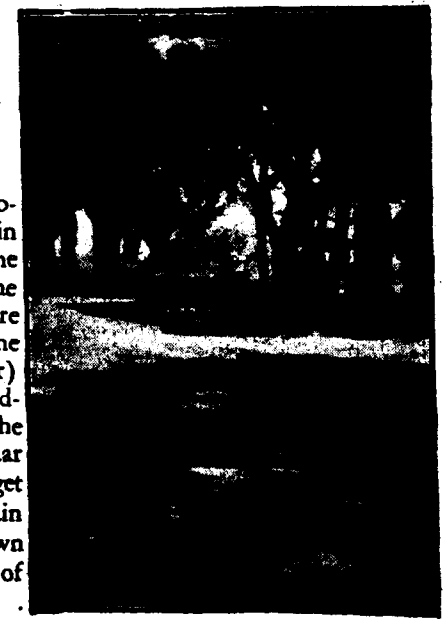
WITH keen anticipation of seeing a beautiful place we set out one morning recently with a packed luncheon basket for Haserghatta. Following



years ago, it was the chief water supply for Bangalore. A history of the C. & M. Station of that period says:

"Good water is obtained from wells in some parts of the Cantonment... The Cavalry barracks are supplied from the Halsur (Ulsoor) tank and wells adjacent to it... The Cantonment bazaar and Sepoy lines get water from a chain of reservoirs known by the name of Miller's tanks..."

The water supply being inadequate for the growing demands of the town, Sankey's reservoir was designed by the Chief Engineer, after whom it is named, to remedy the want. It provided for collecting and storing the rain flow over an area of 2½ square miles on the high ground to the North West, about 3 miles distant, such land as was under the plough being thrown out of cultivation. The run off from the surface was connected by means of contour channels to the reservoir. Work was begun in 1875 the reservoir being eventually made serviceable in 1882, the total cost having amounted to 5 and ¾ lakhs. "But even this scheme, it became evident, would not suffice



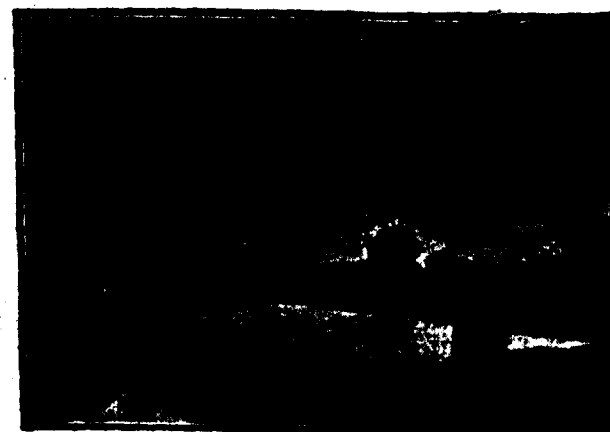
Road under repair. Note the board upside down.



Banavar Hill with the Water Tower on the summit.

to provide for the water supply of the C. & M. Station, much less for the whole of Bangalore and was finally abandoned when the Haserghatta scheme was completed. So far and for a mile or two further the road surface was fairly good but then it became so bad that we suffered moments of agony thinking of the contents of the lunch basket on the carrier being shaken up and the poor little car thudding into and out of pot-holes which it was impossible to avoid. We also got an unpleasant shaking. Really a dreadful stretch of road over which an average speed of 10 miles an hour was necessary. Next we came to "CAUTION—ROAD UNDER REPAIR" upside down in the middle of the road. From there the whole surface was dug up and strewn with loose metal for about a quarter of a mile and the steam roller at a standstill, (it had not moved when we were returning about three hours later but more of the road had been dug up) leaving on one side only a narrow deeply rutted muddy track for the passage of all vehicles. At about 8 miles from Bangalore we got out of the car to inspect a sort of memorial which caught our eye by the roadside. It is a stone slab inscribed with a "coat armour" showing crossed axes surmounted by a crown and an elephant below in the angle between the hafts; "IV Pioneers 1903" below the elephant completes the tablet all in black figures and lettering. The whole inscription has become so indistinct that in spite of a vigorous rubbing with cotton waste we were unable to clean it sufficiently to give a clear photograph. A rough sketch, however, serves as an illustration. Inhabitants of an adjacent village told us that it marked the site where the IV Pioneers turned off to their camping ground. There is no sign of a road leading away from it, yet the idea is possible. A couple of miles further we turned right where a large stone slab marked "Haserghatta" points the way. From here the road narrowed but the surface was fairly good. Three miles further after crossing the M.G. Railway near Yesvantpur, we met a steep up grade and were confronted by Banavar hill with what looked like a continuation of our road leading to the summit, on which there is a lonely brick tower, seen like a small peg in the snap. We discovered later that this "road" up the hill was nothing more than a gravel track delineating the pipe line up one side and down the other, so we did not have to climb as

anticipated. The real road winds round the hill to the right and passing through the village of Banavar where corrugated iron sheds indicate a weekly market day, we soon reached the two pumping stations at Turbanhalli, first a white building and then a red one. From here we turned to the left on to a smooth narrow gravel road which winds its way along fairly flat country, with several Irish bridges, for three miles to within about 200 yards of Haserghatta tank, an immense sheet of water probably about 7 miles round. This tank is one of many formed by the Arkavati river, a tributary of the Cauvery, flowing through the Bangalore district from North to South and receiving the drainage of all the country between the Central watershed and the Western chain of hills. For several years Sankey's reservoir was the main source of water supply to the C. & M. Station while the supply for the Indian town was derived principally from the Dharmambudhi tank, but at a cost of 19½ lakhs the Haserghatta scheme was completed in 1898. The pumping stations at Turbanhalli pumped the water up to the tower at the top of Banavar hill—previously mentioned—from where it was run by gravitation through cast iron pipes to the settling and filter beds above Sankey's reservoir. This scheme, as is generally known, has also been superseded since 1935 by the Water Works at Tippogangahalli near Magadi. The tank looked beautiful and cool with scarcely a ripple on the surface of the water. Haserghatta is now, I believe, the head quarters of the Bangalore Model Yacht Club, but the little ships had evidently been very cunningly concealed and we did not have the pleasure of seeing them, that is if they are kept at the lake. A stone pillar in the water quite close to the bund showed the depth as 68 feet. Some tank! The rest house, only about 200 yards from the bund in a nice shady compound, was occupied so we had our lunch on the road side in the shade of the car. More picnic that in a bungalow, but just as tasty. The whole trip was a pleasure. The scenery was delightful and the driving was exciting what with bad roads, curves and grades and three Railway crossings. The total mileage out and home was only 37.7 accomplished safely and happily.



Sankey's Reservoir taken from the bund.

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(Signature).

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Name of Member.....
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Member proposing.....

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Entd.....
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Badge No.....Fitting.....
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Motor Car Owner	15
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No. 4 " 60° Angle bracket for bolt securing Dumb iron apron	0	12	0 "
No. 5 " Any flat bar or plate	2	8	0 "
No. 6 " Two long bolts with plates for securing badge to front of radiator	0	12	0 "

SOME ASPECTS OF THE ROAD/RAIL PROBLEM

A lecture delivered to the Young Men's Indian Association, Madras, on 15th January 1937.

By J. C. Hunter

I HAVE chosen as the title of this lecture "Some aspects of the road/rail problem," because it is usual to refer to the present relations of roads and railways in this country as the road/rail problem. But frankly I personally consider that the title is a misnomer, because it is my opinion that the road/rail problem does not exist in this country, or rather I should perhaps say should not be allowed to exist. By whatever standard of comparison you take, either per square mile of the total area of India, or per thousand of the head of population, you will find that the total mileage of the means of transport—by that I refer to the total mileage of railways plus the total mileage of roads plus the total mileage of water-ways—is small compared to that of western countries. It seems to me that the existence of a road/rail problem in India is the product of those people whose minds are either 100 per cent. railway, or else 100 per cent. roads, and so 100 per cent. in favour of their own means of transport that they are almost ready to allege that no other method of transport should be allowed to exist. I hope that by the end of my talk I shall have been able to show you that there is more than room for both methods of transport in this country, that roads and railways are largely complementary to each other, that in actual fact far from competing with each other they ought to be able to bring to each other traffic both in passengers and goods, and that there is plenty of room for their development side by side—in fact there should exist in this country that co-ordination of the means of transport of which we have heard a great deal spoken in the abstract, but to which end until recently very few practical steps have been taken.

In considering the position of roads and railways, I think it advisable to remember how roads and railways have gradually come into existence. All our ancient highways started life as a foot-path—a foot-path between two villages—a foot-path not necessarily the shortest line between two villages, because there might have been a hill or a stream in the way, but along the easiest route between the two villages. Presently that foot-path became a bridle path, and then when ancient men invented the wheel, it became a cart track. With the arrival of cart track, we get the most primitive type of road, and many miles of this type of road can still be seen in India connecting interior villages, tracks which the Government has not yet thought it necessary to develop into a higher type of road. As wheeled vehicles gradually became heavier and became capable of carrying heavier loads, it was found that the ordinary untreated cart track would not carry those weights, and progress along the primitive road became extremely difficult, as the wheels sunk deeper and deeper into the ruts. It therefore became necessary to provide some form of treated surface which would withstand heavy loads more readily. The most famous

of the early exponents of improved road surfaces were of course the famous British Engineers, Telford and Macadam. Loads carried by wheeled vehicles continued to increase, particularly in certain areas, and I refer now to the mining areas where heavy loads of coal were carried by horse drawn trucks, so heavy that no form of improved surface then invented would stand the weight, and it became necessary to lay down iron roads. The cost of a complete iron road is of course excessive and these iron roads were, therefore, laid in tracks known as rails. In these iron tracks we see the birth of railways. Presently the steam engine was invented, and one of the earliest duties given to a steam engine was to replace the horse in pulling the colliery trucks along the iron tracks. From that moment the railway is definitely born and develops rapidly. I would ask you to remember in support of my statement that railways have developed out of roads that in many parts of the world, notably America and Canada, railways are still known as rail roads.

The advent of railways in the world resulted in a notable set-back to the improvement of the roads from which they had developed. Steam trains became the modern method of transport from place to place, and roads with their extensive system of mail coaches and commercial carriers became neglected. You can well imagine that the growth of railway aroused the utmost opposition from all those concerned in the coaching industry, as they saw their means of livelihood disappearing before the march of progress. It is a rather amusing sidelight on the present railway agitation against the advance of roads that at that time over a century ago a very similar situation must have existed with the boot on the other leg.

Now for 100 years or more railways have had it all their own way—a monopoly to all intents and purposes of the carriage of passengers and goods. They have been faced in the years since the War with a gradual increase in the appreciation of the advantages offered by the improvements that have taken place in the methods of transport by road; notably the development of the motor car and of improved road surfaces, capable of withstanding the high speeds and heavy weights of the motor vehicle. Railways are suddenly faced with the fact that their monopoly no longer exists, and forgetting that they once themselves almost dealt a death blow to roads, they are doing their utmost so to curb the rapidly expanding road transport industry as to preserve to themselves as much of their former monopolistic traffic as possible. In a country such as England where both railways and roads are now highly developed and where the road/rail problem was allowed to develop before any steps were taken about it, railways have succeeded in getting a machinery set up whereby the further expansion of the road transport industry is, to all intents and pur-

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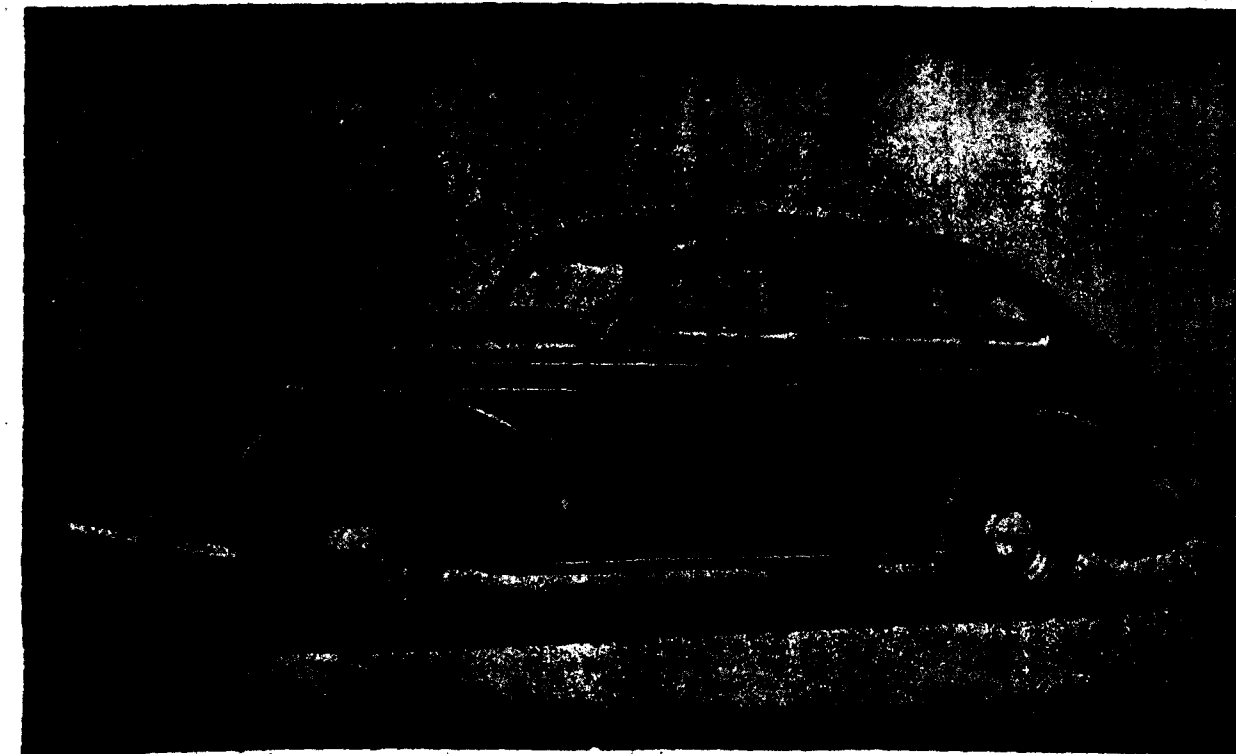


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poses, prevented. In India, however, I submit, with its thousands of square miles of undeveloped country, the road/rail problem should not yet exist and steps should be taken to see that the two methods of transport are used to the best advantage to develop the undeveloped stretches, and to see that, in making use of the advantages of the two methods of transport, a road/rail problem similar to that of England is not allowed to arise.

Let us now turn to India, and particularly to Madras Presidency, and see what steps have already been taken to prevent the arrival of an acute road/rail problem. The actual events you have all seen discussed in the papers from time to time, and I propose here to do no more than remind you of them in the order that they occurred and to tell you briefly of their results.

The years of Economic depression in India which we may perhaps refer to as "the bad times" have had two good effects. The first benefit which "the bad times" conferred was on the motor transport industry itself, in that it forced the motor transport industry to reorganize itself on sounder lines, although I fear that a number of those who are, or at any rate have been at one time, in the motor transport industry might not agree with me on this point. Up to the time of the depression, there had been a very rapid expansion of the motor transport industry, particularly in the passenger carrying side of the industry. That expansion had been on the most uneconomic lines. Small men, able to purchase in most cases only one bus, entered the industry anticipating that they would make large profits. They found that they had entered the industry in advance of traffic development and in the endeavour to cut their losses, price-cutting, racing on the roads, employment of cheap untrained drivers, failure to insure, and all the other evils which can creep into a wildly expanding industry, were rife. The depression came at a very opportune moment, as it cut short the wild expansion and the small irresponsible owner was driven off the roads by economic forces. Only the large companies, or those in a position to amalgamate themselves into large companies, were able to withstand the force of the depression, and the depression has, therefore, enabled those who survived it to organize themselves on far

sounder lines, than might otherwise have been the case, if those large bus concerns had still had to face the cut throat competition from the small irresponsible one vehicle bus owners. The position now is that there exists in this Presidency, at any rate, a large number of well-organized bus services running to fixed time-tables at published fares, employing a well trained and courteous staff of drivers and conductors. Perhaps the best example of a well-organized bus service is the United Motors Service, Coimbatore, controlled by Mr. G. D. Naidu. I think Mr. Naidu will agree with me that the depression had much to do with enabling him to build up his present efficient organization. Many other efficiently run and well-organized bus services can be mentioned, the Canara Public Conveyance Co., Mangalore, the Hanuman Transport Company, Udipi, the Pioneer Motor Service, Nagercoil, and the Varadaraja Motor Service, Karur, to mention but a few.

The second result was to cause the Government of India to pay attention to the problem at an early stage in its development—a far earlier stage than that at which the British Parliament intervened, and the Government of India's attention was particularly directed to the problem as a result of the rapid fall in the earnings of railways.

In 1932 the Government of India appointed two special officers, Messrs. Mitchell and Kirkness, to report on "the present state of road and railway competition and the possibilities of their future co-ordination." As a result of their very excellent report, coupled with pressure from various interests, particularly from the Association for which I have the honour to be the local Secretary, the Government of India called a Road/Rail Conference in Simla in April 1933. That Conference was attended by representatives of the Government of India, of the Provinces, of Railways and of Road interests, and passed the following resolutions. I propose to read these resolutions to you as they really form the basis of all effort to prevent a Road/Rail problem arising.



Officers of the Ford Motor Company of India Limited gathered in Bombay to attend their annual convention on which occasion B. O. Stevenson, Esq., Managing Director (centre, front row), presented the Ford India Challenge Cup to J. D. Roberts, Esq., (second from the left, front row), Calcutta Branch Manager, whose dealer organization won the cup this year.

1. This Conference is of opinion that, in the general public interest, the time has come for increased co-operation and a more intelligent co-ordination of effort between the various authorities and interests concerned, in the matter of
 - (a) future railway development, and of
 - (b) the future development of road communications, whether used for motor transport or other purposes, so as to secure a more comprehensive and uniform plan of general development than at present exists.

2. In order to secure increased co-operation and more intelligent co-ordination of effort between the various authorities concerned, this Conference considers that the following measures would be justifiable:—
 - (a) The control of public service and goods motor transport should be regulated in the interests of public safety and convenience.
 - (b) The number of vehicles licensed to ply for hire should be restricted so as to prevent such competition between all forms of transport as may be contrary to the public interest.

3. This Conference considers that the statutory provisions which at present limit the operation of motor services by certain railways should be repealed.

4. This Conference recommends that the present regulations regarding public service and goods motor transport should be reviewed with the object of amending them so as to afford every encouragement to the development of rural services, even to the extent in exceptional cases of granting of monopolies for limited periods.

5. This Conference considers that, in the interests of all concerned, a co-ordinated plan should be drawn up for the taxation of motor transport by the various authorities concerned.

6. This Conference considers that—
 - (a) the present road development account should be continued for the duration of the present constitution and would urge that provision for its continuance be made in the new constitution;
 - (b) the class of roads to which the road development account should be applied, including the maintenance

of roads constructed from that account be reconsidered;

- (c) in present circumstances the most urgent need is an improvement in the efficiency, and a reduction in the cost, of the transport of agricultural produce to markets and thence to the railways; future road development programmes should be framed accordingly.

7. This Conference considers that it is necessary to study the question whether such lack of balance as at present exists in the road systems will, if the means of development are restricted to revenue resources, be susceptible of correction either at all or at a rate consistent with the economic needs of the country and accordingly recommends that a comprehensive plan should be drawn up with a view to examining the possibility of development of both main and subsidiary roads from loan funds within the limit of the resources available for maintenance.

8. This Conference considers that suitable machinery should be established at the Centre and in the Provinces to ensure adequate co-ordination between all forms of transport and their future development.

Your Madras Government took the first step to implement the proceedings of the Road/Rail Conference by appointing a Special Officer, Mr. Vipin, to draw up a programme for the development of the road communications of this Presidency. The Vipin Report, which was published in 1935, is probably now well known to you all as the most comprehensive survey of the communications of this Presidency which has ever been drawn up. The sound recommendations, which Mr. Vipin put forward, were accepted by the Madras Government, and would have gone a long way to providing the economic development of this Presidency that is desired. To implement part of the recommendations of the report, the Madras Government applied to the Government of India for a loan of 3¼ crores, and I may remind you again that one of the recommendations of the 1933 Simla Conference was that road development should be based on the raising of Road Loans. The Madras Government's application for the loan, however, was turned down on the plea that the Government of India is not prepared to allow Provinces to saddle themselves with a large loan at a time when the new constitution is just being introduced.

No conference on the lines of the 1933 Simla conference has since been called, but the Government of India has summoned two Central Transport Advisory Councils in January 1935 and July 1936. Neither of

these two meetings included non-officials or any representatives of road interests. As both these meetings passed very similar resolutions, it is not necessary to discuss both, and I need only tell you briefly what the 2nd Central Transport Advisory Council, held in July 1936, decided. The major point was to determine on the introduction of a bill to be known as the Indian Motor Vehicle (Amendment) Bill, which would enable Provincial Governments to establish that control over the motor transport industry which was thought desirable, and which legally, under the Indian Motor Vehicle Act of 1914, they cannot establish at the present moment. It was also decided to amend the Road Fund Resolution in such a way that to all intents and purposes it made it compulsory for Provincial Government to put into effect the provisions of the Indian Motor Vehicle (Amendment) Bill, if they were to continue to receive their share of the Road Fund. A further point established, which is of utmost importance to road interests, and in establishing this point your Madras Government representatives were instrumental, was that a skeleton system of trunk roads should be accepted, and that, even if any trunk road in that skeleton system was parallel to a railway for its whole or a portion of its length, the spending of money on the development of the road should not for that reason be retarded.

The Government of India made haste in an endeavour to implement the decisions of the Second Transport Advisory Council, and it became known that they intended to introduce in the Legislative Assembly in September of this year the Indian Motor Vehicle (Amendment) Bill, which was to establish the control of the motor transport industry, and a revised Road Fund Resolution which would make the acceptance of that Amendment Bill compulsory on the Provinces. The Government of India, however, learnt very early that they had been too hasty in this matter, and there arose very considerable opposition from all road interests as a result of their haste. The protests were based not so much on opposition to the principles of the proposed measures, but on the fact that the parties concerned had not been given sufficient time to consider the provisions of the proposed measure. The Indian Motor Vehicle (Amendment) Bill was actually introduced on September 3rd, but, after several members of the Legislative Assembly had made speeches on the subject, was eventually withdrawn for further circulation and for the eliciting of public opinion. The amended Road Fund Resolution was also deferred for further consideration. Both will be reintroduced in the Legislative Assembly at a later date after the opinions of Provincial Governments and road interests have been correlated, and it is probable that the Road Fund Resolution on its reintroduction will take the form of a Bill. Notice has just appeared in the papers however that the reintroduction of these measures is likely to be deferred longer than was anticipated, as it is Government's intention to wait until the report of the Railway Enquiry Committee is available.

The Government of India set up a Committee known as the Railway Enquiry Committee this cold weather, under the Chairmanship of Sir Ralph Wedgewood, and one of the terms of reference of this Committee is

"to examine the position of Indian State owned railways and to suggest such measures as may otherwise than at the expense of the general budget

secure an improvement in net earnings, due regard being paid to the question of establishing such effective co-ordination between road and rail transport as will safeguard public investment in railways while providing adequate services by both means of transport."

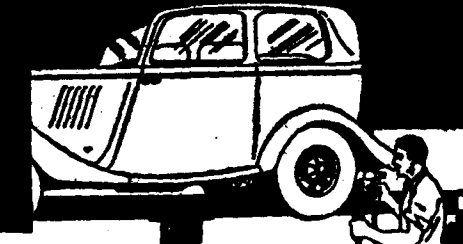
At the present moment this Committee is touring India in search of evidence for their report, and the publication of this report is eagerly awaited. Historically then that is the present position today, that legislation is pending which will establish some form of control over the development of the motor transport industry whilst it has also been established that the development of the skeleton system of trunk roads and of feeder roads shall not be retarded.

Let us now turn and see exactly in what form the road/rail problem is thought to exist in India, and let us take the railway point of view first. The railway point of view has been summarised recently by Mr. H. N. Colam, Agent of the M. & S. M. Railway, in his opening speech as President of the Indian Railway Conference Association. Briefly Mr. Colam's view is that, as the railways are now running at a loss, it is essential to do something that ensures that they will run at a profit, that it is doubtful if any better system of goods tariff to this end than the present system can be devised, that any reduction in administrative costs that is possible would have an infinitesimal effect on the result, and that the only effective method of restoring to the railways lost traffic is so to control road transport that it cannot compete with railways. Mr. Colam alleges that failure to regulate and restrict road traffic will result either in the railways going bankrupt, or else in the necessity for subsidising the railways out of taxes at the expense of the tax-payers' pocket.

In fairness to the railways we must also consider what is the extreme roads point of view. Again putting matters briefly, their point of view is that the motor transport industry is an industry in every sense of the word comparable to any other industry, and that as such, unless it is to be nationalised, it should be subject to no more control than any other industry and should be left free to develop naturally in its own way and by its own means, and that further every penny collected from the motor transport industry by way of taxation, whether that taxation be direct on the vehicles themselves, or indirect through the petrol tax, should be spent for the benefit of the industry in the development of more and better roads.

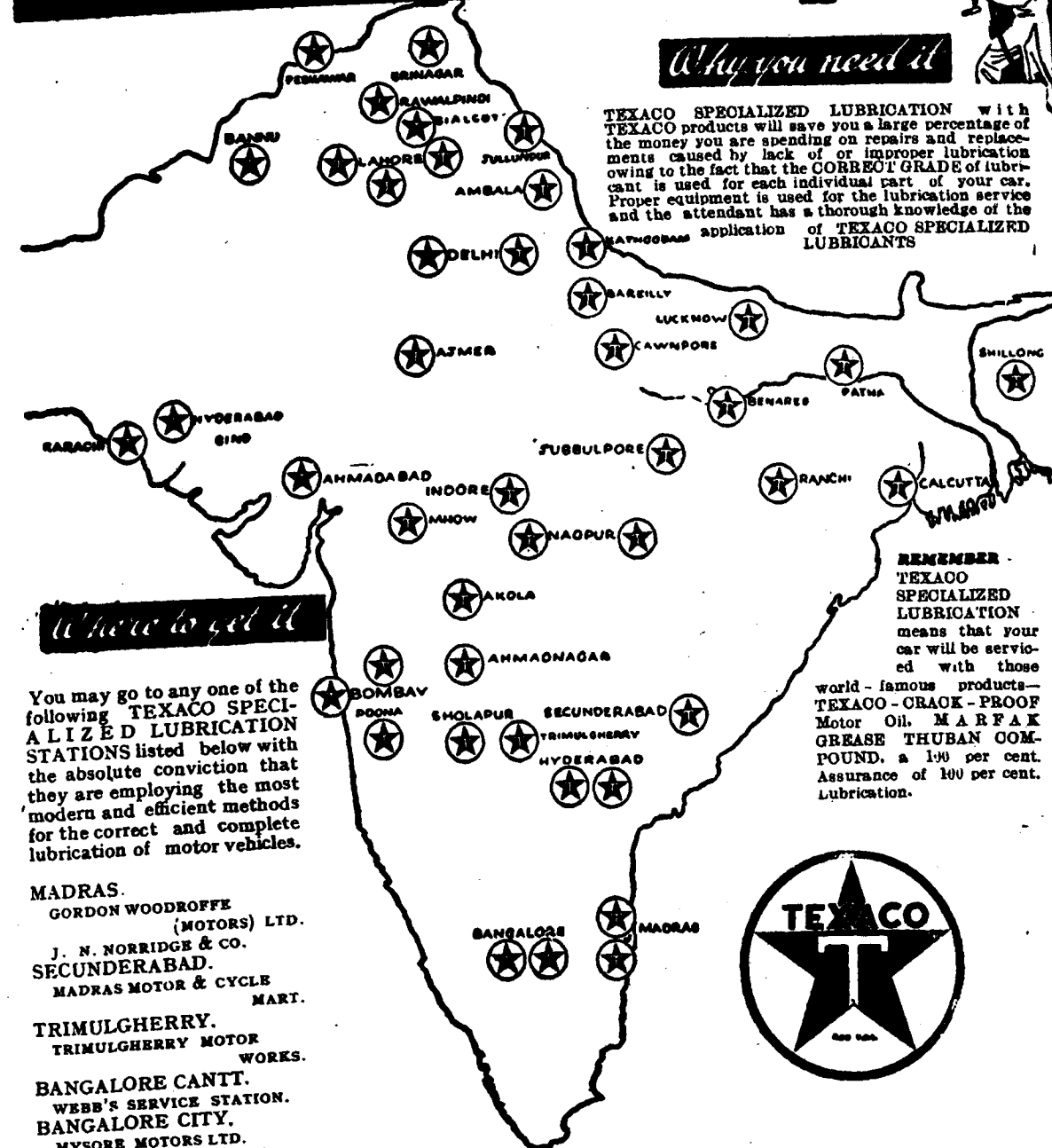
Now those are two entirely opposite views which obviously directly conflict with each other, and if either

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of them is adopted as the official Government view and policy is based on that view, it is likely that one or other of the methods of transport will go to the wall. I do not think that any moderate man believes that India can do without either form of transport, and we must, therefore, see whether a middle course cannot be steered, which will allow both systems of transport to exist for the benefit of the general public. In framing a middle course, consideration must be given to every aspect of the case of both Railways and Roads, and in doing so certain facts stand out incontrovertibly.

(1) There is no denying that, in recent years, railways have been running at a loss. The deficit in the year 1934/35 was about 5 crores of rupees, in 1935/36 4½ crores of rupees, and estimate for 1936/37 is about 3½ crores of rupees.

(2) It is clear that the conditions, under which a large number of motor vehicles and particularly goods lorries are running, are most unsatisfactory.

(3) At the same time there is no denying that there are large tracts of territory all over India, which are completely undeveloped as a result of no or poor means of communication, and for the development of which a Road forms the cheapest and easiest means.

(4) It is also clear that, even though the road transport industry may not represent the heavy capital investment that railways represent, it does provide very considerable revenues for Government, which Government can ill-afford to lose—Revenues from petrol taxation, import duties on cars and accessories, direct taxation levied by Provincial Governments and Local Authorities, and licence fees.

(5) I think also that, if the general public were consulted, they would state definitely that in certain circumstance the frequently run bus service provided a greater convenience than the infrequent train service.

It appears to me that it should be possible to frame a policy which will take all these points into consideration. I told you earlier on that certain legislation was now pending. May I now discuss the action which is pending in the light of the five points I have just mentioned. With regard to the Railway deficit, I am no Railway financier, and to say whether Railways can be reorganized to run on a sound basis requires expert Railway knowledge. As a member of the general public however I am far from satisfied that the Railways have demonstrated that reorganization on sounder lines is impossible and I can only hope that the report of the Railway Enquiry Committee will show how it will be possible to turn the present railway loss into a profit without attacking road traffic. With regard to undeveloped tracts, I have already told you that the Second Transport Advisory Council established that there should be no retardation of the development of the skeleton system of trunk roads, that skeleton system as far as this Presidency is concerned being—

1. Grand Northern Trunk Road—Madras to Calcutta.
2. Grand Southern Trunk Road—Madras to Cape Comorin.
3. Madras/Calicut Trunk Road.
4. Madras/Bangalore Trunk Road.
5. West Coast Trunk Road—Cape Comorin to Bombay.
6. Central Trunk Road—Dindigul-Salem-Bangalore-Hyderabad.

This list of trunk roads may cause some amusement, on the score that the roads in some cases may be said to exist in theory rather than in fact; by that I mean that the roads do not serve the purpose, which their titles lead one to assume, because the impassable gaps presented by large unbridged rivers make their full use impossible. The point now is, however, that there is no reason why the gaps should not in future be filled in with bridges and why the roads should not become of practical as well as theoretical value. Alongside the development and maintenance of these trunk roads, there must in future be a very much greater development of feeder roads, and it is likely that the new Road Fund Resolution will include a clause aimed at this end. Feeder roads however must be classified not only as roads bringing traffic to a railway, but also as roads opening up interior points and bringing traffic either to the railways or to the skeleton system of trunk roads.

With regard to unsatisfactory conditions under which the Road Transport Industry may now be operating, the pending Indian Motor Vehicle (Amendment) Bill should secure the necessary reform without any hardship on the industry, provided that bill does not include one or two of the unnecessarily severe restrictions that were originally proposed. In the form in which it will finally pass into Law, the Bill will, I hope, contain the following provisions.

Government will be empowered to restrict the number of buses plying along any given route to the needs of the passenger traffic on that route, and in consequence wasteful competition will be eliminated. Government will also be empowered to fix maximum fares on any given route so as to avoid the travelling public being exploited by the elimination of competition. Third party insurance by all motor vehicles will be compulsory, so that persons injured as a result of a road accident will be assured with adequate compensation. The publication of time-tables and fare-tables will also be compulsory, and in consequence, there will be a considerable improvement in the service given to the public by the previously less well organized road transport concerns. There will also in future be very much stricter control over drivers and conductors, regulations aimed at securing greater

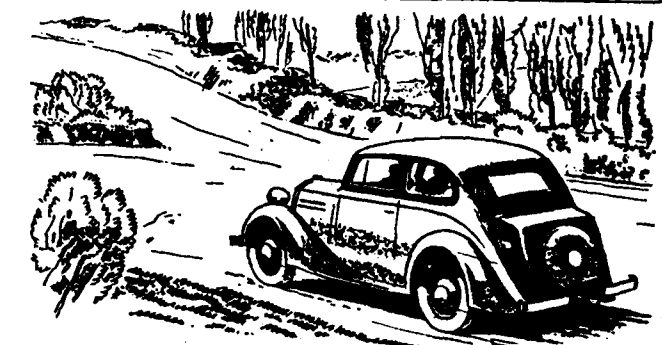
(Continued on page 68)

AN ACCESSORY ALPHABET FOR AMATEURS

By Berton Braley

A is for Ammeter (when it won't operate. Pay the ignition-man's honest and proper rate).
B is for Battery—all that I know Is that without it your motor won't go.
C is for Crankshaft, which—let me be frank—Has something to do with a shaft and a crank.
D—for Distributor, when it won't function Your cylinders don't seem to work in conjunction.
E's for Exhaust, that's the pipe in the rear Which frequently smokes when you're changing the gear.
F is for Forgings which salesmen at length Extol as a means of endurance and strength.
G is for Gears, which are cogwheels and such, I couldn't explain how they operate, much.
H—High Compression; I read it in ads But what it may mean I can't tell you, my lads.
I is Ignition (see A, B, and D—The whole thing's a terrible puzzle to me).
J is for "Jigger," a word that will fit Most any old gadget whose name I fergit.
K is for Knock, which is mostly caused by Some trouble with either A, B, D, or I.
L—Lubrication, I know this about it, You burn out a whole lot of bearings without it.
M is the Motor, which, I've understood, Is what you find when you look under the hood.
O is the Overhead Camshaft. I am Unable to tell you the meaning of "cam."
P is for Pistons, cylindrical things, Which every so often need costly new rings.
Q is for Questions I ask with a will And after the answers, stay ignorant still.
R is—at least so they tell me—the Rotor. I can't tell you where it is found on the motor.
S—the Speedometer—dial of speed, Which traffic laws sometimes compel us to heed.
T's for Transmission. Its mysteries are Concealed in the doodad down under the car.
U—Universals—though just what they do Is Greek to Yours Truly and maybe to U.
V is for Valves, which are gadgets, I've found, That gather up carbon and have to be ground.
W—Wiring, a tangled-up mess Whose wanderings I cannot follow or guess.
X is the X-cellerator, you push And a motor-cop starts from behind every bush.
Y is the Yahoo who drives with his horn, Treating your various signals with scorn.
Z is for Zero, which, as I reveal, Sums up what I know of my automobile.

(Extract from the *Automotive Industries*, U.S.A.).



Whatever your route— FERODO means safety

Safety in ordinary traffic or safety in a sudden emergency—this depends on your brakes. For good brakes you must have good linings. By specifying Ferodo you make sure your car will be re-lined with the type of linings specially made for it—to give you the utmost brake-efficiency possible.

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GENUINE LININGS

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SPECIALISTS

Country-wide SERVICE: Minimum
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LAHORE, RAWALPINDI, PESHAWAR,
CAWNPORE AND LUCKNOW.

1937 BUICK

FOUR NEW CARS

EVERY time it is announced that there is a new Buick in the market, the motor car enthusiast has reason to feel interested,—so much has the name "Buick" come to mean in the motoring world.

The new lines for 1937 consist of the Special, 122-inch wheelbase; the Century, 126-inch wheelbase; the Roadmaster, 131-inch wheelbase; and the Limited, 138-inch wheelbase. From the standpoint of appearance the new cars differ widely from their 1936 predecessors. In performance, all models have been stepped up in horse power over the preceding year with resulting improvement

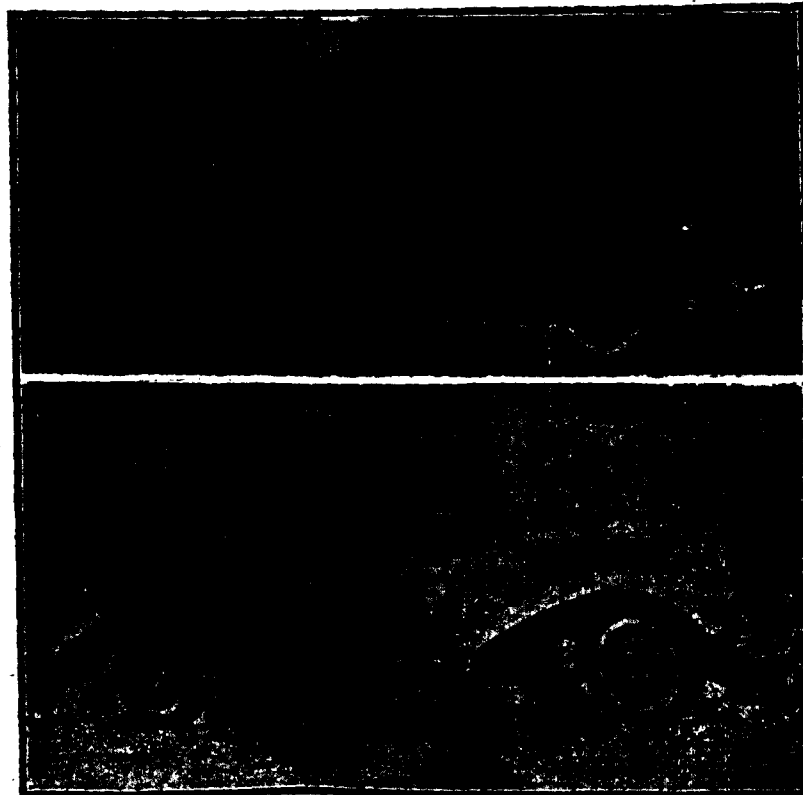
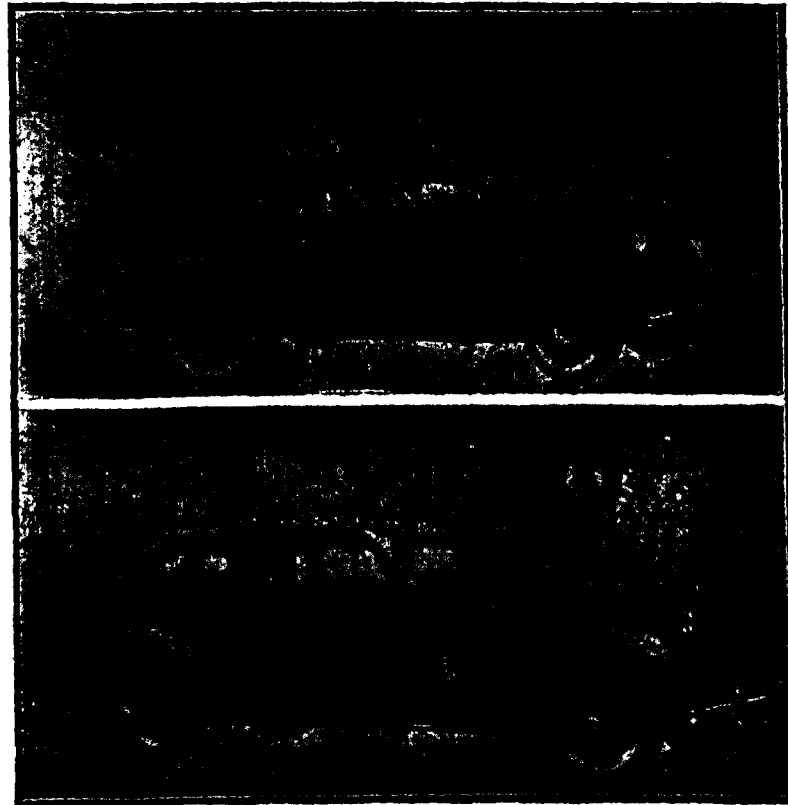
in acceleration and general performance throughout the speed range. The same engine refinements that produced greater power have resulted in better petrol economy.

New Styling

The Buick styling is entirely new for 1937. The radiator grille is die-cast in two pieces with horizontal bars rising to the bonnet line. Unique tailoring of the bonnet top and sides, with the bonnet top line and colour carried down through the middle of the grille, produce a massive yet racy effect and at the same time meet practical modern requirements. A new Buick "8" emblem is carried on the right radiator grille while on the chrome centre strip is mounted the new Buick coat-of-arms.

Luxurious Interiors

Interiors of the new cars are luxurious with marked advances in upholstery, mouldings and fittings. There is an attractive instrument panel. More room is provided in the 1937 Buick Special and Century cars. While overall height has been reduced one inch, the floor has been dropped two and one-half inches providing greater head-room throughout. At the same time body width has been increased. The result is more leg-room in these cars



The 1937 Buick "Limited", 138" wheelbase.

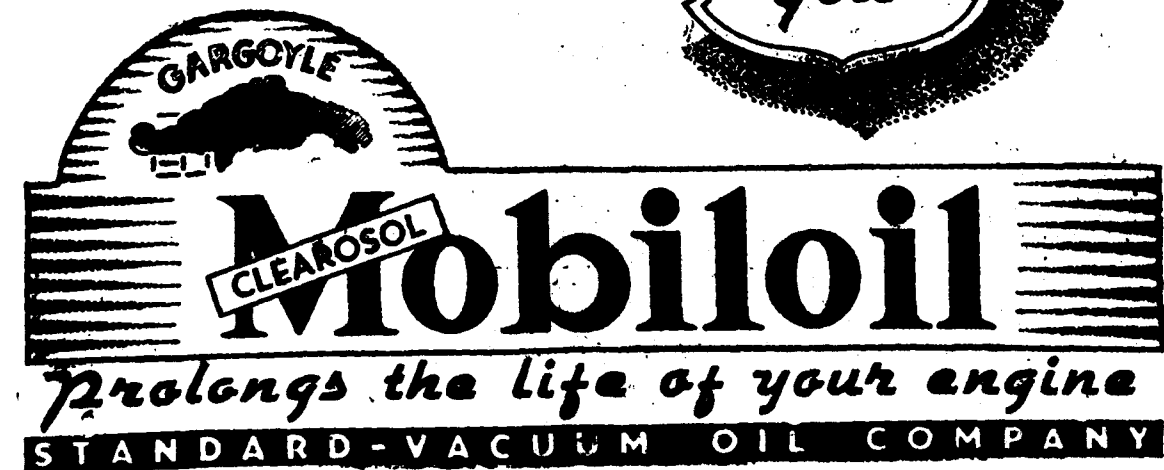
*"Yes, I've tried them all...
stunt oils and
cheap oils... but
I stick to Mobiloil"*



Gargoyle Mobiloil gives you everything you expect from a motor oil:

- Greater security from lubrication trouble
- Minimum carbon
- No sludge or gum
- Minimum wear
- Easier starting
- Greater mileage
- Smoother running

NO OTHER
OIL DOES
SO MUCH
FOR
you



(THE LIABILITY OF THE MEMBERS OF THE COMPANY IS LIMITED)

with an increase in the width of both the front and rear seats.

"Aerobat" Carburettor

Buick this year introduces the new Aerobat Carburettor which adds to engine smoothness and assures full power operation under all driving conditions. This is a double float, single bowl carburettor of dual down-draught type which has been adopted to assure positive fuel feed independent of the effects of acceleration, steep grades or fast turns. Improved operations claimed for it are: It will not flood when parked on steep grades

thereby reducing hot starting difficulty; the metering system will function perfectly on any grade; prevents motor from missing or stalling on sharp turns; prevents stalling on fast stops and provides smoother acceleration in low speeds.

Among other features are: "Turret Top" bodies on all cars, hydraulic brakes, double-sway stabilizers, "Knee-Action" independent front wheel suspension, double-acting shock absorbers, sealed chassis, automatic engine controls, and other outstanding improvements.

The new Buick cars can be seen in the showrooms of all Buick dealers.

(Continued from page 64)

safety for the public and also improvements in courtesy and service.

These are the measures which I think will steer a middle course through the extreme views of Railwaymen and Roadmen, and which if held steadily on their middle course will prevent any acute Road/Rail problem arising.

It has been said that the result of the Indian Motor Vehicle (Amendment) Bill will be that a number of bus owners, bus drivers and bus conductors will be thrown out of employment, and that a number of connected businesses will also be affected in the consequent reduction in the sale of motor vehicles, petrol, motor oils, tyres etc. I venture to suggest that this will not be the case, as the results of this Bill must be considered in conjunction with the results of other measures proposed. It is for this reason that I have endeavoured to stress the fact that there are such large areas of undeveloped country that there must be room for both methods of transport. The implications of the Central Transport Advisory Council

are that those undeveloped tracts of country will now be developed by the construction of feeder roads, and that room will be found on those feeder roads for any bus owners possibly removed from previously overcrowded routes. To make this development possible, the Madras Government must, as soon as possible after April of this year, be urged to make the effort to raise the Rs. 3¼ crores loan necessary to implement that part of the Vipan Scheme, which they originally approved.

Gentlemen, I have touched very briefly on this vast subject, and I have by no means covered every aspect of the alleged problem. My one contention is that India is such a vast country and there are so many undeveloped rural tracts within its boundaries, that there is ample room for both road and rail transport, and each form of transport should assist the other in effecting this development. I hope I have given you some insight into how the two forms of transport may be guided along a middle course to this end, and how, if this is possible, Government will not lose valuable revenues and the general public a useful and convenient means of transport.

MADRAS RACES

SEASON 1936-37

(Under R.C.T.C. Rules of Racing)

FIXTURES

SUMMER MEETING (Four Days)

First Day ... MONDAY ... 22nd Feb. 1937
The Willingdon Cup
The Bangalore Cup

Second Day ... WEDNESDAY ... 24th Feb. 1937
The Maharani of Venkatagiri Cup

Third Day ... SATURDAY ... 27th Feb. 1937
Fourth Day ... SATURDAY ... 6th Mar. 1937
The Cochin Cup

THIRD EXTRA MEETING

First Day ... THURSDAY ... 11th Mar. 1937
Second Day ... SATURDAY ... 13th Mar. 1937

RATES OF ADMISSION

Season Tickets (Public)

	Gentlemen.	Ladies.
1st Enclosure only.		
Ticket for Season (Including Tax)		
(Excluding Hunt Gymkhana Meeting)	Rs. 60	Rs. 30

DAY TICKETS (Including Tax)

1st Enclosure.	...	...	...	...	Rs. 3 8 0
Gentlemen	...	...	...	...	„ 2 4 0
Ladies	...	...	...	...	Rs. 1 0 0
2nd Enclosure	...	...	Gentlemen	...	As. 0 8 0
Do.	...	...	Ladies	...	As. 0 8 0
3rd Enclosure	...	...	All persons	...	As. 0 4 0

TEN YEARS OF PROGRESS

A NEW YEAR MESSAGE FROM LORD AUSTIN OF LONGBRIDGE

1937 MOTORING COMPARED WITH THAT OF 1927.

HOW many motorists realise the full extent to which motoring and the motor industry have advanced during the past ten years? Very few I am sure, for the sheer rapidity of that advance has served to conceal its extent.

So, before becoming completely immersed in the activities, and endeavours of another year, we might do worse than review past progress, and reassess our ideas as to the present state of motoring in the light of its recent developments.

The retrospect comes as a revelation.

In the first place, it is found that in ten years the number of cars in use in Great Britain has increased by nearly a million, an advance of almost 140%.

With this can be coupled the increase in private motor taxation receipts from just under £10,000,000 to £32,000,000 per annum, despite the recent reduction of the horse-power tax, and not taking into account the petrol tax. Equally remarkable is the fact that the motor industry has doubled its output as compared with ten years ago—the output of Austin cars has actually more than trebled in this time.

These figures provide a striking indication as to the progress that has been made during so short a period, but they only constitute one side of the picture, for motoring has made an advance in quality quite as remarkable as its expansion.

If we put the motoring clock ten years back we find ourselves, as car users, deprived of most of the refinements that to-day are accepted as everyday motoring

amenities. We discover that the car of 1927 had no dip-and-switch headlamps, direction indicators, or dual electric windscreen wipers, no "live" rubber engine mountings, thermostat cooling control, air silencer, or synchromesh gears, and Triplex glass was a highly expensive extra. It was also without hydraulic shock absorbers, bumpers, and silentbloc spring shackles, all of which are features of the present day car as exemplified by the Austin Twelve.

Among more technical features of the car of to-day, which were absent from that of 1927, are sound insulation, Girling brakes, needle-bearing universals, down-draught carburation, and the cross-braced frame.

As a motor manufacturer I am forced to admit that, in the light of present motoring requirements, the 1927 car was almost primitive. But even more astounding is the comparison in price. If the motorist of to-day found himself back in 1927, the price of his car would undoubtedly cause him consternation. Instead of an Austin Twelve costing him £190, as at present, he would find himself asked to pay £381 for its 1927 equivalent.

During ten years, additional to all the improvements in design and equipment, the price of the average car has been halved.

These striking comparisons only come as a revelation because it is human to forget. But occasionally it is just as well to realise how times have changed, especially where motoring is concerned. Motoring has never been so popular or so essential to the life of the community as it is to-day. Never before has the motor industry offered to the public so much at so low a price.

LONGBRIDGE RECEPTION CENTRE

READY FOR CORONATION VISITORS

NEW SHOWROOMS, RESTAURANT AND CINEMA AT AUSTIN WORKS.

British industry is already preparing to demonstrate its efficiency to the thousands of visitors who are expected from overseas for the Coronation. At the Austin factory at Longbridge, Birmingham, impressive reception centre and showroom has just been completed, in which all visitors will congregate before touring the works.

This addition to the facilities at Longbridge has a floor area of 12,000 sq. feet, and can accommodate up to thirty Austin cars, in addition to all the catering and reception facilities.

A section of the car exhibit is a collection of representative old models of Austin manufacture, including the first single-cylinder seven of 1910, and a 20 h.p. tourer of 1913—as typifying the pre-war car.

The decoration of the Austin Reception Centre is on distinctively modern lines, the furniture is of steel, and the diffused lighting is particularly effective.

The very latest equipment has been installed for catering, the kitchen being electrically equipped and visitors to the works can have an excellent luncheon or tea in the restaurant.

The new Austin reception centre also incorporates a cinema provided with two full size sound-film projectors.

It is expected that upwards of 30,000 visitors will be entertained in this building every year, and in view of the Coronation, the number of visitors from overseas is sure to be a record one.

PROGRESS OF THE GERMAN AUTOMOBILE INDUSTRY DURING 1936

MOTORIZATION is making rapid progress in Germany. The output of 100,000 units per year by one factory alone, and the annual turnover of 200,000,000 Reichmarks made by a few leading concerns give actual proof of this progress. The completion of 1000 kilometers of new motor roads, which is only about 14% of those planned, speak very well for future results. Also, the entire net-work of German highways is being consolidated into one system. The Olympic guests who toured Germany last summer and were able to compare its roads with those of a few years ago, were full of praise, not only for the new roads which Adolf Hitler has built, but also for the remarkable improvements which have been made on the old roads.

It stands to reason that the Reich's new motor roads, in so far as they have been opened to general traffic, e.g., Berlin-Stettin, Frankfurt-Mannheim-Heidelberg, the Munich vicinity, etc., have attracted a great deal of long-distance traffic, as well as thousands of motor tourists, because of the beautiful scenery through which they wind their way. These roads have consequently become well known in a comparatively short time. On nearly all of the completed routes, motor-bus lines are being operated by the German Railways. These lines run on exact schedule all buses making an average speed of 80 kilometers per hour. They are equipped with the Diesel motor, which has proved of the highest efficiency for this kind of traffic. The problem of tyres, strange to say, has been solved with little or no difficulty. The heavier vehicles are equipped with outside tyres, in order to reduce the amount of rubber required to be used. The German rubber industry, including the manufacturers of "Continental" tyres, have recently perfected a special quality of binding material with high temperature resistance, for joining the outer tube to the "shoe"; to say nothing of the "Buna" synthetic rubber tyres used by the Army and other government departments.

German owners of private cars which they drive themselves have, generally speaking, proved to be careful and efficient drivers when using the new motor roads. Another reason for the new motor roads' popularity is that no toll charges are made, and drivers find a considerable saving in fuel and tyres, and general wear and tear by reason of the perfect smoothness of these roads. One make of car, the "Audi",—has lately been equipped with a new oil cooler. The high gears long used by the Mercedes, May-cooler. The high gears long used by the Mercedes, May-cooler. The high gears long used by the Mercedes, May-cooler.

Long haul motor freight traffic is now highly developed in Germany. The freight lorries belonging to the National Motor Vehicle Transportation Union can be recognized by the uniform green colour and other special marks. An organization known as "Captains of the Highway" exercise a private system of control over the traffic on the new roads and report offenders against traffic regulations. At present this organization is studying the

question of the best way to regulate the overtaking of one heavy vehicle by another. The widening of all highroads in Germany permits the use of vehicles up to a width of 2.50 meters, so that large trucks, trailers, and omnibuses, up to 10 and 15 tons capacity can operate on these roads, subject to the regulations which have been prescribed to ensure complete safety for all kinds of traffic.

In the construction of buses and trucks, the "stream-line" principle has been very generally adopted in order to reduce wind resistance. For city traffic, the "low-body" car is preferred, and for long hauls the hood is constructed forward so as to make the engine more easily accessible.

The new 12-cylinder Vomag (Continental Express) has several constructive features of practical value. It is driven by a Boxer-Diesel which is installed in the rear of the chassis. The Diesel motor operates by the Thomas-Stuhr process without the use of injecting-nozzles. By this process the fuel is conveyed by a Bosch pump under low pressure into an ante-chamber, where it is atomized by preliminary combustion.

In contrast with the "giants of the road", another special type of chassis construction has been put out by the Daimler-Benz Works. This model has eight independently driven wheels, and is therefore especially suited to cross-country roads.

Generally speaking, the Diesel engine is preferred for heavy trucks and omnibuses of 2-3 tons. This type has recently been developed by Daimler-Benz as a standard engine which can be adjusted to burn wood gas and coke gas, as well as illumination and liquid gas. High compression is possible without damage to the machinery. Most municipalities and bus lines use "home fuel," such as ordinary city gas, in this engine, on account of its economy.

In German motorcar construction, air cooling is confined to a few types of commercial cars. "Phaenomen" builds light and medium weight trucks with an air-cooled, four-cylinder motor.

The peculiar construction of cylinder-heads, as now perfected, together with thermostatic control, has done away with the danger of over-heating. "Krupp" has also retained air-cooling in constructing light trucks, equipped with either Diesel or gasoline engines, for long hauls. Among the light commercial cars with gasoline engines, for long hauls, the "Opel-Blitz" deserves special mention; these cars are built at Brandenburg, near Berlin. Ford also has a truck on the market with the well-known "V-8" motor chassis.

Among the slower commercial cars, the "Lanz-Bull-dog" with its hot bulb engine, has attracted considerable attention. It can be started with gasoline, by means of a spark-plug, without any preliminary heating by torch. Even coal-tar oil, or some other crude oil may be burned

in this type of engine. There are also several types of small Diesel tractors, such as the "Premus" which can be used for slow trucking instead of horses at a very low fuel cost.

There have been few changes in the models of German private motor cars. This is considered to mean that for the time being, construction has been brought to a stage of mature perfection. Approximately one half of the total production of passenger motor cars is supplied by the Opel works. This leading concern has announced substantial reductions in the price of certain of its models. For example, the "Olympia" steel body car has been reduced in price to the extent of anywhere from 150 to 500 Marks, according to the type, the cheapest model now selling for 2,350 Marks, while the small 4 h.p. limousine costs only 1,450 Marks. Even at this low figure, this Opel four-seater is strongly made and has a durable and powerful 4-cylinder engine. It is hoped that this type of car, offered as it is at a price lower even than that of a motorcycle with side-car, with its established reputation for efficiency and fuel economy, will help still further to promote motor travel in Germany.

Another novelty being featured by Opel is a low-priced "Olympia" model, with its new style of body, designed to keep the car free from dust and dirt, and demonstrating the advantages of the "streamline" design.

Opel's keenest competitor in the low-priced field is the "Auto Union" with their small D. K. W. car, a two-cylinder, two-cycle engine and a leather-covered, plywood body. The special advantage of this car is its extremely low fuel consumption, amounting to only 6-7 litres per 100 kilometers, and yet having great reserve power and remarkable hill-climbing ability.

In the next price class is to be found the Adler-Trumpf Junior without any essential changes in construction, but containing some minor improvements and a more roomy interior. The performance of this car has found much recognition outside of Germany, as shown by the fact that a considerable part of the output is destined for export. Like the D. K. W. of the "Reichs" and "Meister" class, it has a frontwheel drive, with very low-lying centre of gravity, which makes it especially safe in taking curves.

Probably the most successful new model in the field of light German passenger cars is the "Mercedes"—"V-170" four-cylinder car, which can carry its engine either in front or in the rear. The front-engine model is the more popular in Germany, and is considered one

of the best values on the market. Its chief characteristics are its peculiar cross-shaped chassis, consisting of pipes with oval cross-section, flat-spring jointed cross-shaft axle for the rear wheels.

The Diesel passenger car is still the sensation of the market. It is being regularly put out by Mercedes as well as the "Hanomag". While its price is naturally somewhat higher than that of the gasoline engine, and its running is not quite so smooth, yet it has been refined and improved to such an extent that only a trained ear can note the difference in the running smoothness. Because of its higher price, the Diesel's advantage over the gasoline cars is only apparent where continuous travel over long distances is required. Then the saving in fuel cost becomes very evident.

There is also a special type of private car for over-land touring and rough country, adapted to field and colonial use. The four-wheel drive models of this car are not yet quite ready for the market.

The German motorcycle has been further developed along the lines of the "German school" of construction, represented by such makes as B.M.W., "Zundapp", N.S.U., D.K.W., etc., but no fundamental changes have been made. Small motorcycles, or power bicycles, are also coming into their own. About 200,000 of these little machines were sold in Germany last year. They include bicycles with a small two-stroke cycle motor of 100 c.c. capacity and two speeds. They are started by a cycle tread-crank and driven by chain. (Fichtel and Sachs' engine can be mounted on any ordinary bicycle). There are also small motorcycles with 100 c.c. capacity motors and two or three speeds (D.K.W. and N.S.U.). The efficiency and performance of these small motorcycles was recently demonstrated in a difficult hill-climbing contest in the Swiss Alps, where they were required to run continuously for many hours under full load.

Taken altogether, the motorcar industry in Germany shows steady and consistent progress. All factories are running full time, and many of them are beginning to require more room in which to handle their business. The most important phase of the progress and activity in this and other related industries is apt not to be fully recognized by the casual observer. Coincident with the lowering of prices, the best materials are being used in the manufacture of cars, which are constantly also being improved and perfected as to efficiency and durability. The upward trend of German export figures in the automobile industry affords ample proof that its development is finding recognition in foreign countries.—(Contributed).

MADRAS FLYING CLUB NOTES

JANUARY—the head of the long train of rainless months that are now in all probability to be the portion of Madras till the onset of the next N. E. Monsoon. The grass withereth and the flower fadeth, and a dreary Khaki hue has overspread the great lawn. A dearth of cross country flights by members during the month. Only one, but that a major one when on the 20th Mr. Bhuyan of Orissa set forth solo in a Gipsy on the grand tour of India, a tour of 4200 miles *via* Hyderabad (Deccan), Calcutta, Delhi, Lahore, Karachi, and Bombay, to mention only the big places. A charter flight to litter half a ton of hand bills over Vellore, Nellore, Ellore and four and forty other towns in south-east India on the 8th, 9th and 10th has already been described, which flight added 21½ hours to the month's bag and occupied 2½ strenuous days for the Pilot Instructor and Mr. Somerville in the Leopard Moth. In the same machine on the 25th the Pilot Instructor took a charter flight with two passengers to Trichy and back, and on the 29th he flew a Gipsy to the small town of Yemmiganur, 264 miles to the north-west, to give 77 joy rides off a small cotton field at the local god's annual festival and back the following day with 13 hours added to the bag.

The newest addition to the club's fleet, the Leopard Moth, became the subject and focus of a ceremony held at the flying club on the 11th when H. E. the Governor and Lady Marjorie Erskine graced the club with their presence for the purpose of christening the aeroplane in question. His Excellency made a speech, whereafter Her Excellency bestowed the name of "The Lady Marjorie" on the aeroplane with the accompanying smash of a bottle of alcoholic refreshment, gaiety then reigned, what time "The Lady Marjorie" showed her paces in the sky followed by other flying.

Two new members joined the club during the month in the persons of Mr. Saravanam and Monsieur Alsac. And Monsieur Triou performed his first solo in a Gipsy, while Madame Triou was on the verge of doing so in the Swallow.

Mr. Tymms (the D.C.A.) and Mr. Vincent of Tatas visited Madras on the 16th on their way to Colombo and again on their way back on the 20th, flying in a red Miles Merlin on business connected with the airmail extension to Ceylon and accompanied by the Director-General of Posts and Telegraphs.

The club also had towards the close of the month the pleasure of a visit of inspection from Mr. Leete of the Directorate of Civil Aviation who, amongst his activities, proceeded to test a few of the members in flying.

A club breakfast party per Sunday was held as usual conducing to good cheer and extra flying.

Dual instruction to members under training	29—0
Advanced dual to "A" Pilots	3—30
Solo flights by members under training	0—5
Solo flights by "A and A-1" pilots	69—40
Pilot with passenger (A, A-1 and B pilots)	28—0
Joy rides	9—40
Cross country trips by the club instructor	32—30
Other flying	0—10
Test flights	0—35

Hours .. 173—10

The following members took dual instruction during the month:—

Europeans:—

Mr. P. Triou	
Mrs. Triou	
Mr. H. T. Grubb	
Mr. Alsac	
Mr. P. W. Lomax	Advanced dual.
Mr. Simpson	do.

Indians:—

Mr. Saravanam	
Mr. Ananda Prasad	Advanced dual.
Mr. J. D. Italia	do.
Mr. S. Thirumalai	do.
Mr. Parthasarathy.	do.
Mr. Avadiappa Chettiar.	do.
Mr. Solayappa Chettiar.	do.
Mr. T. M. Duraswami.	do.

Ceylonese:—

Mr. Flamer Caldera	Advanced dual.
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Member who flew first solo during the month:

Mr. P. Triou.

New members during the month:—

Mr. Saravanam.
Mr. Alsac.

RADIO

BROADCASTING MISCELLANY

Empire Service Appointment

Mr. C. A. L. Cliffe has been appointed Assistant Director of the BBC Empire Service. Mr. Cliffe was educated at Eton and Balliol College, Oxford, and passed into the Civil Service in 1925. He served nearly ten years in the Colonial Office, and during a considerable part of that time was Private Secretary to the then Permanent Under-Secretary, Sir Samuel Wilson, and Assistant Private Secretary to Sir Philip Cunliffe-Lister, then Secretary of State for the Colonies. He was appointed Empire News Editor on the staff of the BBC in 1935.

Mr. Cliffe has travelled widely throughout the Empire, in Australia, New Zealand, and Africa. For one year he served as Private Secretary to the late Sir Graeme Thomson, then Governor of Nigeria. He visited East Africa in 1929 on an official visit with Sir Samuel Wilson. His father, the late Mr. Frederic Cliffe, was well known in musical circles throughout the Dominions, which he toured many times as an examiner for the Associated Board of the Royal Academy of Music and the Royal College of Music.

BBC General Advisory Council

The BBC announces that its General Advisory Council, formed two years ago for an experimental period now ended, is to be reappointed for a further period of three years. To the Corporation's regret, his Grace the Archbishop of York, who has presided over the Council since its formation, has intimated that he can no longer continue to serve. The BBC is glad to be able to announce that the Rt. Hon. the Lord Macmillan, who has throughout been a member of the Council, has accepted an invitation to succeed the Archbishop of York as Chairman. The Council's functions are, briefly, to advise the BBC on any matter relating to its programmes, its publications, and its general policy, and to promote among listeners a fuller interest in and understanding of the constitutional problems, policy, and practice of the BBC.

Television Appointment

Mr. R. A. Rendall has been appointed Assistant Director of BBC Television. Mr. Rendall joined the staff of the Corporation in 1928 as an announcer and later served in the Talks Department and as West Regional Programme Director. In 1935 he was seconded as Acting Programme Director to the Palestine Broadcasting Service.

"Empire Exchange"

In a recent talk Mr. J. B. Clark, Director of the BBC Empire Service, said that the object of the service has been not only to bring listeners into daily contact with the Home Country, but also to act as an "Empire Exchange." In the latter field there has been a notable development in the past year, compared with 1935; nearly twice as many programmes originating within the Dominions and Colonies were broadcast to the Home Country and from the Empire station in 1936. Among these has been the series of talks on "World Affairs." Other major events from overseas heard by Home listeners included the broadcast of the ex-Viceroy after the death of King George V., the opening of the British Empire Exhibition at Johannesburg, and the ceremonies associated with the changeover of Viceroy in the spring of 1936.

Perhaps the most notable example of co-operation in the field of Imperial broadcasting was provided on the occasion of the Proclamation of the accession of King George VI. The Proclamation in Canada was made exclusively by broadcasting, and started immediately after the final gun of the Royal Salute in Hyde Park. The Home Country and the Dominion Proclamations were broadcast throughout the Empire.

Mr. J. B. Clark also referred to the new Empire transmitters at Daventry. "There will be three additional transmitters of higher power and a new aerial system, and we expect they will be ready to be brought into operation in the Spring. Apart from increased signal strength overseas, in future it will be possible for us to make our programmes available for reception over wider areas simultaneously. While the existing basis of primary direction of the various transmissions will be maintained, many parts of the Empire will, we hope, enjoy a longer period of daily programmes from Daventry than has been practicable in the past."

Songs That Were Saved

The BBC recently broadcast a programme of songs which publishers would not accept. It was listened to with considerable interest, but the general reaction seemed to be that the publishers knew their own business very well. The BBC chose a jury of ordinary listeners, including a policeman, a business girl, a page boy, and a nurse, picked at random. They sat in a studio in Broadcasting House and listened to forty songs which had been rejected by publishers. The ten songs which were considered best were broadcast. Listeners were next invited to send in letters stating which of the ten songs they considered best. Nearly twenty thousand listeners were sufficiently interested to send in their selections.

Increased Range of Television

The invitation of the BBC to viewers to co-operate in the development of television has met with a cordial response. Many valuable suggestions have been made. A Brighton viewer states that he receives the television programmes perfectly on his receiver. As Brighton is about sixty miles from Alexandra Palace, this represents a substantial increase in the area of reception which has hitherto been considered to be about twenty-five miles.

Foreign Relays by the BBC

One of the more pleasing features of European broadcasting is the readiness with which all the authorities are willing to co-operate with the BBC and with each other in foreign relays. During 1936 the BBC took 132 relays from abroad by line. In the opinion of the BBC engineers 123 of these relays were completely successful, six partially successful, and three not successful. Relays are said to be partially successful if there is a break of thirty seconds or more. The relays came from twenty-seven leading towns in Europe. Geneva provided thirty-one relays, Berlin twenty-two, Paris eighteen, Vienna seven. Not only do the foreign authorities co-operate in arranging the technical details, but they are most anxious to provide every facility for broadcasting to commentators and other speakers.

B. B. C. Empire Service Programmes

Transmissions 2 and 3

NOTE.—All times given are Indian Standard Time which is five hours and thirty minutes ahead of Greenwich Mean Time. Wavelengths shown for each Transmission are those in use at time of going to press. Changes, if any, will be duly notified by microphone which should be listened for in the announcements made at frequent intervals.

Transmission 2:—4.30 to 7.15 p.m. I.S.T. (11 a.m. to 1.45 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSG 17.79 Mc/s (16.86 m.).
GSB 9.51 Mc/s (31.55 m.).

Transmission 3:—7.30 to 10.30 p.m. I.S.T. (2 to 5 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSF 15.14 Mc/s (19.82 m.).
GSB 9.51 Mc/s (31.55 m.).

SUNDAY, FEBRUARY 21.

4.30 p.m.—Big Ben. The BBC Theatre Orchestra.*
5.27 p.m.—Pianoforte Recital.
5.40 p.m.—A Commentary on a Match in the 5th Round of the F. A. Cup.*
6.0 p.m.—A Brass Band Concert.
6.25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
6.50 p.m.—A Short Religious Service.*
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. A Programme of Schumann's Songs.
7.50 p.m.—Richard Crean and his Orchestra.
8.50 p.m.—Bells and an Empire Service* from St. Paul's Cathedral.
9.40 p.m.—A Recital by Two Pianoforte Artists.
10.0 p.m.—Weekly Newsletter, Sports Summary and Announcements.
10.30 p.m.—Close down.

MONDAY, FEBRUARY 22.

4.30 p.m.—Big Ben. Cinema Organ Recital.
4.45 p.m.—A Recital of Popular Ballads.
5.0 p.m.—Talk: Empire Exchange.
5.15 p.m.—Haydn Heard and His Band.
5.25 p.m.—Light Programme.
5.55 p.m.—The London Theatres and Their Musical Successes—6†.
6.25 p.m.—The News and Announcements.
6.45 p.m.—A Programme of Classical Music.
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. John Londoner at Home—7.*
8.2 p.m.—An Orchestral Concert.†
8.15 p.m.—Suggestions for Your Book List—4.*
8.30 p.m.—A Programme of Light Music.
9.0 p.m.—A Cinema Organ Recital.
9.30 p.m.—A Sonata Recital.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

TUESDAY, FEBRUARY 23.

4.30 p.m.—Big Ben. Light Programme.
5.20 p.m.—The BBC Empire Orchestra.
6.20 p.m.—Interlude.†
6.25 p.m.—The News and Announcements.
6.45 p.m.—Dance Music.
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. Talk: World Affairs.
7.47 p.m.—An Instrumental Recital.
8.0 p.m.—Geiger and his Orchestra, from Claridge's Hotel, London.
8.30 p.m.—A Light Classical Concert.
9.0 p.m.—"Eight Bells".

10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

WEDNESDAY, FEBRUARY 24.

4.30 p.m.—Big Ben. Talk: World Affairs.*
4.47 p.m.—The Table Under The Tree.*
5.30 p.m.—The New Victoria Cinema Orchestra.
6.0 p.m.—Variety.
6.25 p.m.—The News and Announcements.
6.45 p.m.—Organ Recital.
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. The BBC Dance Orchestra.*
8.5 p.m.—Talk: Empire Exchange.*
8.20 p.m.—A Brass Band Concert.
9.0 p.m.—A Pianoforte Recital.
9.30 p.m.—Folk-lore programme.*
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

THURSDAY, FEBRUARY 25.

4.30 p.m.—Big Ben. A Syncopated Piano Recital.
4.50 p.m.—John Londoner at Home—8.
5.20 p.m.—The BBC Welsh Orchestra.
6.15 p.m.—The BBC Singers.
6.25 p.m.—The News and Announcements.
6.45 p.m.—Vienneze Waltzes.†
6.55 p.m.—"Food for Thought".*
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. A Cinema Organ Recital.
8.0 p.m.—Light Programme.*
8.45 p.m.—The Bournemouth Municipal Orchestra.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

FRIDAY, FEBRUARY 26.

4.30 p.m.—Big Ben. Cinema Organ Recital.
5.0 p.m.—A Programme of Songs.
5.15 p.m.—"London Calling A.D. 1600".*
5.45 p.m.—Talk: This is England—8.*
6.0 p.m.—The BBC Dance Orchestra.
6.25 p.m.—The News and Announcements.
6.45 p.m.—A Commentary on the 5th Test Match.*
7.5 p.m.—Dance Music.†
7.15 p.m.—Close down.
7.30 p.m.—Big Ben. The BBC Theatre Orchestra.*
8.27 p.m.—Variety.*
8.55 p.m.—Talk.
9.20 p.m.—A Commentary on the 5th Test Match.*
9.30 p.m.—"Children of the Stars"—3.
10.0 p.m.—The News and Announcements.
10.20 p.m.—Dance Music.†
10.30 p.m.—Close down.

SATURDAY, FEBRUARY 27.

4.30 p.m.—Big Ben. "Eight Bells".*
5.30 p.m.—Talk.*
5.45 p.m.—Interlude.†
5.50 p.m.—For the Children.
6.35 p.m.—The News and Announcements.

* Electrical Recording.

† Gramophone Records.

6-55 p.m.—A Commentary on the 5th Test Match.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The Coventry Hippodrome Orchestra.
 8-15 p.m.—Light Musical Programme.
 8-45 p.m.—A Commentary on the 5th Test Match.*
 9-5 p.m.—Brass Band Music.†
 9-15 p.m.—Interval Summary and Commentary on 2nd half of Rugby Match: Ireland v. Scotland.
 10-5 p.m.—The News and Announcements.
 10-30 p.m.—Close down.

SUNDAY, FEBRUARY 28.

4-30 p.m.—Big Ben. The BBC Empire Orchestra.
 5-30 p.m.—A Commentary* on a Rugby Match: Ireland v. Scotland.
 5-50 p.m.—Pianoforte Interlude.
 6-0 p.m.—The BBC Military Band.
 6-25 p.m.—Weekly Newsletter, Sports Summary and Announcements.
 6-50 p.m.—A Short Religious Service.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. "In the Making"—2.*
 7-50 p.m.—An Orchestral Concert.
 8-50 p.m.—A Religious Service (Roman Catholic)* from St. Dominic's Priory.
 9-40 p.m.—Troise and his Mandoliers.
 10-0 p.m.—Weekly Newsletter, Sports Summary and Announcements.
 10-30 p.m.—Close down.

MONDAY, MARCH 1.

4-30 p.m.—Big Ben. The BBC Dance Orchestra.*
 5-0 p.m.—Talk: I Was There—5.
 5-15 p.m.—Haydn and his Orchestra.
 5-45 p.m.—Light Programme.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Commentary* on the 5th Test Match.
 7-5 p.m.—A Programme of Welsh tunes.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. John Londoner at Home—8.*
 8-2 p.m.—Light Orchestral Music.†
 8-10 p.m.—Talk: Tales of the Sea—5.*
 8-25 p.m.—A Programme for St. David's Day.
 9-10 p.m.—A Commentary* on the 5th Test Match.
 9-30 p.m.—A Sonata Recital.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, MARCH 2.

4-30 p.m.—Big Ben. A Cinema Organ Recital.
 4-54 p.m.—Henry Hall's Music Makers.*
 5-15 p.m.—The BBC Symphony Orchestra.
 6-0 p.m.—London Theatres and Their Musical Successes.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Commentary* on the 5th Test Match.
 7-5 p.m.—Song Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-47 p.m.—Syncopation.
 8-0 p.m.—"London Calling, A.D. 1600."*
 8-30 p.m.—The Torquay Municipal Orchestra.
 9-40 p.m.—A Commentary* on the 5th Test Match.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, MARCH 3.

4-30 p.m.—Big Ben. Variety.*
 5-0 p.m.—Talk: World Affairs.*
 5-15 p.m.—The New Victoria Orchestra.
 5-45 p.m.—"The Story of the Gramophone".*
 6-25 p.m.—The News and Announcements.

6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Programme of Light Music.
 8-0 p.m.—Talk: I Was There—5.*
 8-20 p.m.—A Brass Band Concert.
 9-0 p.m.—Light Programme.*
 9-55 p.m.—The News and Announcements.
 10-15 p.m.—Close down.

THURSDAY, MARCH 4.

4-30 p.m.—Big Ben. Light Musical Programme.
 4-45 p.m.—John Londoner at Home—9.
 5-15 p.m.—A Cinema Organ Recital.
 5-45 p.m.—Light Programme.*
 6-15 p.m.—The Trocadero Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Pianoforte Selections.†
 6-53 p.m.—"Food for Thought".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Theatre Organ.
 8-0 p.m.—A Commentary on the Cheltenham Gold Cup Race.
 8-25 p.m.—Variety.*
 8-45 p.m.—Military Band Concert.
 9-30 p.m.—Light Programme.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, MARCH 5.

4-30 p.m.—Big Ben. Dance Music and Variety.*
 5-15 p.m.—A Commentary* on the Cheltenham Gold Cup Race.
 5-35 p.m.—Light Orchestral Music.†
 5-45 p.m.—Talk: This is England—9.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Instrumental Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Highie Green and his Gang.*
 8-0 p.m.—A Programme of Somersetshire Folk Songs.
 8-15 p.m.—A Pianoforte Recital.
 8-45 p.m.—"A Countryman's Diary".
 9-0 p.m.—Operatic Records.
 9-30 p.m.—"Pig Yourself".
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, MARCH 6.

4-30 p.m.—Big Ben. Variety.*
 5-2 p.m.—"A Countryman's Diary".*
 5-17 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
 6-15 p.m.—For the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Mantovani and his Tipica Orchestra.
 8-0 p.m.—A Cinema Organ Recital.
 8-30 p.m.—A Commentary on the National Badminton Championship.
 8-45 p.m.—Dance Music.†
 9-10 p.m.—A Commentary on a Rugby Match: Royal Navy v. Army.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, MARCH 7.

4-30 p.m.—Big Ben. The BBC Theatre Orchestra.*
 5-22 p.m.—A Pianoforte Recital.
 5-35 p.m.—A Commentary on a Badminton Match.*

* Electrical Recording.

† Gramophone Records.

5-50 p.m.—A Commentary on the 6th Round of the F.A. Cup.*
 6-0 p.m.—A Brass Band Concert.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—A Short Religious Service.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Recital on Two Pianofortes.
 7-50 p.m.—An Orchestral Concert.
 8-50 p.m.—A Religious Service from Croydon Parish Church.*
 9-40 p.m.—The BBC Singers.
 10-0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 10-30 p.m.—Close down.

MONDAY, MARCH 8.

4-30 p.m.—Big Ben. A Light Musical Concert.
 5-0 p.m.—Talk: Empire Exchange.
 5-15 p.m.—Variety.
 5-35 p.m.—Haydn and his Band.
 5-55 p.m.—"London Theatres and their Musical Successes"—8.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. John Londoner at Home—9.*
 8-2 p.m.—Syncopation.
 8-15 p.m.—Talk: Suggestions for your Book List.*
 8-30 p.m.—A Programme of Light Music.
 8-55 p.m.—Light Programme.
 9-30 p.m.—A Sonata Recital.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, MARCH 9.

4-30 p.m.—Big Ben. A Cinema Organ Recital.
 4-50 p.m.—"Sealed Orders".*
 5-20 p.m.—The BBC Empire Orchestra.
 6-20 p.m.—Interlude.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Dance Music—Popular Numbers of Recent Years.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-47 p.m.—A Programme of New Gramophone Records.
 8-10 p.m.—Variety.*
 8-30 p.m.—The Torquay Municipal Orchestra.
 9-30 p.m.—"Paper Mill".*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, MARCH 10.

4-30 p.m.—Big Ben. Talk: World Affairs.*
 4-47 p.m.—Scrapbook for 1902.*
 5-50 p.m.—Scenes from Shakespeare's "Henry IV", Part I.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—The Birmingham Hippodrome Orchestra.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Programme of Light Music.
 8-0 p.m.—Interlude.†
 8-5 p.m.—Talk: Empire Exchange.*
 8-20 p.m.—A Brass Band Concert.
 9-0 p.m.—A Pianoforte Recital.
 9-30 p.m.—Folk-lore Programme.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

THURSDAY, MARCH 11.

4-30 p.m.—Big Ben. Selections from Light Opera.†
 4-45 p.m.—John Londoner at Home—10.
 5-15 p.m.—A Cinema Organ Recital.
 5-30 p.m.—"The Old Folks at Home"—6.*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Military Band Concert.†

6-53 p.m.—"Food for Thought".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Cinema Organ Recital.
 8-0 p.m.—Songs of the Sea.
 8-15 p.m.—"Sealed Orders".*
 8-45 p.m.—The Bournemouth Municipal Orchestra.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, MARCH 12.

4-30 p.m.—Big Ben. A Programme of Winning Works in the Australian Chamber Music Competition.*
 5-25 p.m.—The Rutland Square Orchestra.
 5-45 p.m.—Talk: This is England—10.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Programme of Students' Songs.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Talk on the F.A. Cup.*
 7-42 p.m.—Dance Music—Famous British Bands.†
 8-15 p.m.—Talk.
 8-30 p.m.—Violin.
 8-45 p.m.—The Story of the Gramophone.*
 9-30 p.m.—"Cue for Adventure"—5.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, MARCH 13.

4-30 p.m.—Big Ben. "Pig Yourself".*
 5-2 p.m.—A Song Recital.
 5-15 p.m.—The BBC Dance Orchestra.
 5-40 p.m.—Talk.*
 5-55 p.m.—Variety.*
 6-15 p.m.—For the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Troise and his Mandoliers.
 8-0 p.m.—Light Programme.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, MARCH 14.

4-30 p.m.—Big Ben. Welsh Religious Service, from Bethesda Baptist Church, Swansea.
 5-30 p.m.—Pianoforte Records.
 5-40 p.m.—Light Programme.*
 6-0 p.m.—Richard Crean's Orchestra.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—Fred Hartley and his Novelty Quintet.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Empire Orchestra.
 8-0 p.m.—Reading.
 8-20 p.m.—D. L. Moody Centenary Service, from the Lyceum Theatre, London.*
 9-40 p.m.—The Celebrity Trio.
 10-0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 10-30 p.m.—Close down.

MONDAY, MARCH 15.

4-30 p.m.—Big Ben. Cinema Organ Recital.
 4-40 p.m.—Henry Hall's Music Makers.*
 5-0 p.m.—Talk: I Was There—6.
 5-15 p.m.—"Cue for Adventure"—5.*
 5-45 p.m.—Instrumental Interlude.
 5-55 p.m.—"London Theatres and Their Musical Successes"—9.†
 6-25 p.m.—The News and Announcements.

* Electrical Recording.

† Gramophone Records.

6-45 p.m.—A Programme of Light Music.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. "John Londoner at Home"—10.*
 8-2 p.m.—Light Orchestral Music.†
 8-15 p.m.—"Tales of the Sea"—6.*
 8-30 p.m.—Light Music.
 9-0 p.m.—A Programme of Mexican Music.*
 9-30 p.m.—A Sonata Recital.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, MARCH 16.

4-30 p.m.—Big Ben. "Tweed".*
 5-20 p.m.—The BBC Empire Orchestra.
 6-20 p.m.—Interlude.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Reginald Dixon (Organist of the Tower Ballroom, Blackpool).†
 6-57 p.m.—Boat-building programme.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-50 p.m.—"Hall Marks".
 8-35 p.m.—The Torquay Municipal Orchestra.
 9-30 p.m.—A Commentary on a Boxing Match.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, MARCH 17.

4-30 p.m.—Big Ben. Talk: World Affairs.*
 4-47 p.m.—Song Recital.
 5-15 p.m.—Variety.*
 5-45 p.m.—"St. Patrick's Day".
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—The Birmingham Hippodrome Orchestra.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: I Was There—6.*
 7-47 p.m.—Light Orchestral Music.†
 8-0 p.m.—A Commentary on the Lincolnshire Handicap.
 8-20 p.m.—A Brass Band Concert.
 9-0 p.m.—Irish Variety.*
 9-30 p.m.—Studio Concert.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music Records.
 10-30 p.m.—Close down.

THURSDAY, MARCH 18.

4-30 p.m.—Big Ben. "Syncopation".
 5-0 p.m.—"John Londoner at Home"—1.

5-30 p.m.—Instrumental Recital.
 5-45 p.m.—The Trocadero Cinema Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Brass Band Concert.†
 6-53 p.m.—"Food for Thought".*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Theatre Organ.
 7-45 p.m.—"Scrapbook for 1912".*
 8-45 p.m.—A Military Band Concert.
 9-30 p.m.—Variety.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, MARCH 19.

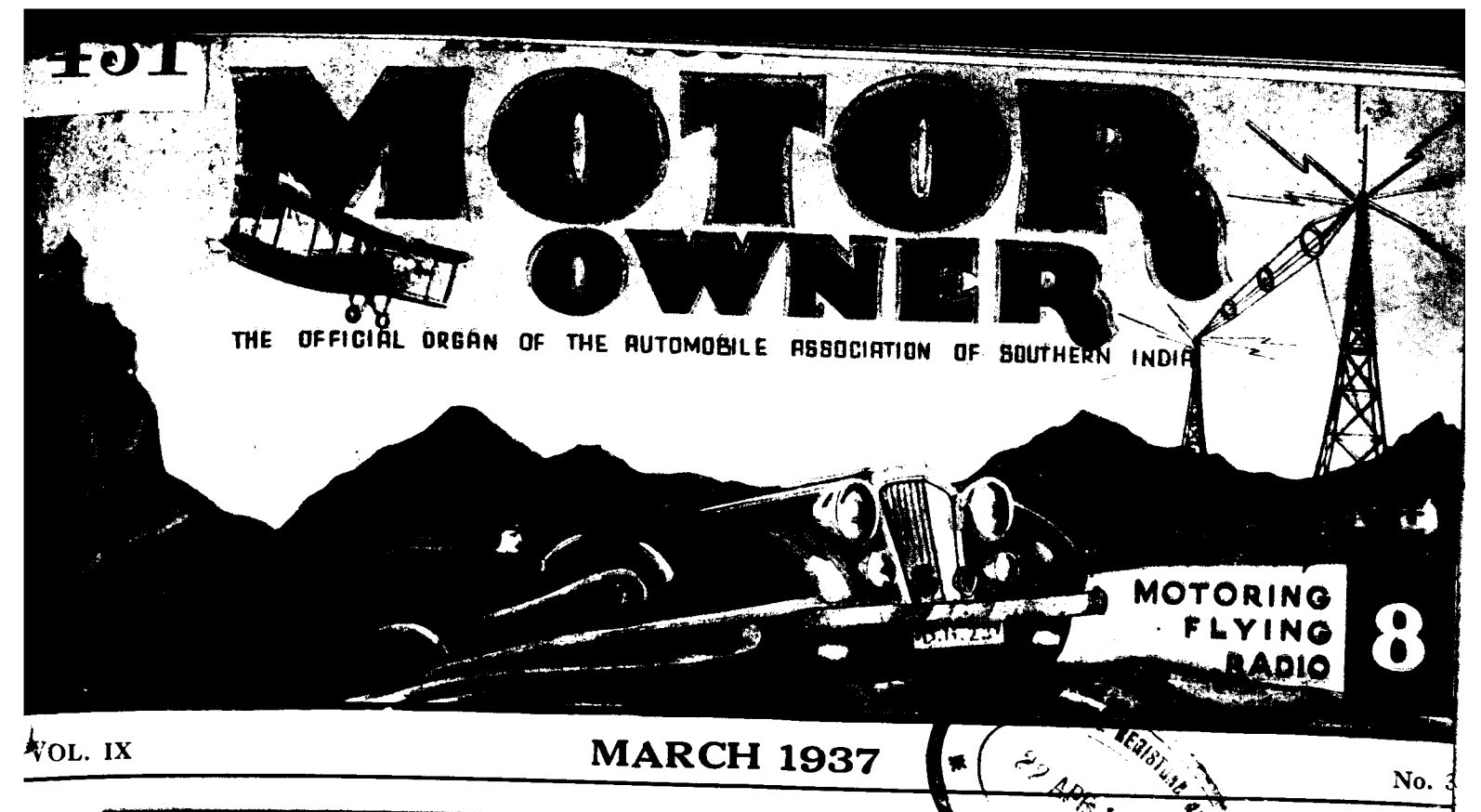
4-30 p.m.—Big Ben. "Goodnight Vienna".*
 5-30 p.m.—Pianoforte Recital.
 5-45 p.m.—Talk: This is England—11.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Studio Concert.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Scottish Orchestra.
 8-15 p.m.—"Under Big Ben".
 8-30 p.m.—A Commentary on the Grand National.
 9-0 p.m.—Light Programme.
 9-20 p.m.—"Mother of Parliaments".
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, MARCH 20.

4-30 p.m.—Big Ben. Cinema Organ Recital.
 5-0 p.m.—A Commentary* on the Grand National.
 5-20 p.m.—A Song Recital.
 5-40 p.m.—"Under Big Ben".*
 5-55 p.m.—Dance Music.†
 6-15 p.m.—For the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—"Oddities".†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The Coventry Hippodrome Orchestra.
 8-15 p.m.—Variety.*
 8-35 p.m.—To be announced.
 10-20 p.m.—The News and Announcements.
 10-30 p.m.—Close down.

* Electrical Recording.

† Gramophone Records.



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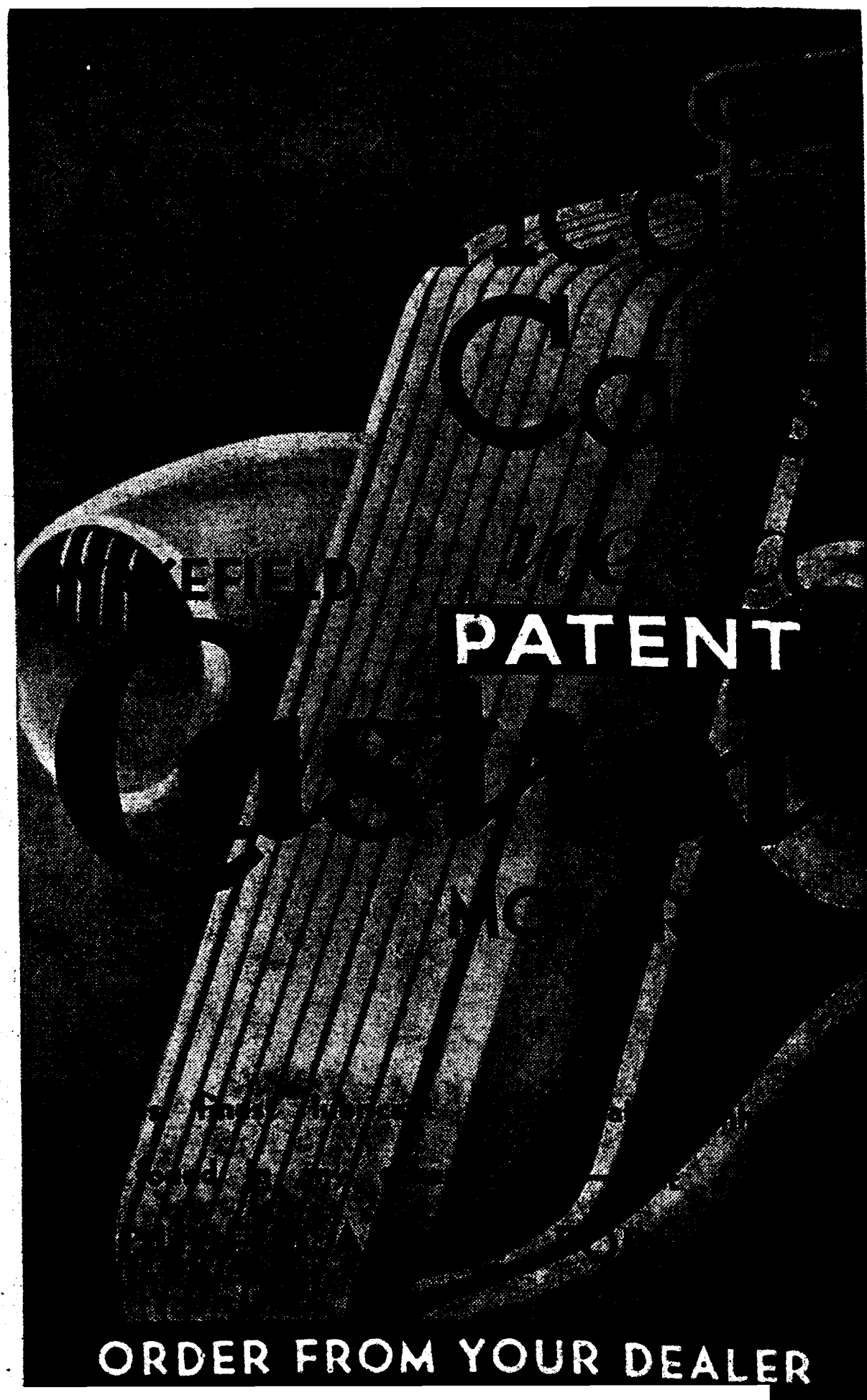
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The Official Organ of the
Automobile Association of Southern India



Vol. IX, Number 3]

MARCH 1937

[Single Copy As. 8

NOTES AND NEWS FOR A.A.S.I. MEMBERS

Road Information

THE dry season of the year being now fully established, road conditions may be regarded as normal and many district roads not usually recommended as fit for motor traffic may now be negotiated with comparative ease.

Kistna Anicut.

The Kistna Anicut road, which was opened for traffic in the first week of February, was again closed on the 19th of that month owing to the unexpected increase of the water level over the anicut crest. The water had however subsided by the 1st March, when the anicut was again opened to traffic.

Kuruvanath-Kumili Ghat Road.

The road was closed to through traffic between the hours of 8 a.m. and 4-30 p.m. on the 9th instant and is likely to remain closed until the 23rd. The closure is due to the improvements being effected at miles 46/6-7, 46/3-4 and 46/2-3.

The dates of actual closure were posted at Kumili and at Uthamapalayam Deputy Tahsildar's office.

Driving License Reminders

Members of the Automobile Association of Southern India who depend upon the Association's driving license

reminder service for the timely renewal of their licenses, will greatly assist by informing the office whenever the dates of the termination of their licenses are altered; when for instance, the driving license is renewed after having been allowed to lapse—while away from India.

In order to verify the date of expiry of members' driving licenses now recorded in the Association's books, members are requested to complete and forward to the Honorary Secretary, the driving license reminder form printed elsewhere in this journal.

International Driving Permits

With the approach of the leave season, the Association has received several enquiries as to the procedure to be adopted for obtaining these permits. It is brought to the notice of members therefore that the A.A.S.I. is in a position to issue these permits, and will forward an application form on request. The application duly filled in, accompanied by two passport size photographs and Rs. 10 should reach the Honorary Secretary not less than 10 days before the date of sailing; if it is desired that the permit be taken from India by the holder.

Madras M. V. Tax Short-Term Licenses

The Government of Madras has recently issued a G.O. (No. 600 dated 9-2-37) in connection with the issue of substitute licenses in place of those lost or destroyed.

**MADRAS M. V. TAX FOR APRIL/JUNE QUARTER SHOULD BE
PAID BEFORE 1st APRIL 1937.**

LIST OF HOTELS AND BOARDING HOUSES

GRANTING 5 to 10% reduction on Total Bills exclusive of drinks to members of this Association on production of their current membership cards immediately on arrival.

N.B.—Those marked with * grant only 5% reduction.

Those marked with † grant reduction only for stay of 1 week or more.

Those marked with ‡ grant reduction only for casual (daily) guests.

BANGALORE	..	Joyburn. Mrs. Maish. Rochester. Rugby. Sastry's. Shilton.† Marlin.
BEZWADA	..	Morris.*
CALICUT	..	Beach.
CANNANORE	..	Hotel Westcliffe-on-Sea.
COCHIN (Br.)	..	Harbour.
COIMBATORE	..	Davy. Majestic.*
COONOR	..	Hillgrove. Manor.‡
ERNAKULAM	..	Terminus.
GOPALAPUR	..	Seaside. Yatton Hall.*
KODAIKANAL	..	Carlton. Wissahickon.
KOTAGIRI	..	Blue Mountain.
KURNOOL	..	Udipi.*
MADRAS	..	Bosotto. Clarence. Lyric.
MAHE (Tellicherry)	..	Riverside.*
MYSORE	..	Metropole.
NELLORE	..	Majestic.†
OOTACAMUND	..	Cecil. Savoy. Willingdon House.
PONDICHERRY	..	Grand Hotel d' Europe. Hotel L'Alsacien. Sanker Lodge.*
SECUNDERABAD	..	Montgomery. Percy's.
TELLICHERRY	..	Empire.* Victoria.
TINNEVELLY	..	Chandra Vilas.
VIZAGAPATAM	..	Grand.*
WALTAIR	..	Beach. Seaview.

LIST OF A.A.S.I. PUBLICATIONS

	Rs. A. P.
Road Map of Madras Presidency. Mounted on linen and folded into covers	4 8 0
Road Map of Northern India. Scale 16 miles to 1 inch. Mounted on linen and folded in stiff covers ...	6 8 0
A. A. Handbook of Northern India ...	5 0 0
A. A. Handbook of Ceylon ...	6 8 0
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"This Motoring" The Romance of the A. A. by Sir Stenaeon Cooke	2 0 0
List of Petrol Depots in Southern India	0 4 0
Great Britain and Ireland 1937 (A list of the principal events during 1937 with information for visitors).	
Touring in Great Britain and Europe 1936 A. A. publications ...	Free to Members only
"My Glorious Adventure," by Captain T. Yates-Benyon. A record, written in a light, amusing style, of the author's trip by car from Piccadilly to Calcutta ...	5 0 0
Map of Madras City showing principal roads and buildings produced by the Madras Calling League, Folded or flat	1 0 0

Postage extra in all cases.

The Notification is reproduced below:—

"The Government direct that when a temporary license issued under clause (c) of sub-section (1) of section 5 of the Madras Motor Vehicles Taxation Act is lost or destroyed, the licensing officer, who issued it, may, on payment of Re. 1 in the case of a license issued for a period not exceeding seven days and of Rs. 2 in the case of a license issued for a period exceeding seven days but not exceeding thirty days, issue a substitute license made valid for the same period for which the original license was issued."

Madras Motor Vehicles Taxation

Elsewhere in this journal will be found a prominent notice calling attention to the fact that the next Quarter's Madras M. V. Tax is due for payment on 1st April 1937. In this connection members are informed that the Government of Madras have introduced a system of issuing half-yearly and annual licenses. The tax levied on the half-yearly and annual licenses is twice and four times respectively the rates specified for the corresponding quarterly licenses.

The tax in respect of motor vehicles which are intended to be used on public roads only during the later portion of a half-year or a year, will be levied at the reduced rates and subject to the conditions specified below:—

Particulars to user of vehicle (1)	Amount of tax payable (2)	Conditions (3)
<i>I. Half-yearly License.</i>		
Where the vehicle is to be used only during—		
(a) the second and subsequent months.	One and four-fifths of the tax payable for one quarter.	The license shall not be granted earlier than the last day of the first month of the half-year.
(b) the third and subsequent months.	One and two-fifths of the tax payable for one quarter.	The license shall not be granted earlier than the last day of the second month of the half-year.

WHEN VISITING MADRAS

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AND
EXCELLENT CUISINE

II. Annual License.

Where the vehicle is to be used only during—		
(a) the second and subsequent months.	Three and four-fifths of the tax payable for a quarterly license.	The license shall not be granted earlier than the last day of the first month of the year.
(b) the third and subsequent months.	Three and two-fifths of the tax payable for a quarterly license.	The license shall not be granted earlier than the last day of the second month of the year.
(c) the last three quarters.	Three times the tax payable for a quarterly license.	The license shall not be granted earlier than the last day of the first quarter of the year.
(d) the fifth and subsequent months.	Two and four-fifths of the tax payable for a quarterly license.	The license shall not be granted earlier than the last day of the fourth month of the year.
(e) the sixth and subsequent months.	Two and two-fifths of the tax payable for a quarterly license.	The license shall not be granted earlier than the last day of the fifth month of the year.

Refund of Tax paid on Half-yearly and Annual Licenses.

For the information of members, G.O. No. 539 dated 6-2-37 regarding conditions and rates of refund allowed on half-yearly and annual licenses is reproduced.

Notification.

"In exercise of the powers conferred by clause (b) of sub-section (1) of section 5 of the Madras Motor Vehicles Taxation Act, 1931 (Madras Act III of 1931), the Governor acting with Ministers is hereby pleased to

notify that in the case of a motor vehicle in respect of which a half-yearly or annual license has been issued but which does not use any public road in the Presidency of Madras during the whole of the half-year or year or the whole of any calendar month or months therein, a refund of the tax paid for the half-year or year or the calendar month or months, as the case may be, shall be payable at the rates specified below, subject to the condition that the license is surrendered on or before the first day of the period in respect of which the refund is claimed or within a reasonable time thereafter:

I. Half-yearly License.

Particulars as to user of vehicle

(1)

Rate of refund.

(2)

Where the vehicle is not used during any portion of—

- (a) the last month of the half-year.
- (b) the last two months of the half-year.
- (c) the second quarter of the half-year.
- (d) the last four months of the half-year.

One-fifth of the tax payable for a quarterly license.
Three-fifths of the tax payable for a quarterly license.
The tax payable for a quarterly license.

- (e) the last five months of the half-year.
- (f) the half-year.

(i) One and two-fifths of the tax payable for a quarterly license, if the license is issued at the reduced rate after the expiry of the first month; and
(ii) in other cases, one and one-fifth of the tax payable for a quarterly license.
One and three-fifths of the tax payable for a quarterly license.
The whole of the tax paid.

II. Annual License.

Where the vehicle is not used during any portion of—

- (a) the last month of the year.
- (b) the last two months of the year.
- (c) the last quarter of the year.
- (d) the last four months of the year.
- (e) the last five months of the year.
- (f) the second half-year.
- (g) the last seven months of the year.

One-fifth of the tax payable for a quarterly license.
Three-fifths of the tax payable for a quarterly license.
The tax payable for a quarterly license.
One and one-fifth of the tax payable for a quarterly license.
One and three-fifths of the tax payable for a quarterly license.
Twice the tax payable for a quarterly license.

- (h) the last eight months of the year.
- (i) the last three-quarters of the year.
- (j) the last ten months of the year.

(i) Two and two-fifths of the tax payable for a quarterly license if the license is issued at the reduced rate after the expiry of the first four months of the year; and
(ii) in other cases, two and one-fifth of the tax payable for a quarterly license.
Two and three-fifths of the tax payable for a quarterly license.
Thrice the tax payable for a quarterly license.
(i) Three and two-fifths of the tax payable for a quarterly license, if the license is issued at the reduced rate after the expiry of the first month of the year; and
(ii) Three and one-fifth of the tax payable for a quarterly license if the license is issued for the whole year.
Three and three-fifths of the tax payable for a quarterly license; and
The whole of the tax paid.

- (k) the last eleven months of the year.
- (l) the year

GENERAL MOTORS ANNOUNCES—

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6

★
*Destined to achieve
Still Greater Popularity*

FOR
1937

The New Oldsmobile can be purchased on easy terms
through the General Motors Hire Purchase Plan

PRODUCT OF GENERAL MOTORS

Explanation I.—The surrender of the license shall be made

- (1) in the City of Madras to the Commissioner of Police; and
- (2) in the mufassal, to the Collector of the district or the licensing officer.

Explanation II.—If any question arises as to whether or not a license was surrendered within a reasonable time after the first day of the period in respect of which refund is claimed the decision of the Commissioner of Police or the Collector of the district, as the case may be, shall be final.

Explanation III.—No refund shall be made in cases where the tax is paid only after its non-payment has been detected or after a prosecution or other proceeding has been commenced in respect of such non-payment, but the Commissioner of Police or the Collector of the district, as the case may be, may sanction refunds in such cases if he is satisfied that special circumstances exist which justify that course."

The A. A. London National Defence

The Automobile Association of London has offered all male members of its staff fourteen days' special leave

Membership

24 new members were enrolled during the month of February 1937.

These new members were introduced by the following:—

- 1 each by Messrs. L. Dee, V. Doraiswamy, A. F. Byramshaw, C. A. Muirhead, H. Stocker, A. P. Adam, U. R. Rao, Major A. W. Waters, M.B.E., The Ocean Accident and Guarantee Corporation Limited, and Rev. S. D. Bawden.

The remaining 14 were enrolled by the staff.

New Members

W. S. Evans, Esq.,
United Coffee Supply Co., Ltd., Coimbatore.

H. V. Chauhan, Esq.,
Rajahmundry.

Major A. McConkey,
Mercara, Coorg.

T. A. Whitehead, Esq.,
Forest Department, Chepauk.

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with full pay each year, in addition to their annual holidays, on condition that this period is devoted to training for the service of their country, in case of national emergency.

No restriction has been imposed as to ways and means for this preparation or training which must, of course, be governed by age, physical condition, the needs of A.A. service, etc. The scheme has been submitted to the authorities and the A.A. has emphasised the necessity for providing facilities whereby persons may undergo training at any time of the year. At present, voluntary training is mainly confined to the months of July and August which are impracticable for the staffs of motoring and touring organisations, travel bureaux and similar bodies where the busiest periods of the year are the summer months.

The Association's offer makes a valuable contribution to National Defence as many of the A.A. staff have special mechanical and other qualifications. It has, of course, been made clear to all the Association's employees that the offer is purely optional—there is no compulsion.

Itineraries

During the month of February 92 itineraries covering a distance of about 27,812 miles were issued.

P. T. Raman Nayar, Esq.,
Sub-Collector, Tindivanam.

N. R. Naidu, Esq.,
Chandrika, Spur Tank Colony, Egmore.

Mootha Sarvarayudu, Esq.,
Vice-Chairman, Municipal Council, Cocanada.

Mrs. M. Osborne-Jones,
C/o S. I. Railway, Cannanore.

J. R. McAinsh, Esq.,
C/o The National Bank of India, Madras.

J. M. Wood, Esq.,
I. D. E., Presidency Port Office, Madras.

R. J. Harlock, Esq.,
C/o The Coromandel Co., Ltd., Cocanada.

Dr. (Miss) L. A. Benjamin, M.D.,
Nellore.

W. Bell, Esq.,
Victoria Memorial Blind School, Poonamallee.

J. Bradley, Esq.,
Brooklands, Perambur.

J. Leah, Esq.,
Messrs. Parry & Co., Ltd., Ranipet.

The Alembic Chemical Works Co., Ltd.,
10, Armenian Street, G.T., Madras.

A. Ingle, Esq.,
10, Ali Asher Road, Bangalore.

Sir Alexander Tottenham, C.I.E.,
Administrator, Pudukottah State.

S. M. Abdul Haq, Esq.,
Ford Dealer, Berwada.

E. G. Cullen, Esq.,
Race Course Road, Coimbatore.

F. A. Maseyk, Esq.,
C/o Messrs. Raptakos Bratt Co., Ltd.,
3, Amarchand Buildings, Ballard Estate, Bombay.

R. R. Aitken, Esq.,
The Central Agency Ltd., 19, Vaniar Street, Madras.

W. G. Payne, Esq.,
C/o The Indian Radio & Cable Communications Co.,
1st Line Beach, Madras.

Capt. J. Walker Leigh, M.C.,
Race Course Road, Coimbatore.

Driving Licence Reminder Form

The Secretary,
Automobile Association of Southern India,
Box No. 352,
Mount Road,
Madras.

Name of member.....

Membership No.....

Full Postal Address.....

Dated.....1937

My Driving License No.....

dated.....issued by.....

Expires on..... Will you kindly
record this for your reminder service.

Signature.....

N.B.—It is important that every change of address
be promptly communicated.

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The Indian Roads & Transport Development Association Ltd. Monthly News Letter

Weight Limit for Road Vehicles

O PINIONS are being sought by the Government of India on the question of a maximum weight to be fixed for road vehicles.

Local Governments are being asked to consider different aspects of this problem, and the Indian Roads Congress has been consulted as representing road engineers throughout India, while The Indian Roads and Transport Development Association has been addressed as representing the motor transport industry.

The result of the increase of motor transport in India it is stated means either increased expenditure for the improvement, reconstruction or ordinary maintenance of certain roads or, in certain cases, the deterioration of other roads. As a result of some reconstruction and increased attention to the maintenance of roads, deterioration generally has been arrested and a gradual improvement effected. Already, however, most available resources for this purpose are taxed to their utmost.

At present, Government state, most of the heavy motor vehicles have a chassis with a carrying capacity of 30 cwt. If this average of the weight of motor vehicles, which travel at comparatively high speeds, should increase, then India's roads would be subjected to loads for which many are not designed. This would lead to serious deterioration and would be contrary to the interests of every one, particularly the motor transport industry.

Government have suggested that it is in the interests of every one that an early decision should be arrived at on the question of a maximum weight for vehicles using rural roads throughout India and that a limitation of weight to say 4½ tons fully laden might be generally suitable. This is particularly so in view of the fact that if such a restriction were imposed now, there would be little hardship for, generally speaking, there are very few vehicles of excessive weight using the roads at present.

The Association in replying to the Government of India does not favour the proposed limitation of weight to 4½ tons and has expressed the view that the damage done to the roads is not due to weight of vehicles alone, but to other factors also such as speed, tyre equipment and the volume and type of bullock cart traffic. Speed is one of the most important factors and its control is not out of the question.

Further there are many roads capable of carrying heavier loads than 4½ tons and the adoption of a uniform maximum weight in a country of the size of India would tend to impede and not to help the development, and flexibility of transport in rural areas which are more in need of transport development than any other areas in the country.

Any inter-provincial disputes and hardship to the trade resulting from lack of uniformity could be better provided against by a recommendation to local Governments to make all through roads when constructed or reconstructed capable of carrying a uniform minimum weight.

Support the Association

As the only body in India representing and protecting the combined interests of roads and road transport, all Firms, Companies, Associations and individuals whether interested directly or indirectly in the aims and objects should lend the Association their support.

As a result of the attacks being made on road transport by legislation and vested interests, the National Organisations in England connected with roads and road transport, are finding it more than ever necessary to combine for their mutual defence.

The British Road Federation, the object of which is to protect the interests of all those concerned in the construction and use of the roads, has recently been strengthened by the addition to membership of the National Federation of Slate Merchants, Slaters and Tilers.

This is the third new member admitted during the last month bringing the total membership of the Federation up to forty National organisations. The two previous new members were the Associated Paint Colour and Varnish Manufacturers, and the National Federation of Produce Merchants.

Tyre Manufacture in India

It has been called to our attention that the Good-year Tyre and Rubber Co. (India) Ltd. are commencing production in India of their Pneumatic Tyres and Tubes. Production is now under way and it includes all popular types and sizes of tyres and tubes for passenger cars, lorries and buses, bullock carts, motor-cycles and cycles.

Before the end of the year Goodyear hopes to be supplying the greater portion of its tyre and tube sales in India from the Indian Factory.

Tonga Strike at Hyderabad

The reservation of one route for gharries, the termination of bus services at points which would necessitate the use of gharries for conveyance within the town, the prohibition of buses from stopping at the Cinemas after 10 p.m. and the prohibition of larger buses are said to be some of the demands put forward by the gharry-drivers of Hyderabad (Sind) who were on strike from the 2nd to the 19th January. The District Magistrate, who was interviewed on behalf of the gharry drivers rejected all demands except the fixation

of bus stands, which he declared would be considered in the interests of public convenience and traffic regulations. The gharry driver's demand is that the bus stand for service between Hyderabad and Hala should be fixed at Fuleli bridge which is about 3 miles from the centre of the city and that the terminus for local bus services at the Railway station should be removed to Queen's garden.

The Sind Branch of the Association has addressed the District Magistrate in this connection and urged the need for safeguarding the interests of bus services and taxis, particularly the former, which have so considerably benefited the public and which have provided up-to-date methods of transport in Hyderabad consistent with the requirements of a city of its size and importance. It has been pointed out that it would defeat the whole object of the bus services if they were prohibited from offering reasonable facilities to the public and if it was made difficult for the people to patronise this form of transport. It is obvious that if the buses and taxis are not afforded a fair opportunity of plying freely on the better-used roads and of collecting or letting down passengers at the important centres, i.e., railway station, cinemas, market, etc., then these services will be deprived of their usefulness or attractiveness. If the buses are not allowed to proceed right into the Hyderabad railway station or market, etc. then the travelling public will be subjected to considerable inconvenience and unnecessary hardship.

The Association's Branch has also suggested that further schemes be considered whereby the bus services could be encouraged to cater more extensively for the requirements of the travelling public, not only in Hyderabad itself but also in the mofussil, for it appears that the tongawallahs are, on the merits of their recent strike, unreliable and capable of causing further dislocation of the City's normal activities.

Road Fund Resolution

The new Road Fund Resolution which has been referred to more than once in these columns came up before the Legislative Assembly on February the 10th in a slightly amended form, the main amendment being that the objectionable feature of clause 8 quoted in the January News Letter—that of specifying the proportions which may or may not be spent on any specified class of roads and bridges—had been removed. The clause 3

(3) (a) which had been strongly opposed by the Association as it makes disbursements to the Provinces dependent upon their institution of a system of control over motor vehicles to the satisfaction of the Governor-General in Council, remained unchanged.

The Council of the Association held a special meeting on the 6th February to consider the Resolution, as the outcome of which the following statement was wired to the Government of India and also issued to the Press:

"An emergency meeting of the Council of the Indian Roads and Transport Development Association Ltd., was called this morning to consider the Road Fund Resolution in its amended form, details of which have only just been made available to the Association.

The Indian Roads and Transport Development Association Ltd. were responsible for the original proposal that a Central Fund should be raised for the purpose of assisting the development of road communications throughout India. Their idea received the support of the Bombay Government, as well as the motoring public as represented by the Western India Automobile Association and other motoring Associations throughout India. The Fund therefore was instituted on the understanding that the motoring public should allow itself to be taxed specifically for the purpose of developing road communications.

Up to the present time this road development Fund has been controlled by resolutions adopted by the Assembly which have given effect to the original intention of the Fund, but the revised resolution which is now to come before the Legislative Assembly provides for the Central Government to control the proceeds of the Fund in an indefinite manner, and the wording of the resolution, as at present drafted, appears to the Indian Roads and Transport Development Association Ltd., to place the control of the Fund in the hands of the Government of India in such a way that it will be possible for the Government

to utilise the Fund for the protection of railway revenues at the expense of the motoring public. The Indian Roads and Transport Development Association Ltd. have therefore decided to protest in the most emphatic manner possible against the Resolution as at present drafted.

We are informed that the Western India Automobile Association are similarly protesting against a position being created whereby the money raised from the motoring



His Excellency the Viceroy and Lady Linlithgow during their recent visit to Burma used a Chevrolet Imperial Cabriolet.

public can be utilised if the Central Government see fit, to penalise motor transport for the benefit of railway revenues."

Despite opposition and amendments to the wording of clauses 3 (3) (a) and 7 (vi) submitted by Messrs. Morgan and James, two members of the European Group in the Assembly, the Resolution was carried by Government with a few minor amendments. The members of the Congress Group were absent owing to elections.

Indian National Airways

At the third Annual General Meeting of Indian National Airways Ltd. held recently in Delhi Mr. R. E. Grant Govan, the Chairman, stated that during the Company's comparatively short existence of 2½ years it had operated 14 aircraft and safely carried 7,481 passengers. The Company had flown for approximately 8,400 hours covering a distance of about 800,000 miles and involving something like 6,000 departures and landings. Referring to the Lahore-Karachi air mail service covering a route of 716 miles with frequently adverse weather conditions, Mr. Grant Govan said its operation was in this country unique in some respects. Although it is at present quite inadequately equipped for night-flying, a large amount of the flying had to take place regularly after sunset and before dawn in order to give the public a valuable saving of time in delivery and despatch of mails. A year's operation of this service involved no less than 435 hours of flying during darkness, the equivalent, at their average speed of 100 miles per hour, of 43,500 miles.

Proceeding Mr. Govan stated that in a country such as India in which commercial aviation is, comparatively speaking, still in its infancy, the main difficulty in the development of regular air services, particularly in the provision of passenger travelling facilities, was the small amount of flying operation which it was possible to achieve in comparison with the heavy costs involved in securing safety and efficiency. "The essence of the successful operation of transport in any form lies in the availability of sufficient mileage, over which to spread overhead charges, and whether this mileage be low or high a strong and sound organization must be maintained." "I am sure you will readily appreciate," continued Mr. Govan "that it costs practically the same amount in respect of overheads and organization to fly an aircraft either 10,000 miles or 50,000 miles a year and the point I wish to make is that the overhead charges necessary to secure safe and efficient operation remain constant irrespective of the fact that the amount of flying it is possible to do may fall far short of the capacity of the organization." Concluding Mr. Govan said neither he nor the Board of Directors of the Company had slackened in their efforts to secure for India, by the establishment of a sound organization such as Indian National Airways claimed to be a full share in the development of commercial aviation in this country.

Civil Aviation in India

Mr. J. C. Hunter, Honorary Secretary of the Association's Madras Branch, delivering a lecture before the

Mysore University on February 5th on the progress of civil aviation, in India, said that the factors which impeded its progress, apart from poverty, were the lack of public support, scarcity of ground facilities and absence of facilities for night-flying.

In its initial stages, he said, it was necessary, for economic reasons, to use small aircraft, but the range of small aircraft was not very great, and they must land frequently to refuel; when the distance between aerodromes was great, the organization of an air transport concern on a paying basis became impossible.

The speaker said that the Government of India had recognised these necessities, and the Director of Civil Aviation had already obtained a grant of 92 lakhs of rupees for ground organization and development.

Referring to the immediate future, the speaker said that as a result of the Empire air mail scheme there would be five services every week in each direction. The Empire air mail scheme plus the existing K. L. M. and Air France services would mean that a comparatively large number of the largest aircraft in the world would arrive weekly at ports of call on trans-India route. The airport authorities in North India would from 1938 onwards be as busily employed as the staff on most of the big airports in Europe.

A further development would be the extension of Tata's air-mail service from Madras to Colombo and its corresponding increase in frequency. The organization of a new air transport service, he added, is under contemplation by the Hyderabad Government.

The speaker referred to the pioneer work of the flying clubs in India and expressed the hope that the subsidy from the Government of India now enjoyed by the clubs would never be withdrawn.

Concluding, he referred to aviation as a career and said that at present the number of trained men employed in air transport in India was 93 Europeans and 87 Indians. These figures did not include the personnel of the flying clubs and directorate of civil aviation.

He added: "Taking into account development in the immediate future, one can hazard a guess that in the next year or two, the total number of employed will be increased by about one-third."

Bombay-Bhavnagar Air Service

A daily air service between Bombay and Bhavnagar and other Kathiawar States is shortly to be inaugurated by the newly launched company, Air Service of India, Limited.

The Company will have, in the first instance, a fleet of five aeroplanes, each capable of carrying six passengers. The route will be Bombay to Bhavnagar via Surat, a distance of over 175 miles, which will be covered in an hour and a quarter. The journey by the land route at present takes 22 hours. From Bhavnagar the service will extend to Ahmedabad, the distance being covered in 40 minutes.

There will be feeder services from Bhavnagar to Rajkot, Navanagar, Porbunder and Junagadh. The passenger and freight rates, it is stated, will be kept with-

in the means of the average progressive minded business man.

The company hopes to secure from the postal authorities a contract for the carriage of mails, and press organisations are being approached for contracts to carry newspapers to Ahmedabad and busy towns in Kathiawar, which now receive Bombay papers nearly a day late.

When the fleet of machines arrives there will be a pilot and chief engineer sent by the manufacturing firm, but the rest of the pilots will be all Indians.

U. P. Board of Traffic

The first meeting of the U. P. Board of Traffic and Communications was held early in February when a proposal for the employment of a whole-time inspectorate for the enforcement of the rules with a view to preventing evasion of tax was approved.

It was recommended that traffic posts be established on certain main roads, by way of experiment, as is being done in Bengal and Bihar.

As for the distribution of grants to local authorities, the Board recommended that grants should only be made against specific projects and especially for re-conditioning existing roads. A definite programme covering a period of say five years in which all districts might share should first be drawn up in consultation with local and other interested authorities. The railway authorities should be consulted wherever their interests were affected.

All grants should be subject to the condition that apart from the grant the expenditure from the local board's own resources should not be less than the average budgetted allotments for the three preceding financial years. The expenditure of all grants should be supervised by the Public Works Department.

The Board also recommended that bus fares should be fixed at a figure at which a bus service can be operated with reasonable profit, thus giving the public the cheapest service compatible with efficiency and that where there is competition with the railway, the bus fare should be approximately the same as that in force on the railway.

Test Track for Road Surfaces

The much debated but still unsettled problem of the best road surface for Indian roads is now to be solved by the Government on a scientific basis. Construction has begun of a "test track" which will be under the control of a new Central Research Station for testing road materials at Alipore in Calcutta.

The test track, which will be modelled to a large extent after those which have proved successful in other countries, will have a circumference of about 600 feet. On this will be reproduced actual working conditions of roads throughout India under varying weather conditions as affected by pneumatic tyres, solid tyres, heavy iron shod wheels and the many other vehicles which ply on Indian roads.

The test track will be divided into four sections, each 150 feet long, so that four different kinds of surfaces can be tested at the same time. The models reproducing

the effect of lorry, bullock-cart and other traffic will be operated electrically. A fully equipped laboratory will quickly and accurately decide the possibilities of the innumerable Indian road materials. The programme of work will be directed generally by the Government of India (Roads) who will in turn be advised by the technical sub-committee of the Indian Roads Congress.

The establishment of a test track was first recommended to the Government by the Indian Roads Congress in 1934. The Congress suggested that a test track should be built at Delhi. The Government, however, have found it more convenient to utilize the nucleus of the Road Research Station and apparatus in Calcutta and this is now to be expanded into an all-India research station on all problems of road construction. By this economical planning the operation charges of the track are not expected to exceed Rs. 20,000 per annum. The capital cost of the track is estimated at Rs. 27,000.

Thus the problem of innumerable municipalities and local boards throughout the country to find the cheapest and most durable material for roads under their control will be solved.

The Road/Rail Problem

In the course of an interesting address to the Young Men's Indian Association, Madras, Mr. J. C. Hunter, Hon. Secretary of the Madras Branch of the Association, stated that the Road/Rail problem does not exist in this country, or rather should not be allowed to exist; for the total mileage of the means of transport in India, including Railways, Roads and Waterways, is so inadequate that roads and railways, far from competing, ought to be able to bring traffic to each other and find plenty of room for development side by side. He attributed the existence of the Road/Rail problem to the extreme views advocated on each side—that of railway spokesmen seeking so to control other means of transport in an endeavour to earn profits, that road transport could not compete with railways, and likewise the extreme roads point of view that the industry should be left free to develop naturally at its own way and by its own means.

Recommending a middle course which would allow both systems of transport to exist for the benefit of the general public Mr. Hunter thought that re-organization of railways on sounder lines was not impossible and he hoped that the report of the Railway Enquiry Committee would show how present railway losses could be turned into a profit without attacking road traffic. He also referred to the skeleton system of trunk roads proposed to be adopted, and finally favoured control over motor transport with a view to securing greater safety and convenience for the public as well as eliminating wasteful competition among buses, which should be accompanied by the construction of feeder roads in undeveloped areas.

Railway Budget

For the first time since 1929-1930 the Railway Estimates forecast surpluses instead of deficits. In each of the years 1936-1937 and 1937-1938 it is now expected there will be a small surplus of Rs. 15 lakhs.

As the Budget estimate of the net financial result of railway working in 1936-37 was a deficit of Rs. 3.44 crores, the present estimate indicates an improvement of Rs. 3.59 crores, but, as Sir Mohammed Zafrulla Khan explained in introducing the estimates in the Legislative Assembly the change in allocation agreed to by the Public Accounts and Railway Standing Finance Committees and brought into effect from the current year has reduced the net revenues of the railways by Rs. 36 lakhs and the real improvement as compared with last year is nearly Rs. 4 crores.

Traffic receipts in 1936-37 are now expected to reach Rs. 95 crores or Rs. 4 1/3 crores more than last year. Working expenses, including a full contribution to the Depreciation Fund at the rate of 1/60th of capital, are half a crore of rupees more than last year and interest half a crore less. Including all miscellaneous receipts and charges as well as the result of the accounting change referred to, the net revenue available to meet interest charges will be Rs. 31 crores, or Rs. 3 1/2 crores more than last year.

The result is that after paying interest, a balance of Rs. 15 lakhs will be left as surplus on the working of all State-owned railways including strategic railways. The surplus of the commercial lines alone will be Rs. 2 crores. The net surplus of Rs. 15 lakhs will be utilized in part repayment of loans taken from the Depreciation Fund in previous years to meet deficits.

The Railway Budget at a glance is as follows:—

	Rs.
Actual Deficit: 1935-36	3.99 crores
Revised Estimated Surplus 1936-37	15 lakhs
Estimated Revenue 1936-37	91 1/4 crores
Estimated Working Expenses 1936-37	61.18 crores
Estimated Traffic Receipts 1937-38	90 3/4 crores
Estimated Traffic Expenses 1937-38	61 1/2 crores

THIRD INDIAN ROADS CONGRESS

The Third Indian Roads Congress was opened by His Excellency Sir Harry Haig, Governor of the United Provinces, at Lucknow on Monday, the 22nd of February 1937.

About 100 delegates representing almost all the Provincial Governments and Indian States were present. There were also present representatives of big industrial firms dealing with various road materials and transport.

His Excellency was received on arrival by Rai Bahadur Chhuttan Lal, retired Chief Engineer, Buildings and Roads Branch, United Provinces, and President-elect of the Roads Congress, Mr. K. G. Mitchell, Consulting Engineer to the Government of India and the Vice-Presidents of the Indian Roads Congress, Col. G. E. Sopwith and Mr. S. G. Stubbs.

Rai Bahadur Chhuttan Lal welcomed His Excellency on behalf of the Roads Congress and reviewed the activities from its inception to the present day. He requested His Excellency to declare the Congress open.

Of all public bodies perhaps none are more anxious to see the Railway finances placed on a sound basis than the Motor Transport interests and the Report of the Railway Enquiry Committee under Sir Ralph Wedgwood will be awaited with keen interest.

An important resolution has been tabled by Sir P. R. Rau in the Assembly recommending that railway revenues should not be liable to repay to the Depreciation Fund the amount borrowed in the past six years to meet deficits or to pay to general revenues the contribution due from 1931-32 to 1936-37. Some such decision was a foregone conclusion as the outstanding amount under both heads is about Rs. 60 crores which it would impose a severe strain on the railways to pay in their financial condition at present and in the immediate future. From 1924-25 to 1930-31 the railways contributed to general revenues Rs. 42 crores. Since then nothing has been paid, and working expenses and interest charges have been met only by borrowing from the Depreciation Fund. Even so it was estimated in the last railway budget that at the end of this financial year the actual balance in the fund is likely to stand at Rs. 11 1/4 crores, the loans amounting to Rs. 35 1/2 crores. And while no contribution to general revenues has been made since 1930-31, the railways have, in the interval, taken over the responsibility for the loss on strategic lines about two crores a year. Sir P. R. Rau's resolution will clear away a lot of dead wood in anticipation of better times on the railways. But the railways are not likely to make any substantial contribution to general revenues for many years, and it may well be asked whether the Government should not consider making a new convention which should provide for interest charges, depreciation and a reserve fund, and for the utilization of any surplus for increasing the amenities of railway travel.

Governor's Speech:—Declaring the third session of the Indian Roads Congress open, His Excellency Sir Harry Haig, Governor of the U.P., said:

It is my very pleasant duty to welcome you to Lucknow for the third session of the Indian Roads Congress. The choice of Lucknow may, I hope, be regarded as a compliment to the United Provinces, and on this occasion it is particularly appropriate in that you, Mr. President, have been so long and honourably connected with the Public Works Department of this Province, finishing with four years of valued service as Chief Engineer of the Buildings and Roads Branch.

It must, I think, afford satisfaction to you that during your tenure of office steps have been taken to rehabilitate and extend the network of important provincial roads, which owing to the slump in prices and the imperative need for economy, was in some danger of failing seriously, and for an indefinite period, below the minimum requirements of existing traffic. I am sure you will watch future

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developments with interest, and that, through the medium of this Congress and otherwise, your friendly advice and suggestions will be available to your successors and to road engineers in general.

As you have pointed out in your address, the important institution whose third meeting we are attending today owes its foundation in no small measure to the energy and initiative of my friend, Mr. K. G. Mitchell whose presence here today I cordially welcome. He was part-author of that mine of information, the Mitchell-Kirkness Report, and he has since had much to do with the inauguration and administration of the Central Road Fund and of the Transport Advisory Council. I think you will agree with me that the Indian Roads Congress is far from being the least important of the many products of his fertile brain.

The whole world over road policy and transport problems are now being canvassed with a vigor and intensity for which there is no previous parallel; and scarcely a day passes without fresh views on one or other of the many aspects of these problems appearing in the Press. To co-ordinate the various forms of transport so as to serve the public convenience, while reconciling interests which are (perhaps more apparently than actually) in conflict, has become a matter of very great importance.

But apart from these wider questions of policy the existence of a purely technical body, such as this, concerned with the interchange of ideas on the construction and maintenance of roads and bridges, and with the advancement of road engineering technique, is most valuable, indeed I would say, essential. I am confident that the importance of scientific research in road matters will impress itself in increasing measure on Governments, and that they will find it to their interest to do whatever lies in their power to place this institution on a stable and enduring basis.

Before I pass on to a brief consideration of the main problems now confronting us in road policy, may I, Mr. President, pay a tribute to the lucidity with which these problems and the methods by which they are being met are indicated in your address? It has been remarked, with some truth, that road construction is becoming more and more a matter of the laboratory and of chemical research. I should like to emphasise the need for explaining these investigations and conclusions to the layman, to the tax-payer, and to those responsible for the finance and administration of road policy, in terms which they can appreciate and understand. There have been some notable instances in which a popular explanation of technical engineering programmes has evoked a ready response; and if you wish your technical recommendations carried into practice, I feel sure that you must, in future more than ever before, take the people with you.

What are the main road problems of today? As your President has pointed out very clearly in his address, the longstanding principle, that the roads must be constructed and maintained up to the demands of traffic, is now inevitably called in question by the rapidity with which these demands are increasing. Motor transport asks a great deal of the roads, and we have to consider to what extent by improved methods we can within our financial

resources meet the demands, for instance in respect of the weight and the load of motor vehicles.

But we must not regard the traffic problem as merely one of motor vehicles. We in this province have witnessed in the last 25 years a very large increase in the number of carts, from some 8 lakhs to about 11 lakhs. Accompanying this increase there is, as our traffic censuses show, an increased use of the roads by carts individually, and especially by heavy iron-tyred carts which are particularly destructive to the road surface.

Again, there is the growing problem of accommodating at one and the same time fast-moving and slow-moving traffic, which raises important questions of the plan of our roads. Fast-moving traffic too has brought in its wake the problem of the dust nuisance, and its discomforts and dangers both to health and to the safety of traffic. Then, we are always faced with pressure from the inhabitants of undeveloped tracts for new roads, and for the bridging of unbridged streams.

And finally, there is the wide field of maintenance and improvement of unmetalled roads and of the extension of village tracks, and the best means of fitting them for the increasing traffic they ought to carry. Without taking into account many more advanced ideas, the solution even of the problems I have indicated seems to demand intensive thought on traffic and maintenance problems, and in the light of present costs a level of capital and recurring outlay which might well make any provincial Government feel despondent.

You will, I trust, forgive me for taking up your time with a mention of some problems which are concerned with general road policy rather than with technical advance in road construction and maintenance. I have done so because the problems which I have instanced all point inevitably to one conclusion, that no great advance is possible without adequate financial resources. It is the paucity of these which make research into road costs and road methods a matter of the most vital importance.

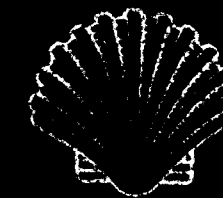
If research can evolve metalled and unmetalled surfaces suitable to the types of traffic concerned at materially lower levels of cost than now prevail, then, and only then, is there any prospect of substantial progress. If, for instance, research can evolve a method by which unmetalled roads can, at the close of the monsoon, when the soil is rapidly hardening, be provided with a cheap but durable surface for the cold weather traffic season then the gain to the rural public in such matter as delays, the cost of bullocks, and cart upkeep, would be enormous. This gain might very well have the effect of stimulating indirectly the extended use of suitably-tyred wheels, and, in particular, of pneumatic tyres.

Again, and with reference more particularly to metalled roads, one is inclined to ask whether there is not still a great field for research and experiment directed towards reducing the cost of modern surfacing materials. Again, when signs are discernible of a general economic revival, would it not be of immense advantage if industry could co-operate with provincial Governments to tackle in earnest the production and supply of cart-wheels and tyres of cheap but carefully planned design, which would save the life both of the roads and of draught cattle?

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It is here, gentlemen, that those who have to deal, hampered as they are by inadequate resources, with the vexed problem of road and transport policy turn anxiously, but hopefully, to you and to your deliberations and researches. The Indian Roads Congress is now entering on a stage when, we all hope, it may be possible for technical skill to produce practical results of far-reaching value and importance.

It is only very recently that the world celebrated the hundredth anniversary of the death of John Loudon Macadam, the Scottish Engineer, whose invention of a method of forming a hard-surfaced road revolutionised the roads of the entire civilised world. Will India produce a second Macadam of her own, to deal with her own peculiar road problem? The need and the hour are ripe.

Gentlemen, I shall not detain you any longer. I thank you for inviting me to attend the opening of your discussions. I have much pleasure in declaring this third meeting of the Congress open; and I wish you all success in your labours and deliberations.

President's Speech:—Raj Bahadur L. Chhuttan Lal, retired Chief Engineer, delivered the following address: "Your Excellency, on behalf of the Indian Roads Congress I accord to Your Excellency a most cordial welcome and offer our grateful thanks for coming here today to open the third meeting of the Congress. Before I request Your Excellency to declare the Congress open, I may be permitted to say a few words reviewing its activities from its inception to this day.

The necessity of having a technical Roads Association in India was felt by Highway Engineers in India but the idea did not take a concrete shape until 1934 when Mr. Mitchell, the Consulting Engineer with the Government of India (Roads), suggested the creation of a society to promote the interchange of ideas and the pooling of experience in road construction and maintenance.

This proposal met with the approval of provincial Governments, and the Government of India with the advice of the Standing Committee of Roads decided to support it and to defray the whole cost of the first meeting from their reserve in the Central Road Fund, so far as official delegates from the provinces and Indian States were concerned. Without this generous support of Government of India, the preliminary meeting of the Congress held at Delhi in December, 1934 to discuss the proposal and to draw up a constitution for a permanent Congress would have been impossible.

The preliminary meeting was opened by the Hon. Sir Frank Noyce, Member for Industries and Labour, and the general proposal to constitute an Indian Roads Congress was approved in its broad outline. Papers on earth, tar, bituminised and concrete roads were read and discussed and a most interesting tour of inspection in Delhi, the Punjab and the North-West Frontier Province was arranged.

The first meeting of the Roads Congress was such an unqualified success that the provincial Governments were unanimous for its continuance and the Government of India decided to finance it from their reserve in the Road Account for a further period of two years.

The second meeting of the Roads Congress was held at Bangalore and the inaugural address was delivered

by Sir M. Mirza Ismail, Diwan of Mysore. In this meeting many more subjects such as traffic census, economical maintenance and improvements of macadam roads, use of molasses for treatment of roads, highway bridges, research and experiment were discussed and an extremely instructive tour in Bangalore and Mysore was undertaken and completed.

Without going into technical details, I give below a brief resume of the discussions.

The discussion on earth roads resulted in an important proposal for soil research. It was realised that the total length of roads maintained by public authorities in India (excluding Burma) was about 3,00,000 miles, out of which about 2,20,000 were unmetalled earth roads. These roads carry the whole of the traffic from the fields before it reaches the metalled road, the railway or the market. They are, therefore, of vital importance in the economic life of the country and their improvement will play an important part in rural development.

But the problem is a difficult one and has, so far, eluded solution. In its technical aspect, the problems partly of soil research and partly of the bullock cart wheel.

It is obvious that if a water-bound macadam road fails in three or four years under light bullock cart traffic, an earth road cannot be expected to stand at all, the strain of that traffic, without a change in the type of the cart wheel. An immediate change on a large scale in the type of the cart wheel which will require less tractive effort and which will be less destructive to earth roads does not appear to be practicable but there is no doubt that a beginning in this direction can be made by mill and factory owners, by municipalities and Government departments possessing their own thelas and carts.

At the same time, I admit that it is the universal practice to make the roads to suit the traffic and not *vice versa*, but unless this dictum is reversed in the case of earth roads, I see little hope of improving them even in water-bound macadam, as it does not seem to be within the financial resources of provincial Governments.

Something might be done by a study of the soils in their relation to earth roads, as it is likely to suggest methods of improvement by blending or other treatment. Experiments with this object in view were carried out in the Punjab and the North-West Frontier Province but the subject is of a specialised nature and requires special study.

This Congress has, therefore, resolved to approach the Government of India to provide the necessary funds from their provision for research and experiments in their reserve, in the Central Roads Fund.

Next, in extent, to earth roads are the water-bound macadam roads which form and will, in all probability, continue to form a large proportion of the total mileage of metalled roads. These roads are suited to carry a slight volume of motor traffic and not too heavy a volume of bullock cart traffic and the question of increasing their wearing qualities to make them suitable for traffic of greater volume and intensity has engaged the attention of Indian engineers for many years.

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The greatest difficulty is encountered when there is a mixed traffic of rubber-tired vehicles and iron-tired bullock carts, the latter predominating. The most economical method of improving them is still a disputed point but there is no doubt that surface painting or a covering of a thin carpet of tar or bitumen increases the life of a water-bound road, under certain conditions, appreciably. Surface painting, in particular, has been found to be satisfactory and economical under a traffic consisting predominantly of lighter rubber-tired vehicles up to 1,000 tons a day.

Simplification in methods of construction has been brought about by the introduction of emulsions and cut-backs. Study of the behaviour and structure of grit as well as of the quantity of binding agents such as tar and bitumen have given results which have enabled important improvements in construction to be effected. Grouted macadam, asphalt or tar concrete, laid by the hot or cold process have also their advocates for heavy or very heavy traffic.

Lastly, I should mention concrete roads which have, during the last few years, been receiving increasing attention, particularly in the United Provinces. Preference is given to cement concrete roads, if the traffic is at all of heavy bullock carts with iron-tired wheels but economic considerations, especially, the initial cost plays a large part in selecting the type of road surface to be used.

Cement concrete roads are expensive in first cost, if we follow the practice of foreign countries, in which concrete roads of less than 6 inches thickness are no longer made. In this province, a thickness of 3½ inches has been used with complete success so far and the high initial cost has been considerably reduced.

This Roads Congress has given attention to the collection of statistical data relating to the nature and volume of vehicular traffic as they are of prime importance in the classification of roads which is essential to ensure that money is not frittered away by adopting methods of improvement which might be uneconomical. Standard method of taking traffic census and the installations of test tracks and a research station or stations have, therefore, been proposed.

This last is an important proposal. Actual tests on roads constructed with different materials in different proportions and by different methods in various permutations and combinations of climatic conditions, nature, volume and intensity of traffic take many generations and by that time the discovery of new materials and new methods render the results valueless.

Test track is a short cut to arrive at results and although owing to the omission of time factor exact results cannot be expected, it is believed that test carried out under extreme conditions will give safe results.

I have now briefly reviewed the activities of the first two meetings of the Indian Roads Congress. In places, I have expressed my personal opinions also. I need not anticipate the subjects which it will discuss at its meeting this year. There are subjects which it has not considered so far, such as the width of iron tyres of animal-drawn vehicles and their effects on road surfaces, the maximum permissible load to be carried on motor vehicles.

It seems to me that the load transmitted by vehicles to the road surface should be such as could be safely borne by the existing bridges and would not necessitate the complete reconstruction of our roads or impose an intolerable financial strain on public revenues.

So here again we are up against the commonly accepted principle that the roads must be constructed to suit the traffic. It is true that the roads must serve the traffic but the weight and dimensions of vehicles should be restricted, if the equilibrium between the needs of traffic and the resources at the disposal of those responsible for the upkeep of roads, in a good state of repairs is to be established.

Your Excellency, I have taken too much of your time in giving a short account of two previous meetings of the Indian Roads Congress and in emphasising the importance of some of the problems it has discussed. It is now my pleasant duty to request you to declare this third meeting of the Congress open."

During the session the following papers were read:—

Some notes on the Lay-out of Rural and Suburban Roads in the Punjab. By R. Trevor Jones, A.M.Inst.C.E., Superintending Engineer (Roads), and Secretary, Communications Board, Punjab.

Roads and Public Health in India with special reference to Malaria, Borrow Pits, and Road Dust. By Professor Raja Ram, B.Sc., A.M.Inst.C.E., F.R.San.I., M.I.E. (India), Engineer to the Malaria Survey of India, Delhi.

Further notes on treatment of roads with Bitumen and tar in Delhi Province. By A. W. H. Dean, M.C., I.S.E., Superintending Engineer, Central Public Works Department, New Delhi.

Economy and Developments of Bonded Brick Concrete Roads, Plain and Reinforced. By A. K. Datta, B.E., C.E., M.I.E. (Ind.), M.A.E., Consulting Engineer and Master Builder.

Ways and Means of Improving the Bullock Cart. By G. L. W. Moss, Service Manager, The Dunlop Rubber Co. (India) Ltd., Calcutta.

Indian "Road Aggregates," their uses and testing. By R. L. Sondhi, I.S.E., Executive Engineer, Public Works Department, Punjab.

Submersible Bridge across Parbati river at mile 231, Agra-Bombay Road. By Rai Bahadur S. N. Bhaduri, B.A., C.E., M.I.E., Chief Engineer, Public Works Department, Gwalior Government.

Optimum Weight of Vehicles on extra Municipal Roads. By K. G. Mitchell, C.I.E., I.S.E., Consulting Engineer to the Government of India (Roads).

The discussions which took place on the papers on the Ways and Means of Improving the Bullock Cart and the question of Optimum Weight of Vehicles were of particular interest. There was general agreement that any steps that could be adopted to encourage the use of pneumatic tyre bullock carts would result in an enormous economy in road maintenance costs and saving of public money. Any steps towards this end would be welcomed. As regards the latter paper one or two members were opposed to any restriction in loads. The matter was however

left for further consideration and would in all probability come up again at the next meeting of the Congress.

A number of resolutions were passed by the business session of the Congress. It resolved that, having regard to the fact that the reserve in the Road Fund was intended for research and intelligence, recommendation should be made to the Government of India to continue to subsidise the Congress by a small subsidy for general expenses and defraying the cost of attendance at the annual meetings of members selected by their respective Governments as hitherto.

It was further resolved that the Indian Roads Congress should apply to the Government of India for official recognition of the best available means of implementing Items Four (technical questions relating to the construction and maintenance of roads and bridges and road research) and 7 (statistics and intelligence) of the Indian Road Development Committee's report of 1928 and that it should invite the Congress to table proposals and the estimate of cost of a programme of work extending over a series of years to be carried out under the control of the

Consulting Engineer for Roads to the Government of India.

The Congress recommended the appointment of a small committee to advise on the possibility of research into the effects on road bridges, and the general scheme of such research.

The Congress then accepted the report of the Bridge Loading and Stress Committee.

The next meeting of the Congress will take place at Hyderabad (Deccan) during the month of December this year at the invitation of the Government of His Exalted Highness the Nizam.

The President elected for the coming year is Mr. S. G. Stubbs, Superintending Engineer, Rawalpindi and the three Vice-Presidents elected are Nawab Ahsanyar Jang Bahadur (Hyderabad), Lieut.-Col. W. DeHaig (Chief Engineer, U.P.) and Mr. S. N. Bhaduri (Gwalior).

A large number of members of the Association attended the Congress including our President Mr. R. E. Ormerod and the General Secretary, Lieut. Col. R. A. Smith.

THE LEVEL-CROSSING NUISANCE

To the Editor of
THE SOUTH INDIA MOTOR OWNER

SIR,

Inconsiderate closing of level-crossing gates persists in spite of the excellent means of communicating between stations and gates, provided by modern electrical devices. Paradoxically, the worst offenders seem to be the gates in close proximity to railway stations.

Arriving at one such gate recently, the while a Mail Train stood at the platform, I found the gate had been closed at least ten minutes before the scheduled departure time of the train. I suffered delay of about fifteen minutes, whereas a mere five minutes closure of the gates would have sufficed for safety.

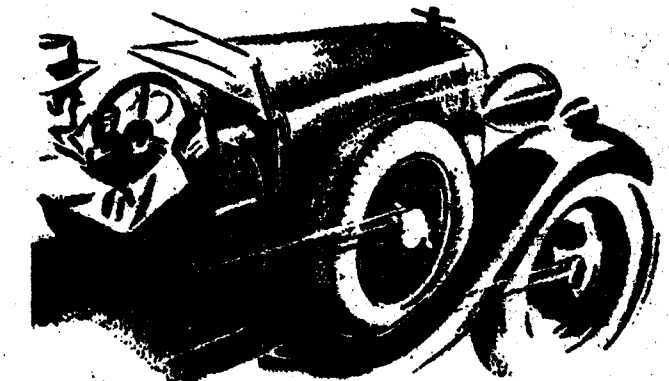
No improvement seems possible unless the Governments whose roads are thus blocked, and to whom we pay taxes for their free use, insist on proper rules for gate closure being drawn up, and a copy of the rules applicable to each particular gate being maintained at that gate for the public's information. A Complaint Book should also be kept at each gate, and inspected by the Engineer in charge of the road.

I hope other readers will come forward with constructive suggestions for mitigating a serious, and largely unnecessary, inconvenience to touring motorists.

OOTACAMUND.

N. WOOD-SMITH.

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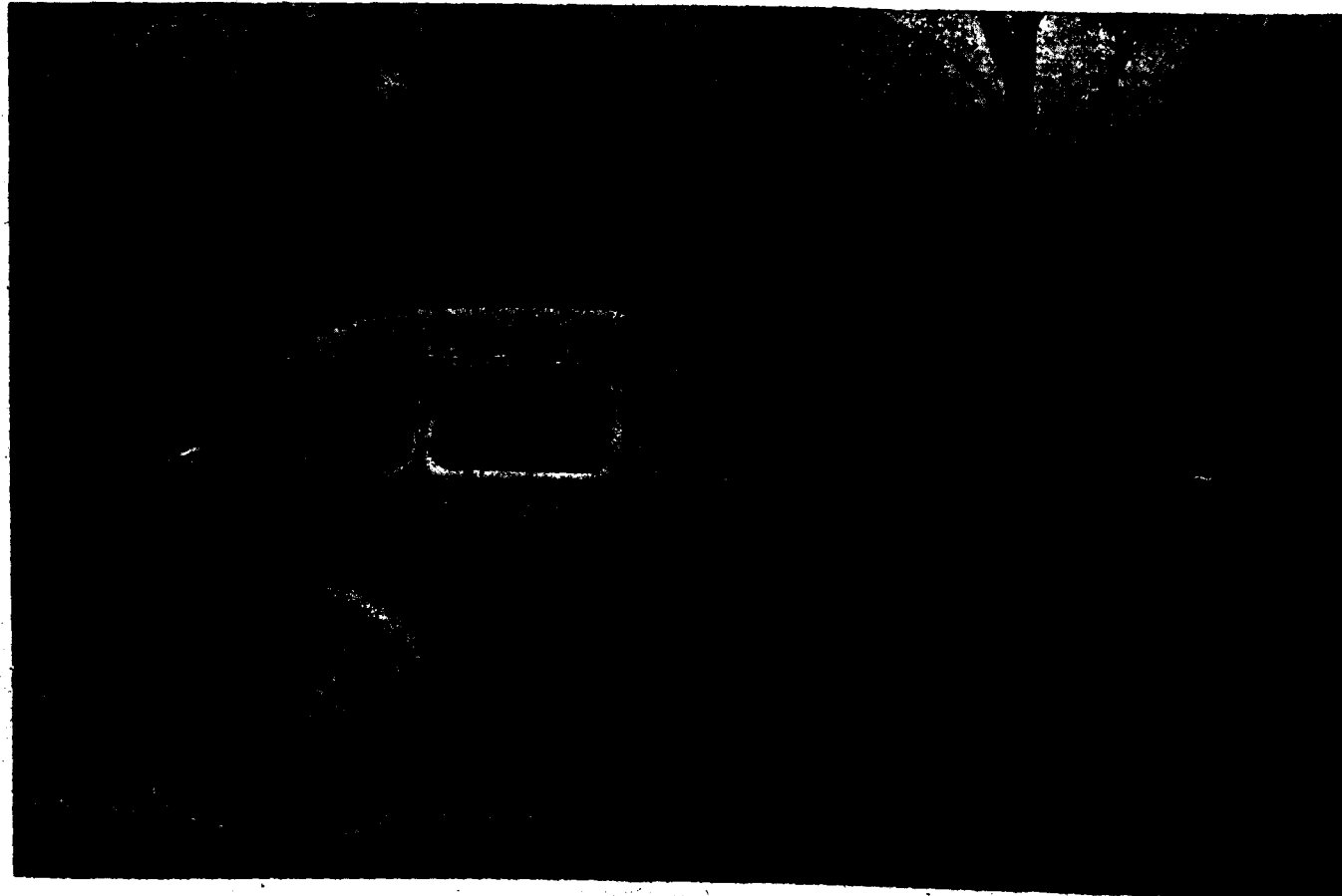
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The 1937 Ford V-8 Sedan.

THE 1937 FORD V-8

COACHWORK LUXURY BROUGHT INTO LINE WITH PERFORMANCE

(Road Test Report by the "Times of India" Road Test Reporter.)

DURING the last four years the Ford V-8 has undoubtedly been the most talked-about car in the low-price field, due to its altogether exceptional acceleration and the unequalled smoothness of the compact, finely balanced V-type 8 cylinder engine which, introduced in 1932 for the first time into an inexpensive car, has unquestionably made motoring history. In other words, the Ford V-8 has won its present universal popularity on its performance—by exploding the belief that it was impossible to provide motorists with the advantages of a V-8 engine at a really low price. It has been sold almost entirely on its engineering merits.

With this fact in mind, the writer found the new Ford V-8 for 1937 (the fourth new V-8 which he has tested) even more interesting than its predecessors because in it are signs of a new policy of design. As in previous models, definite improvements have been made in the engine, suspension and chassis; this was to be expected. But, beyond this, the most significant improvements are the styling and appointments of the interior—improvements on a scale which encourages one to believe that this year the Ford designers have determined to bring the

V-8's comfort and luxury up to the high standard set by its performance. This new model, it is apparent, is to be sold with emphasis on its interior and exterior stylishness equal to that laid on its technical advantages.

New Appearance

The coachwork has been entirely restyled, as may be seen from the accompanying illustration, and gives a pleasing impression of speed and grace. The smart new prow-shaped radiator, the bigger domed wings, the new pressed steel wheels, and the roomier built-in luggage trunk are salient features of the design, while the smoothness of the entire car has been enhanced by a more sloping V-type windshield, an unbroken roof line, the sinking of the headlights into the wing aprons, and the inclusion of the spare wheel on the floor of the luggage trunk. The profile of the radiator grille, the horizontal bonnet louvres and the unbroken waistline which extends from the radiator to the rear quarter panel and then swoops down around the base of the rear of the car all make the new V-8 appear longer than before, although actually its wheel base (112 inches) and spring base (124 inches) are unchanged.

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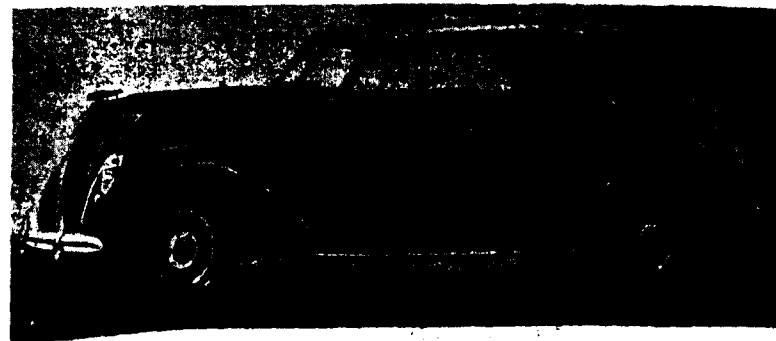
This year the shield-shaped bonnet top is hinged at the cowl, the radiator ornament acting as a handle. When lifted, it stays up automatically and gives all the accessibility one needs to the engine. (For complete servicing, the side panels may quickly be removed). An ingenious feature of both the bonnet top and the luggage compartment door (which is hinged at the top) is that while they stay up automatically when lifted, all that is necessary to close them is to lift them an inch or so higher, when the catches disengage and they may be shut.

All-Steel Top

An important introduction into this year's V-8 is the all-steel top, which is remarkable in that, besides increasing the smoothness and strength of the entire body it has added no extra weight. An all-steel floor has also been fitted, and is welded into a single unit with the top, side and rear panels for absolute rigidity.

Luxurious Interiors

As already noted, it was in the interior of this car that the writer found its most significant improvements in appearance. Here the Ford designers have obviously made a bid for the appreciation of motorists who want luxury as well as performance; it is no exaggeration to say that the new V-8 interior compares very favourably in looks, in finish, and in its lavish appointments with many higher-priced cars. The seats are deeply upholstered, well-shaped for complete support and, both front and rear, are provided with arm rests. The front seat, which, incidentally, is actually wider than the rear seat (enabling three to be carried abreast without crowding) is easily adjustable whilst seated on it, and typifies the careful design of the interior in that, when shifted forward, it becomes an inch or two higher, so that short drivers are afforded as good vision as tall drivers. The completely redesigned steel dashboard, finished like grained walnut, is especially attractive, and the interior appointments include twin sun-vizors, twin lights (one at each side mounted on the door pillars), assist cords, rich brown-coloured door handles, etc., foot rests in the rear, parcel shelf behind the rear seat, rear-window blind—in short, a much more complete and more



1937 Ford V-8. An unusually attractive Phaeton.



New Streamlines of the 1937 Ford V-8.

attractively designed array of fittings than in previous models.

Ventilation

The Ford system of ventilation remains in the new model as before the first turn of the window-handle drawing the window back an inch or so for protected ventilation in bad weather—further winding drawing it downwards. The windscreen may be opened when desired by an easy-action central control on the dash-board. The windows throughout are of safety glass.

Brilliant Performance

The performance of the 1937 V-8 is characterized by the same brilliant acceleration and outstanding smoothness which marked its predecessors; and one's appreciation of its breath-taking pickup is enhanced this year—as the first few minutes at the wheel during this test proved—by easier and more steady steering, helical gears, and an increase in the ease of operation of the clutch and brake pedals. Without going into technicalities, the steering is designed so that one can whip in and out of traffic with absolute accuracy of control, and is entirely shock-proof and vibrationless. The clutch is of the semi-centrifugal type for smoothness of take-up, and requires appreciably less effort than previously to disengage; and the brakes utilise controlled self-energizing design for ease of application, the self-energizing action decreasing in proportion to the pedal effort, to eliminate the risk of the wheels locking. This year, in place of brake rods, cables encased in conduits are used for the braking system.

Accent on Economy

The 85 horsepower V-type eight-cylinder engine, whilst remaining identical in fundamental design, has several superficial but

important developments. Lack of space unfortunately forbids elaboration on these, but the following are worthy of mention:—the cooling system has been improved by placing the self-lubricating water pumps lower and by a fan of improved design; the exhaust system is improved; as before, special valve-seat inserts have been incorporated; and the entire engine is more effectively insulated from the chassis. Finally, and most important, carburettor improvements have been made for increased fuel economy. Incidentally, the battery is now located under the bonnet instead of below the floorboards.

Greatly Improved Suspension

The most impressive improvement in the new Ford V-8's performance proved to be its suspension, which was thoroughly tested not only over bad roads but over the ruts, rises and projecting boulders of a stretch of open ground. As before, the rear-seat passengers sit well for-

ward of the rear springs, and the springs themselves are of the usual Ford transverse type but, this year, longer, with more tapered leaves, a highly ingenious interleaf lubricating system, and controlled by powerful double-action shock absorbers. The writer, seated in the back seat, was driven at full tilt over broken ground and found the improvement in protection from pitching very marked, never once being thrown upwards from the seat even when driven over sharply projecting hillocks and deep ruts. Taking corners at speed showed, also, a corresponding improvement in stability.

To summarise:—this test revealed major improvements in the appearance of the exterior, in the quality of appointments and finish of the interior, and in the suspension of the new Ford V-8, with many important innovations in the engine and body and chassis construction. These, in combination with this car's characteristic brilliance of performance, undoubtedly make it a model of altogether outstanding value.



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"GADGETS"

A TRAVELLER'S BUNGALOW ON WHEELS

SO many people prefer to travel by road than by train, and personally I cannot see how anyone can hesitate between a noisy, crowded, slow train, and the comfort of your own touring car, stopping where you will.

This country is so well equipped with good traveller's bungalows that this article may appear superfluous, but often one is very restricted in one's day's touring by finding that the said bungalows are not where you want them to be! You either have to waste much time stopping early, or go much farther than you think comfortable in one day. Then again the bungalows are not always as comfortable, or as clean, as you may desire, and often lacking in bare necessities.

Having done a considerable amount of touring in India, I have come to the conclusion that it is far wiser to be entirely independent of T.Bs.—to carry your board and lodging with you—and the following tips may help in devising a practical and portable camping outfit.

On the choice of a car I will not dare to offer advice, each owner, or would-be owner, having very firm and unshakable ideas on the efficiency of his own fancy. I will merely venture to suggest that if there is choice between a saloon and a tourer, choose the tourer every time.

My own car is a four seater Fiat of some age but wonderful reliability, and with a special flair for going cross-country, over trackless wastes, and through small bushes! She is well sprung and the over-size tyres give very comfortable travelling.

Petrol.—As the capacity of the tank is only eight gallons, I have had a special reserve tank fitted behind, from which petrol can be pumped in to the ordinary one.

Water.—Although food is usually procurable, good drinking water is often a problem on a long tour; so a galvanised tank with a capacity of four gallons fits besides the reserve petrol tank. This has a tap enclosed in a dirt-proof case.

Food.—Above the tanks, and in place of a carrier, I have a large wooden box fitted. In this I carry a selection of tinned foods, potatoes, and bread.

First Aid.—Under the front seat I have my own specially designed first aid set—it is made of wood and contains the following:—

Lint.	Chlorodyne.
Bandages.	Ammoniated Quinine.
Plaster.	Aspirin.
Iodine.	Snake bite stick.
Permanganate.	Ammonia.
Friar's Balsom.	Brandy.
Forceps.	Thermometer.

As neat and compact a little case as you can get, and contain all your requirements without necessary parapher-

nalia. With it one can cope with the ordinary emergencies of a sudden attack of fever, insect stings, stomach ache, cuts, thorns, etc.

Besides this little case I have a box containing a sauce-pan, frying-pan, and a kettle, and a very useful collapsible primus stove in a tin box.

Light.—As the car lights and torch are inadequate, I carry my own electric light. This consists of a very long flex, a small bulb, and a pleated shade. It all fits neatly into a little box under the back seat, and can be run off the car battery.

Shelter.—My idea for a tent is, I think, unique and useful. It does not give shelter from rain, but is ideal for fine nights. It consists of a square of canvas and four poles which are let into the ground the height of the poles being about four feet and the canvas forming a roof. From this canvas roof to the ground hangs mosquito netting, sewn to the canvas. Thus you have a mosquito-proof and dew-proof shelter, the ends of the net tucking under your bedding. This contraption together with my inflatable Li-Lo mattress, and valise of bedding, plus a suit-case of clothing, and washing material, occupies the back seat of the car together with my picnic set.

Picnic Sets.—There are so many various types with different capacity and fittings, that choice must be left to the individual. Mine is made of aluminium, and contains two large sandwich tins in the bottom. A tray then fits over them containing two large thermos flasks, milk, sugar, and butter containers, cups, mugs and condiment set. Strapped into the lid are plates, saucers, knives, and spoons, —the "crochery" is of beetle ware—I do not advise china.

A gun and a camera complete my equipment but are again a matter of choice, and an useful addition to the kit, if you expect to spend any time by water, is a "Folboat". This is the neatest little collapsible canoe I have ever seen, fitting into two canvas bags easily carried by one person. I find mine a source of great pleasure on a camping holiday by sea or lake, and it is indispensable for duck shooting. It fits in the back of the car with the valise, suit-case, and picnic case.

With regard to luggage I send all heavy boxes on by train, restricting myself to the minimum of clothes; serviceable khaki shorts and shirts, pyjamas, and a bathing-costume, a pull-over, and two pairs of shoes, with perhaps a change of decent clothes if I am expected to look respectable on arrival and there is a chance of my heavy luggage not having turned up. All my toilet requisites and towels fit into a covered basin. I allow myself a less spartan allowance of bedding—a good night's rest makes for successful touring. Consequently ground-sheet, a fair allowance of rugs, pillows, and sheets, are included in my val and laid out under the mosquito shelter, when I find my camping ground.

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1937 OLDSMOBILE TWO FINE CARS

OLDSMOBILE offers two decidedly new and distinctive cars for 1937—a Six and an Eight—each with original styling and each offering many important advancements in mechanical design.

The two cars are longer, lower, roomier, and more comfortable than the Oldsmobiles of 1936. The motors provide greater reserves of power with lower engine speeds, with improvements in both performance and operating economy.

The new Six develops 95 horsepower, against 90 horsepower in the 1936 model. The Eight develops 110 horsepower, an increase of 10 horsepower over the previous Eight. Wheelbases of the Six and Eight have been increased to 117 inches and 124 inches, respectively.

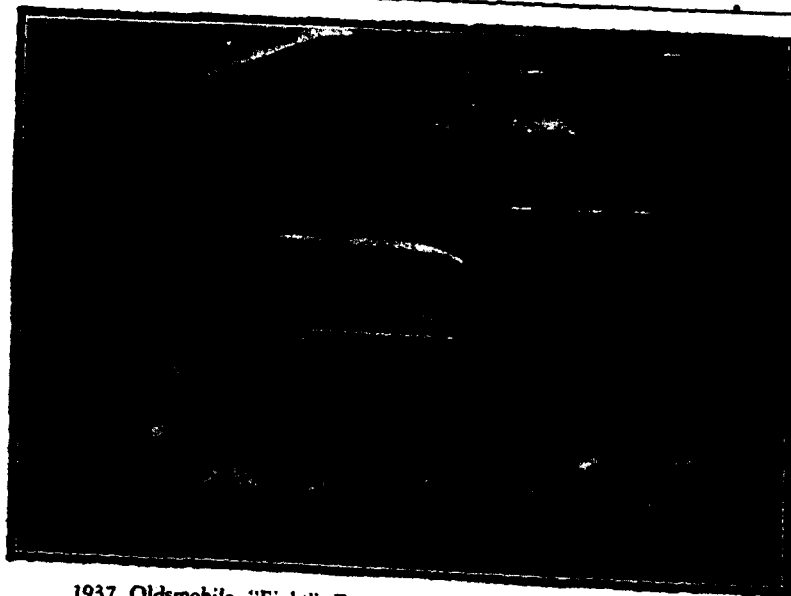
In the Six is found an entirely new interpretation of radiator grille design. The new treatment employs eight die-cast horizontal grille louvers, deeply recessed and plated in chrome.

Bonnet louvers on the Six are of a triple horizontal design which harmonizes with the radiator grille. Headlamps are gracefully streamlined.

The front end of the new Eight has equally definite individuality. Oldsmobile engineers have employed on this series a die-cast grille of square mesh design, plated in chrome and outlined by a trim moulding of chrome.

Mudguards, front and rear, are deeply balanced. The bumpers and bumper guards, also plated in chrome, are exceptionally massive in design. Heavily ribbed moulded rubber covers the running boards. Chrome-hubbed steel wheels add a final touch of distinction to the smoothly contoured all-steel bodies of both Six and Eight.

Mechanically, the new Oldsmobiles present many features that are new and important. Among them is a new stabilized propeller shaft which employs three instead of the conventional two universal joints. The front section of the propeller shaft is supported and held permanently in position by the X-members of the heavy I-beam frame. This new propeller shaft design has permitted the car floors



1937 Oldsmobile "Eight" Four-Door Touring Sedan with Trunk.

to be lowered three and one-half inches without requiring a "tunnel" in either compartment or sacrificing road clearance.

Despite the greater power output of the new engines, a definite improvement in fuel economy has been achieved through refinements in carburetion and manifold and by a lowering of engine speed.

Among the chassis developments is an improved design of knee action wheel suspension that has been an Oldsmobile feature for several years. Centre control steering is employed on both cars, as are double action hydraulic shock absorbers, front and rear. Both front and rear ride stabilizers are employed this year. Super-hydraulic brakes, triple-sealed against water, dust or mud, carry linings which increase their length of service by more than 100 per cent. The latter are supplemented by an independent emergency mechanical braking system operated by a "pistol grip" lever under the left of the instrument panel.

Oldsmobile's 1937 Unisteel Turret Top bodies by Fisher are larger and roomier and incorporate an especially sturdy and soundproof construction. They employ a heavy structural frame or inner steel skeleton, all-steel floors and girder-type steel doors.

Windows and doors are sealed against wind and rain by rubber windlacing. Safety glass is standard throughout. Bodies are equipped with General Motors all-weather ventilation system.

Head and leg room have been added without increasing overall body height. Also, a considerably lower centre of gravity has been achieved with corresponding improvement in car stability.



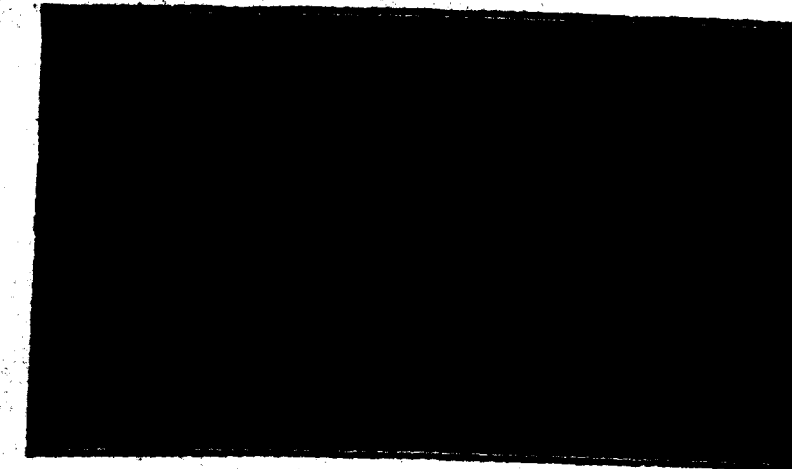
1937 Oldsmobile "Six" Four-Door Touring Sedan with Trunk.

AN IMPROVED PONTIAC 1937 MODEL

FOLLOWING on the heels of two highly successful years, the new Pontiac Six for 1937 is longer in wheelbase, roomier, lower, even more pleasing in appearance, improved in comfortable riding qualities, with larger and more powerful engine, faster acceleration, higher top speed, additional economy and an all-round performance that is more brilliant in every way. The most identifying Pontiac mark of the last two years, the "silver streak" radiator and bonnet grilles, are retained with slight modifications.

forward, thus raising a short person to a more upright position.

Improved Independent Front Wheel Suspension



1937 Pontiac "Eight" Four-Door Touring Sedan with Trunk.

A change to open type front wheel suspension has been made. This replaces the enclosed independent front springs of the last two years, thus providing a more controlled form of suspension which makes steering around corners easier and riding more comfortable. Because of the new front suspension design, Pontiac has secured a reduction

in turning circle, thus permitting as easy parking as was possible with a shorter car.

100% Steel Bodies

The solid steel "turret top" bodies now have 100% steel construction throughout. They are larger and roomier in almost every dimension. Although the cars are one inch lower at the highest point, nevertheless the headroom from floor to roof has been increased 3¼ inches. In addition to advantages of head room and higher seats, it is now possible to step directly from the curb to the car floor, since the floor is only 15½ inches from the ground at the rear door.

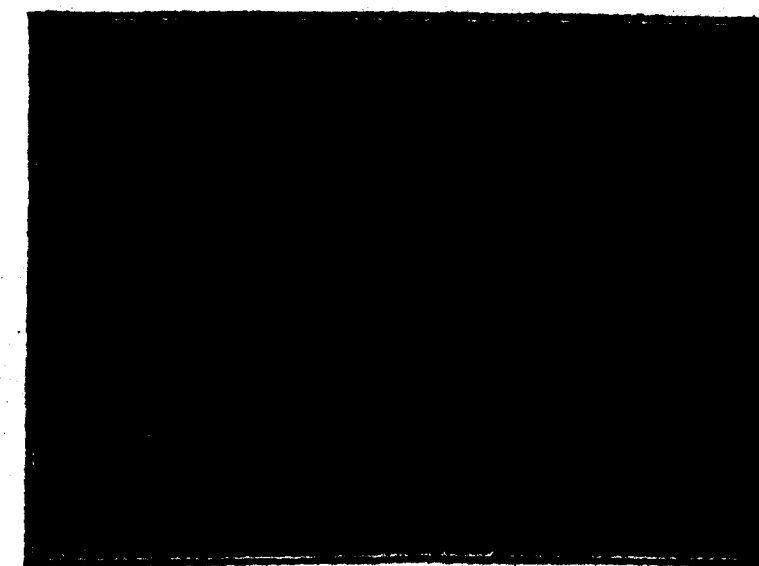
Visibility, which ranks high as a safe driving requirement, has been improved by making the windshield two inches wider and higher, and increasing its angle of slant from 31 to 39 degrees. Tilting is a feature of the front seat adjustment. Besides the four inches of horizontal adjustment, the whole seat becomes more vertical as it is pulled

Engines Improved

A number of improvements, largely in the nature of refinements, have been made in the new Pontiac, which add to its performance, economy, and reliability. The S.A.E.

horse-power is 28.3, braking horse-power being increased from 81 to 85. Acceleration and hill climbing ability have increased smartly, thus providing Pontiac users an increased road safety factor. The top speed is 80 to 82 miles per hour.

In addition to the Six there is an eight-cylinder Pontiac which can be purchased on special order only.



1937 Pontiac "Six" Four-Door Touring Sedan with Trunk.

THE PROGRESS OF CIVIL AVIATION IN INDIA

An Extension Lecture delivered before the University of Mysore

By J. C. Hunter

I DO not know what the term 'Civil Aviation' calls to your minds, but when I hear it, the picture it brings to me is a map, covered with a network of lines, rather like a Railway map. Those lines indicate air transport routes, and I imagine large commercial aircraft, carrying passengers and goods, flying along them daily. In actual fact, except perhaps in Germany, that picture is as yet no more than an ideal—an ideal at which all those concerned with aviation are eventually aiming. It is certainly untrue to say that India today is covered with a network of air transport routes; far from it; the bare framework has scarcely yet been drawn.

I have mentioned this because I think that the average man usually does regard the term 'Civil Aviation' as synonymous with 'commercial aviation.' The part that the flying clubs and private aviators have taken, at any rate in the initial stages of the development, is apt to be forgotten. I suppose it is a platitude to say that all commercialized effort begins as private effort. It is certainly true in the case of flying in India, where such popularity as flying enjoys is largely the result of the spade work put in by the various flying clubs in the country. I, therefore, propose first to endeavour to trace briefly for you the history of private and club flying in India.

The first organized exhibition of aircraft was not held until just before the Great War, in 1913, when two Belgian gentlemen Messrs. Pourpe and Verminck, demonstrated two Bleriot monoplanes, one a two-seater and the other a single seater. A great deal of curiosity was displayed in this exhibition, but the curiosity was not sufficient to persuade the public to support the display financially; in fact, although thousands collected to see the machines, they collected well outside the landing ground and as far from anyone who might be collecting gate money as they possibly could. The venture was accordingly not financially successful.

Shortly after the War, the famous English Aeroplane Company, Handley Page, sent a well-equipped expedition to India to organize flying and to investigate the possibility of air transport in this country. They had a large staff with them, but they succeeded in arousing so little enthusiasm and so little interest, that they decided to abandon their effort. For five years after this there seems to have been no further attempt to arouse interest. But in 1926 interest was re-awakened with the arrival by air from England of two pilots, Messrs. Leete and Stack, flying De Havilland Moths. This journey was a very fine effort indeed, because it must be remembered that in those days, only ten years ago, the present well organized international air route, with efficient aerodromes and ground organization from Europe to the Far East, did not exist. Messrs. Leete and Stack gave a number of demonstrations,

joy rides and passenger flights, and enthusiasm at last seemed to be awakening. Finally, however, one of the Moths was crashed, and Mr. Stack returned to England. Mr. Leete remained in the country and formed in 1927 the Bengal Air Transport Company, of which I shall tell you a little more when I turn to the history of commercial aviation.

The arrival of Messrs. Leete and Stack in 1926 was followed by the arrival of Messrs. Newall and Vincent in 1928 flying D.H. 9s. Messrs. Newall and Vincent set out on an organized tour of India, visiting various centres, where an aeroplane had never before been seen, and introducing thousands of the general public to flying for the first time. Strictly speaking, this undertaking should perhaps be considered as a commercial venture, as Messrs. Newall and Vincent certainly made it a money-making concern. I think, however, it may be permitted to take its place in the history of private aviation, as it was not backed by any public money, and was one of the first successful efforts to awaken the enlightened population of India to the possibilities of air transport.

About this time the nucleus of the flying clubs had already come into being, and in 1927 the Aero Club of India and Burma was formed at Simla, thanks to the interest and financial support of Sir Victor Sassoon, who bore all the expenses of the Club until March 1928. The object of this club was to form a central authority, which might act as the mouthpiece of the flying clubs, then being formed, in their representations to the Government of India, and also as the controlling authority for the development of club and private flying in India. The result of the efforts of the Committee of this Club was that the Government of India agreed to grant subsidies to the flying clubs in Bombay, Calcutta, Karachi and Delhi, and at a later date to those opened at Lahore and Madras. With the granting of a Government subsidy, the flying clubs became firmly established and for the next few years the progress of aviation in India was largely the progress of the clubs. They have been responsible for the training of a large number of pilots, both European and Indian, some of whom have been able to turn their training to account, and have secured remunerative posts in aviation; a large number of those trained of course learnt to fly as a pastime. In addition a number of ground engineers and aircraft mechanics have been trained in a way that would not have been possible had the flying clubs not been in existence. The flying clubs have also achieved inestimable work in making the general public air-minded, in that not only have they made the general public used to aircraft in the course of their training in cross country flights, but they have also set out to provide passenger flying for the general public at places and in circumstances

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where this would otherwise have been impossible. The flying clubs have also been ready to carry out charter flights to any place in India, and have thus filled a gap created by the lack of air transport concerns in the country. It is accordingly impossible to pay too great a tribute to the work that the flying clubs have done to assist the development of civil aviation in India in its early stages.

The work of the Indian States must also be not forgotten, and in this respect of course certain States have been in a better position to assist in the work of development than others, particularly those Indian States which lie on or near the established air routes. At the present moment Ruling Princes and Rajahs own 14 aircraft between them. H. H. The Maharaja of Jodhpur owns the largest fleet, and if any of you were able to see the Viceroy's Air Race last year, you will no doubt remember his green Percival Gull, flown by Capt. A. F. Muir, which was the fastest machine in the race. A first class aerodrome, with excellent equipment, has been built at Jodhpur and many other landing grounds have also been made in Jodhpur State. The Maharaja himself uses aircraft on every possible occasion. H. H. The Maharaja of Patiala also owns a fleet, and one of his machines, a Spartan Cruiser, fitted with wireless, is the largest privately owned aircraft in India. H. H. The Maharaja of Jaipur has recently purchased an Airspeed Courier, and has built an aerodrome at Sanganer, and at other places in Jaipur State. H. H. The Maharaja of Kashmir is the owner of a Dragon Rapide. The Raja of Vizianagaram possesses an Avro, and a DH Moth, and H. H. The Maharaja of Indore a Monospar; Prince Ghanshyamsingh of Limbdi an Autogiro; H. H. The Nawab of Junagadh a DH Moth. States in South India, being far from the main mail route, have somewhat naturally not been so advanced as yet, but the latest news is that the Government of H. E. H. the Nizam of Hyderabad has plans for the purchase of large de Havilland aircraft and for the organization of State air services both inside the State and to important centres outside it. H. H. The Maharaja of Travancore has evinced great interest in aviation, and it was as a result of his Government's successful arrangements with Messrs. Tata Sons Ltd., that a new air service was opened from Bombay to Trivandrum in the Cold Weather of 1935. Your own Sovereign, H. H. The Maharaja, has also shown great interest in aviation, and during his recent visit to Europe himself flew on several occasions. It is no doubt the result of His Highness' interest, that his Government is now taking steps to provide aerodromes inside Mysore boundaries. I hope that the time is not very far distant when His Highness will himself possess a fleet of aircraft connecting Mysore and Bangalore to the important centres of India.

The first attempt to organize a commercial service actually took place in 1921, but it only lasted from January 23rd until March 9th of that year. This was an experimental mail service between Karachi and Bombay, which it was intended to operate during fine weather only. The service was a Government venture and aimed at carrying the European sea mails for Karachi, after arrival at Bombay by sea. But as the surcharge on letters, so carried,

was one shilling per ounce, it was not surprising that the service had little or no support.

On February 16th 1927, Messrs. Leete and Stack carried a special air mail from Karachi to Delhi reaching there on the 18th February, and in the same year the first Indian Air Transport Company was organized. This was named the Bengal Air Transport Company, with headquarters at Calcutta, and was organized by Mr. Leete. Their chief activity was charter work, but, as there were few aerodromes available and many of these were unserviceable during the monsoon, the Company was not very successful, particularly as support expected from Government did not materialise. Actually in May 1929 the Bengal Air Transport Company organized a daily return service between Calcutta and Siliguri to serve Darjeeling, but the service only lasted until the end of June, and shortly after this the Bengal Air Transport Company finally went into liquidation.

Messrs. Tata Sons Ltd. had by this time already started to interest themselves in aviation, and in particular in the organization of a regular service between Karachi, Bombay, Madras and Colombo. Negotiations were opened with the Government of India with the object of obtaining a subsidy for such a service. But these negotiations, which at first seemed promising, finally broke down as a result of the necessity for financial retrenchment in 1931. In 1931 Tatas had purchased a Puss Moth for the use of their own staff, and undeterred by their failure to obtain a Government subsidy, they decided to run a Karachi-Bombay-Madras mail service on a weekly basis, connecting with Imperial Airways at Karachi, and they entered into a contract with the Government of India for this purpose. I should perhaps explain the difference between a contract and a subsidy. In the case of a contract, the Company is paid a rate for carrying mails at so much per pound. In the case of a subsidy, the Company is paid a fixed sum irrespective of whether there are mails to carry or not.

India had enjoyed the benefit of an air mail service between London and Karachi since 1929, but the service had ended at Karachi; from 1930 until the end of 1931, Imperial Airways ran an extension of this service from Karachi to Delhi under charter from the Government of India. That charter expired at the end of 1931, and as the Government of India had decided to operate their own State air service from Karachi to Calcutta, the Karachi-Delhi service was then operated by the Delhi Flying Club as a temporary measure. This is one of the many occasions when an Indian Flying Club has willingly stepped into the breach to help aviation along. In 1933 the Government of India finally arranged the formation of Indian Trans-Continental Airways, which was to operate in conjunction with Imperial Airways, an air service from Karachi to Calcutta and Singapore. In this Company, which is now the major transport concern in India, Imperial Airways has control with 51% of the capital, 24% of the capital is held by the Government of India and 25% of the capital by another Indian Air Transport Company, Indian National Airways, which was formed by Messrs. Govan Brothers of Delhi. At about the same time as Indian Trans-Continental Airways was formed to fly the

Karachi-Singapore section, Indian National Airways opened up two services, a daily return service between Calcutta and Dacca, and a weekly service between Calcutta and Rangoon. A new Company was also formed in South India known as the Madras Air Taxi Service to operate a route from Madras to Calcutta once a week. In 1934 Indian National Airways also opened a mail service between Karachi and Lahore.

In January 1935 Imperial Airways Service from London to Karachi was duplicated. That involved the duplication of the service of Indian Trans-Continental Airways, of Tata's Air Mail Service to Madras, and of Indian National Airways Service to Lahore. It sounded, however, the death knell of Indian National Airways' service from Calcutta to Rangoon, and as the Calcutta-Dacca service had also failed to attract public support, both these two services were withdrawn, and Indian National Airways confined their attention to charter work and the operation of their Karachi-Lahore service. The Madras Air Taxi Service, which I mentioned just now, had, unfortunately, lasted for only a few months. The public support given to this service was negligible, and on occasions the number of letters carried was so small that they easily went into the pilot's pocket.

In 1935 an air transport service of a special kind, which appears to be extremely successful, was opened. This is known as Himalaya Airways Ltd. with headquarters at Delhi, and operates a pilgrim service during a few months of the year only, between Hardwar and Gauchar. The route covers 60 miles only, but aircraft do the journey in under an hour, whereas on foot it takes the pilgrims something like four days. In the same year Tata's, under arrangement with the Government of Travancore, started a weekly service from Bombay to Trivandrum connecting at Bombay with one of Tata's twice weekly services to Madras.

That then is the position today. There exists from Europe to India and along the international route across the Sind Desert and down the valley of the Ganges, five services in each direction to and from Europe. Two of these services are provided by Imperial Airways and Indian Trans-Continental Airways, which I have already mentioned. Two are provided by the Royal Dutch Air Mail, known as K. L. M., and one is provided by the French Service, Air France. A twice weekly service is flown from Karachi to Madras, a once weekly service is flown during the Cold Weather from Bombay to Trivandrum, and a twice weekly service is flown from Karachi to Lahore. There is also the special pilgrim service of Himalaya Airways Ltd. during certain months of the year. Those form the regular services; in addition both Indian National Airways and Messrs. Tata Sons Ltd. are prepared to undertake charter work, i.e., to carry passengers to any destination on demand.

Attempts have also been made to run a service from Madras to Calcutta, and from Calcutta to Dacca, but these have failed to attract sufficient support to justify their continuation. Indian National Airways service from Calcutta to Rangoon must not be regarded as failure, as it merely became superfluous with the duplication of the Empire Air Mail Service.

I am afraid that that account will sound as if air transport has not accomplished a great deal in India so far, but in actual fact, taking all the difficulties into account, I think it is surprising that air transport has accomplished so much, and you will, therefore, perhaps wonder why greater progress has not been made. I think the main reasons are four. In the first place, in relation to its size India is a very much poorer country than most other countries. In the second place, there has been a surprising lack of support, particularly in the initial stages, from the middle classes, who are financially in a position to use air transport. In the third place, India is a vast country in which aerodromes are few and far between, and in which ground organization, ground staff and ground facilities are even scarcer. Finally there has until recently been a complete absence of facilities for night flying. May I now examine and explain those four reasons further to you?

I have said that India is a poor country in relation to its vast size. Now it is the aim of everyone concerned with aviation to make air transport pay, and the poorer the country, in which air transport is operating, the more essential is it to make it pay right from the beginning; a poor country cannot afford to grant subsidies, even in the development stages. The position then becomes a vicious circle. To make air transport pay, high rates must be charged; but if high rates are charged, then the public will not support air transport; and it is a difficult matter to judge exactly to what extent one may cut across the vicious circle in an attempt to break out of it. The lack of public support, however, is not entirely due to high rates; certainly not at the present day, because air transport rates have come down to figures which compare favourably with the cost of first class railway travel, especially when you take into account the time that can be saved over certain journeys. The lack of public support is partly due to the discomfort which air transport entails; I do not mean discomfort in the air, because actual flying is more comfortable than many journeys by road, but what I do mean is the lack of comfort which periods of stay on the ground entail; at the few aerodromes that exist, there are seldom any facilities at all for refreshment and rest. In between aerodromes there are long stretches of hundreds of miles of jungle country, in which a forced landing would possibly result in fatal consequences. It is a tribute to the reliability of modern aircraft, that accidents in this country are so few, but at the same time it is the knowledge that there are so few places, where a forced landing may be safely made in the event of engine failure, that is partly responsible for the lack of public support for air transport. The lack of aerodromes has also retarded development in another way; in the initial stages it is necessary for economic reasons to use small aircraft, but the range of small aircraft is not very great and they must land frequently to refuel; when the distance between aerodromes is great, the organization of an air transport concern on a paying basis becomes impossible. Even though things are improving today, there are still a total of only 155 military, civil certified, State and private aerodromes in India and Burma. The total area of India and Burma is 1,802,629 sq. miles, so that there is only one aerodrome to every 11,630 sq. miles. Allowance must

be made for the fact that this figure includes thousands of square miles of mountain country, over which one would never think of organizing an air service; even then, it is an absurdly low ratio which makes it extremely difficult to organize new air routes, if you take the safe range of a small aeroplane as not more than 300 miles.

The progress of aviation in any country marches hand in hand with the increase in the number of available aerodromes. Now things are not so bad as the figures I have just quoted along the mail routes; here endeavours have been made to limit the distance between aerodromes to not more than 200 miles, but even this is not good enough and along every route an aerodrome at not more than 100 miles apart is required; in addition at as many aerodromes as possible, the organization of ground facilities, that is, hangars, repair shops, quarters, refreshment rooms and rest-houses is badly needed. Of course it is going to be a long time before these sort of facilities are provided at every aerodrome; at the present stage of development, if they were provided, the staff in charge would have little or nothing to do for most days of the year. But, no doubt, it will come in time, as ground organization of this sort has come on most of the aerodromes in Europe.

A much more important requirement at present is facilities for night flying along the mail routes. In India facilities for night flying are of very recent acquisition and they exist at the moment only on the international trans-continental route. They must also be provided as early as possible on the feeder mail routes. The urgent necessity for night flying facilities is that the lack of them at the present moment completely destroys the speed advantage that flying holds over surface transport. A train, for instance, is very much slower than an aeroplane, but a train can travel 24 hours during the day; at the present moment in India an aeroplane can travel only between the hours of sunrise and sunset, and in consequence the train makes up during the hours of darkness the distance that it has lost during the daylight hours. To give you an instance of what I mean:—one of the reasons for the failure of the Madras Air Taxi Service on the Madras/Calcutta service was that a passenger could leave Madras by train on the evening of one day and arrive in Calcutta on the morning of the third day. By aeroplane he would leave Madras on the morning of the second day and arrive in Calcutta the same evening. But he had gained no time thereby, because both the rail and the air passenger were equally ready to attend to business in Calcutta on the morning of the third day.

The night-flying facilities required consist firstly of flood lighting for aerodromes, at which landings are to be made, so that the pilot can see his way clearly down to the ground; secondly in providing lighted beacons along the main routes so that he can pick his way in the darkness along the route from beacon to beacon; and thirdly in providing short wave wireless direction finding apparatus at convenient intervals, so that the pilot may be given his bearings and told his position at any time in the course of his flight.

The Government of India have recognized these necessities for the proper development of civil aviation in

India, and a great deal has already been done to improve matters. As I said earlier India is a poor country and nothing like the total sum required is available for spending on developing ground organization on a scale equivalent to European countries. However, for the year 1934-1935, the Directorate of Civil Aviation in India obtained a grant from the Government of India of approximately 92½ lakhs for the development of ground organization. It was intended to spend this money on the further development of the trans-continental route and on the provision of badly needed facilities on the Karachi/Madras/Colombo, Karachi/Lahore, and Madras/Calcutta routes, and on the opening up of a Bombay/Calcutta route. Before the plans to carry these out were complete, however, advice was received of the Empire Air Mail Scheme, which provides for an Empire Air Mail Service 5 times a week in each direction. The urgency of this scheme necessitated diverting a great deal of the money, which was intended for developing subsidiary routes, into developing the main and feeder mail routes only, and even in the case of the feeder mail routes, money will not be spent to anything like the extent that was originally contemplated, as the development of the trans-continental route requires such a large expenditure. The trans-continental route will now be completely equipped with all the necessary facilities both in the way of buildings, flood lighting, route beacons and wireless and meteorological equipment. On the Karachi/Madras route most of the money is being spent on the Bombay aerodrome; the development of the Madras aerodrome, other than the provision of a hangar, is being left to a later date. Bombay is to be equipped for night flying and also with the necessary wireless equipment, and in addition wireless equipment is being provided at Secunderabad. On the Karachi/Lahore route the expenditure contemplated is of a minor nature.

The Empire Air Mail Scheme is expected to come into full operation possibly by October of this year, but certainly by the beginning of 1938. By that time the trans-continental route will be equipped on lines equivalent to the best served route in Europe, while the main feeder route from Karachi to Madras and on to Colombo, will be equipped so that at any rate its earlier section can be flown in the dark. But the development of other routes in India, and therefore the development of Civil Aviation other than along the existing routes, must be deferred for some time.

That then is the stage of development that Civil Aviation has reached in India to-day, and I may perhaps now be permitted to look into the future. The immediate future is fairly easy to foresee. I have mentioned the Empire Air Mail Scheme on several occasions. The result of that scheme will be that on the international air route there will be five Empire Services every week in each direction. It is not known whether the Royal Dutch Line the K.L.M., and Air France intend increasing their services, but even if they do not, the Empire Air Mail Scheme plus the existing K.L.M. and Air France services will mean that a comparatively large number of the largest aircraft in the world will arrive every week at the ports of call on the trans-India route. In other words the air port authorities in North India will from 1938 onwards be as busily employed as the staff on most of the big air ports in

Europe. To give you an example of exactly what work that will involve, may I take the case of Karachi. In any given week there will arrive from Europe five Empire Mail aircraft, two Dutch aircraft and one French aircraft, total 8. From the East will arrive a similar number of aircraft, total 16. On the Karachi/Madras service there will arrive 5 aircraft and depart 5 aircraft making the total machines handled 26. A similar number will arrive and depart on the Karachi/Lahore service, making the total machines 36. In addition there are always private international flights passing through Karachi; these may be taken as an average of 5 flights per week, making the total 41. To that number may be added internal Indian flights, say an average of 3 per week, making the total 44. So the Karachi air port authorities may expect to have to handle nearly 50 aircraft every week with all the attendant arrangements in connection with mail, customs, sanitation, refuelling, aircraft inspection, engine inspection and so forth. I think you will agree with me that the Karachi air port will be a hive of activity in 1938.

A further development that can be foreseen in addition to the Empire Air Mail Scheme will be the extension of Tata's Air Mail Service from Madras to Colombo, and its corresponding increase in frequency. The organization of a new air transport service is also known to be contemplated in the very near future by the Hyderabad Government. As you probably know the Government of H. E. H. The Nizam believes in the centralization of the means of transport within the State in the hands of one controlling authority, and the Nizam's State Railway has been chosen as that authority. Already public road transport has been placed in the hands of the Railway. The opening up of an air service, both within the State and from Hyderabad to Madras, Bombay and Delhi, are contemplated and those air services will again be placed under the control of the Railway. It is by no means definite how soon this development will take place, but the Hyderabad State Aviation Board is known to be contemplating the purchase of large De Havilland Dragon machines for the service.

Already, with the present development that has taken place, the flying clubs are beginning to recede farther and farther into the background, and as more development takes place, they will recede still farther. In fact gradually the flying clubs will become the home of private and sporting flying, pure and simple. This is really only right, as in essence the club is not a commercial concern. The clubs, however, have played a very important part in the early stages of the development of civil aviation in India, and, as I have said, have shown a readiness to step into any breach on any occasion; all those concerned with civil aviation should be grateful to the clubs for the part they have played, and should make it as easy as possible for the clubs to continue to exist. By that I mean that the importance of the commercial air transport concerns should not allow the clubs to be forgotten and to swamp them out of existence. I must remind you that the running of an aviation club is a very expensive business, which no small association of private individuals, as in India, is likely to be able to afford. Even though the clubs recede into the background, they will always form a very useful means of entry for young men into aviation and a very

useful first training ground for those who wish to enter aviation as career. For that reason I hope that the subsidy from the Government of India, which the clubs nowadays enjoy, will never be withdrawn.

Alongside the immediate development, of which I have just told you, there must also be some further development in ground organization. As a start Madras is obviously going to become a much more important aircraft centre than it has been in the past. This was recognized by the Government of India some time ago, and plans to develop Madras air port were laid. They have had to be deferred, however, on account of the urgent work required on the international route. But with the extension to Colombo, wireless facilities will be required for Madras and the provision of Government facilities in the way of offices, hangars, etc., will also be required. It is to be hoped that these will not be long deferred.

Between Madras and Colombo, emergency landing grounds must be provided, or existing landing grounds improved. Sites have already been inspected by the engineers of the Directorate of Civil Aviation, and as soon as money is available, no doubt this work will be undertaken.

The Nizam's Railway Air services will require considerable development in ground organization, and a start has already been made with this at the Nizam's new air port in Hyderabad, known as Begumpet. Landing grounds will also be developed all over the State.

That, I think, is all that I can tell you with any certainty about the immediate future, and I suggest that we might now examine the question of what prospects of employment aviation offers both at present and in the future. I think the first thing that must be clearly understood is that, compared to any other commercialized transport, the number of persons that can be employed in aviation is small. It is a remarkable thing that a means of transport, which involves considerable capital expenditure and travels at very high speeds, can be run with such a small staff. Financially of course, this is fortunate for the industry, as owing to its nature, the staff must be of a highly trained and technical category, and therefore more expensive than ordinary staff. As it is, aviation is struggling to pay its way and would undoubtedly fail miserably if it required a still larger highly paid staff. As far as figures can be obtained, at the present moment the number of trained men employed in air transport in India is Europeans 93 and Indians 87. These figures are split up into administrative staff 41, pilots and wireless operators 26, ground engineers and apprentices 113. These figures do not include the personnel of the Flying Clubs and of the Directorate of Civil Aviation. You will observe that it is not a very large number of men. I think, however, that, taking into account the development of the immediate future, one can hazard the guess that in the course of the next year or two the total number employed will be increased by about one-third. You must not leap to the conclusion, that I mean by that that there are prospects of 60 vacancies occurring in the course of the year, provided the necessary training is obtained; there are already in India a number of young trained and well qualified men who have not yet found employment in the industry, and

who will now be absorbed. I do think though that aviation offers definite prospects of employment to those young men, who are prepared to take the necessary pains to fit themselves for the job.

To enter the aviation industry there are two possible methods. The young man wishing to enter should first decide whether he wants to go in for the flying side or the ground side of the business. For whichever side he decides to go, he can set about obtaining his initial training either through the flying clubs, or else through the Aeronautical Training Centre of India at Delhi. But it must not be thought that the necessary training can be obtained cheaply. I have told you just now that aviation employs a highly trained and technical staff, and anyone wishing to enter aviation must be prepared to spend comparatively large sums on acquiring the necessary training. In the initial stages the training provided by the flying clubs is probably cheaper than that of the Aeronautical Training Centre of India, but few of the flying clubs are equipped to give the full training necessary to obtain the best posts in aviation. The number of young men that flying clubs can train per annum in the ground or engineering side of aviation is also limited; if any of you are interested in aviation as a career, I should be pleased to put you into touch with the Madras Flying Club, or to tell you how to get into touch with the Aeronautical Training Centre of India. But I must repeat that aviation is not a profession for the son of a poor man. The salaries to be obtained are comparatively high, but anyone who wishes to win that salary must be prepared to spend comparatively large sums in obtaining the necessary training.

May I end this lecture with a romance into the future? In other words, may I suggest how, I think, aviation years hence should develop? I am afraid that these ideas are largely, though not entirely, my own, and I doubt if they will materialise, if at all, for many years to come. I opened my lecture with the ideal of a map covered with a network of air routes, and the map on the wall is my ideal of an Indian network. In addition to the routes which already exist, or which we know are coming into existence in the very near future, I think the following routes or extensions should be developed. Let us start from the foot of India and go northwards. In the first place, I think that the Bombay/Trivandrum route will be extended to Colombo. Colombo will then be served by two routes up either coast of South India. My next development is a cross service from Madras to Cochin. Cochin, as you all know, is fast becoming a most important sea port, and the addition of an air port would obviously increase its importance. H. H. The Maharaja of Cochin has already recognized this and steps are being taken to provide an aerodrome. The next cross service, which I think should be developed, is a cross service connecting your own State with the air route up either coast, i.e., a service connecting Madras, Bangalore, Mysore and Cannanore. I do not advocate a Madras/Calcutta route along the coast. That route has already been tried once by the Madras Air Taxi Service, and has failed. In my opinion, because it is not an economically sited route. A service from Madras to the East should connect with the Empire Air Mail Service either at Rangoon or

at Singapore. That would involve flying straight across the Bay of Bengal and large sea-planes or small flying boats with a very big range would be needed. It will require many years of development both in regard to traffic and facilities etc. before such a service would be feasible. Another important route, which I think will be one of the earliest to come into existence, is a Bombay/Calcutta route straight across the centre of India. Actually Messrs. Tata Sons Ltd. have been in negotiation with the Government of India for the development of this route for some considerable time, but plans have not yet materialised. When this route is developed, the proposed Hyderabad State route from Hyderabad to Delhi should connect with the Bombay/Calcutta route at Nagpur. A service from Bombay to Delhi also seems to fill a bad gap in my ideal network, and this route could be utilized to serve the Central Indian States of Gwalior, Indore, Bhopal and Ajmer as well. The Karachi/Lahore service might be extended to Rawalpindi. Elsewhere in North India the main centres are already so well served by Indian Trans-Continental Airways that all that is required is very short feeder services, as traffic develops, to connect with the international route.

Well, I think, gentlemen, that in the course of this lecture I have touched on the progress and development of nearly every side of aviation in India; the one exception, perhaps, is the development of aircraft themselves, and here there is little progress to report, because India is not an aircraft manufacturing country. By the time therefore that new types of aircraft reach India they are already well tried and proved in the manufacturing countries, and India's own requirements in aircraft at present are so modest that she cannot be said to exercise any influence on their design and development. We can be confident, nevertheless, that in the near future the type of aircraft employed in India will increase in size and speed. That improvement has already been seen and will continue as traffic grows and the length and frequency of services increases. I hope that I have not given you too gloomy a picture of Aviation in India, because I, myself, believe aviation has a great future in the country on account of the enormous distances to be covered. But by reason of those very distances, progress must necessarily be slow, because there is such an enormous amount of work to do on the ground to make that development possible. But it will come, and when it does, it will be found that one of the greatest benefits that aviation will have conferred on India will have been a political one. It will have enabled you citizens of Mysore to have established constant contact with your brothers of North India in a way that was never possible before.

Well that, gentlemen, is a very brief sketch of the development of Civil Aviation in India and its position today, and I hope that it has interested you as much as I have enjoyed telling you about it. Before concluding, I should like to thank you once more for the great honour you have done me in asking me to talk to you, and to repeat that if any of you are interested in flying as a career or for pleasure, I shall always be pleased to put you into touch with the Madras Flying Club.

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MADRAS FLYING CLUB NOTES

A SOLITARY brief shower of rain one night did nothing to restore colour to the wan plain. Indian lions roaming on it would now be indistinguishable against their background—not however that any are seriously expected in South India from their far home in Kathiawar.

The first Sunday of the month saw a bimonthly competition. Once more a landing competition. There were nine entrants. Mr. J. D. Italia the winner and Mr. S. Bhuyan second. Mr. Bhuyan also distinguished himself by arriving back in Madras exactly on schedule after his Grand Tour of India, by way of Calcutta, Lahore and Karachi, his Gipsy Moth (or rather, the club's) as unbent as when he took it away—a condition, alas, in which it was not long to remain, for three days later it flew to Colombo and there apparently it just could not resist the allure of the sparkling sea off the Mt. Lavinia bathing beach and joined the merry bathers from the hotel in a hearty headlong splash. The water proved too shallow and it was a very dishevelled aeroplane that was dragged ashore by willing Singalese fishermen, and two facially battered young men therein who needed attention from the local doctor. Face battered instruments and salt rusted engine, with some other bits and pieces, comprise the salvage—all that is left of VT-ACU. Its second completed disintegration. So, though it flew to Colombo, it didn't fly back. Other cross country flying was in the Leopard, members now flying it cross country for the first time. Mr. Sundararajan flew it first to Bombay and back with Mr. Narayanan, who had to go there on business, and next to Bangalore and back with Mr. Narayanan, who had to go there on business, and next to Bangalore and back with two public fares, which latter flight is an airmark in Madras aviation (perhaps too in Indian Aviation) as being the first public charter flight taken by an "A-1" licence pilot on the strength of that licence. Mr. Italia next flew it to Hyderabad and back with friends of his. There were two charter flights in the Leopard by the instructor, the first with Mr. Forsyth, a jockey, and his big son over the ruins of Vijayanagar and *via* Sangli to Bombay and back

to Madras, and the other with Mr. T. P. M. Alexander to Colombo and back to make whoopee in Ceylon after an absence of seven years. Advantage was taken of a day's halt at Colombo to give joy rides and to take a couple of charter flights over the interior, one of these with Mr. Wanigsekara over Kandy. And so altogether adding 27 hours to the month's bag over those two charters.

The club had the pleasure of welcoming several visitors. Wing Com. Crosbie passing through to and from Colombo in a Hornet Moth and at the end bearing Mr. Law the club's Hon. Secretary away with him to Hyderabad; Mr. Wellington who arrived by train to study the Leopard and who, accompanied by Mr. Hullcoop, extended his tour to Colombo to investigate the accident to VT-ACU; Mr. Burbury and Mr. Carroll of India National Airways in a Dragon, with American passengers for Colombo and Calcutta, and finally Messrs. Simpson and Stone of the Bombay Flying Club in two Moth Majors, with two pupils of that club, Messrs. Kapadia and Gazdar, on an instructional flight to Colombo and back. Thus, towards the end of the month, the sky was almost thick with aeroplanes flying to and from between Colombo and Madras, and the Ratmalana aerodrome for Colombo was almost crowded with aircraft, including a Naval amphibian flying boat. The instructors of both the Bombay and Madras Flying Clubs and the Ground Engineer of the former were thus enabled to forgather at the scene of VT-ACU's late lamented crash, namely at the hotel at Mt. Lavinia, and to listen-in to graphic accounts of the accident by eye witnesses. The first American aeroplane to visit Madras and that a Waco, came one day bringing the air mail, piloted by Mr. Gadgil, and was a source of wonder to one and all.

The club welcomed two new members, a Parsi lady, Mrs. Kapadia, and Goodwin, A.D.C. to the Governor of Madras, who each started to learn to fly, and three members flew their first solos, Madame Triou, Mr. Grubb and Mr. Saravanam, Madame in both the Swallow and the Gipsy, the other two in the Gipsy.

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B. B. C. Empire Service Programmes

Transmissions 2 and 3

NOTE.—All times given are Indian Standard Time which is five hours and thirty minutes ahead of Greenwich Mean Time. Wavelengths shown for each Transmission are those in use at time of going to press. Changes, if any, will be duly notified by microphone which should be listened for in the announcements made at frequent intervals.

Transmission 2:—4-30 to 7-15 p.m. I.S.T. (11 a.m. to 1-45 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSG 17.79 Mc/s (16.86 m.).
GSF 15.14 Mc/s (19.82 m.).
GSB 9.51 Mc/s (31.55 m.).

Transmission 3:—7-30 to 10-30 p.m. I.S.T. (2 to 5 p.m. G.M.T.).

GSH 21.47 Mc/s (13.97 m.).
GSG 17.79 Mc/s (16.86 m.).
GSF 15.14 Mc/s (19.82 m.).
GSB 9.51 Mc/s (31.55 m.).

SUNDAY, MARCH 21.

4-30 p.m.—Big Ben. A Religious Service, from St. Mark's Church, North Audley Street, London.
5-30 p.m.—Scotland v. England. A Commentary* on the International Rugby Match.
6-0 p.m.—A Concert from the Studio.
6-25 p.m.—Weekly Newsletter, Sports Summary and Announcements.
6-50 p.m.—Pianoforte.†
7-0 p.m.—Eugene Pini and his Tango Orchestra.
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. Light programme.
7-50 p.m.—A Brass Band Concert.
8-30 p.m.—Bells and an Empire Service* from St. Paul's Cathedral.
9-20 p.m.—Violin.†
9-30 p.m.—The BBC Theatre Organ.
10-0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
10-30 p.m.—Close down.

MONDAY, MARCH 22.

4-30 p.m.—Big Ben. A Syncopated Piano Recital.
4-45 p.m.—'Mother of Parliaments'.*
5-25 p.m.—Haydn and his Band.
5-40 p.m.—Talk: Empire Exchange.
5-55 p.m.—'London Theatres and their Musical Successes'.—10.†
6-25 p.m.—The News and Announcements.
6-45 p.m.—'Instrumental Variety'.
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. 'John Londoner at Home'.—11.*
8-2 p.m.—An Instrumental Recital.
8-30 p.m.—Suggestions for Your Book List.—6.*
8-45 p.m.—A Cinema Organ Recital.
9-0 p.m.—'Goodnight Vienna'.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

TUESDAY, MARCH 23.

4-30 p.m.—Big Ben. A Cinema Organ Recital.
5-0 p.m.—Variety.*
5-20 p.m.—The BBC Northern Ireland Orchestra.
6-20 p.m.—Interlude.†
6-25 p.m.—The News and Announcements.
6-45 p.m.—'Made in Scotland'.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. Jan Berenska and his Orchestra.
8-0 p.m.—Talk: World Affairs.
8-15 p.m.—A Song Recital.
8-30 p.m.—'Forsaken City'.*
9-10 p.m.—The BBC Theatre Orchestra.*

WEDNESDAY, MARCH 24.

4-30 p.m.—Big Ben. Scottish Dance Music.*
4-45 p.m.—A Commentary on the Oxford and Cambridge Boat Race.
5-30 p.m.—Waltzes of the Nineties.†
5-45 p.m.—Talk: World Affairs.*
6-0 p.m.—A Studio Concert.
6-25 p.m.—The News and Announcements.
6-45 p.m.—The Birmingham Hippodrome Orchestra.
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. A Programme of Light Music.
7-50 p.m.—'Straight from the Horse's Mouth'.*
8-20 p.m.—A Commentary on the Oxford and Cambridge Boat Race.*
8-45 p.m.—The BBC Empire Orchestra.
9-45 p.m.—Talk: Empire Exchange.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

THURSDAY, MARCH 25.

4-30 p.m.—Big Ben. Light Programme.*
5-0 p.m.—A Violin Recital.
5-15 p.m.—'John Londoner at Home' 12.
5-45 p.m.—The Trocadero Orchestra.
6-25 p.m.—The News and Announcements.
6-45 p.m.—Schubert's Songs.†
6-53 p.m.—'Food for Thought'.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. A Cinema Organ Recital.
8-0 p.m.—Light Programme.*
8-40 p.m.—Interlude.†
8-45 p.m.—A Military Band Concert.
9-30 p.m.—Light Programme.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

FRIDAY, MARCH 26.

4-30 p.m.—Big Ben. 'Forsaken City'.*
5-10 p.m.—Interlude.†
5-15 p.m.—Talk: This is England.—12.*
5-30 p.m.—A Brass Band Concert.
6-15 p.m.—The Celebrity Trio.
6-25 p.m.—The News and Announcements.
6-45 p.m.—A Religious Service from the Studio.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. 'The Mail Coach'.
8-0 p.m.—A Pianoforte Recital.
8-30 p.m.—Talk.
8-45 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
9-30 p.m.—'Music of the Hours'.
10-0 p.m.—The News and Announcements.
10-20 p.m.—Handel's Arias.†
10-30 p.m.—Close down.

* Electrical Recording.

† Gramophone Records.

SATURDAY, MARCH 27.

- 4-30 p.m.—Big Ben. Cecil Rhodes Programme.*
 5-17 p.m.—The BBC Dance Orchestra.
 5-45 p.m.—A Pianoforte Recital.
 6-15 p.m.—For the Children: Border Songs and Border Tales.*
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—The Commodore Grand Orchestra, from the Commodore Theatre, Hammersmith.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. An Old Time Music Hall.*
 8-15 p.m.—The Coventry Hippodrome Orchestra.
 8-30 p.m.—A Cinema Organ Recital.
 8-40 p.m.—Feature Programme.*
 9-10 p.m.—Royal Navy v. Royal Air Force. A Commentary on the Football Match.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, MARCH 28.

- 4-30 p.m.—Big Ben. A Religious Service from Liverpool Cathedral.
 5-45 p.m.—A Violin Recital.
 6-5 p.m.—Royal Navy v. Royal Air Force. A Commentary* on the Football Match.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—Fred Hartley and his Novelty Sextet.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Religious Service from the Studio.*
 8-2 p.m.—A Programme of Light Music.
 8-30 p.m.—'Tweed'.*
 9-20 p.m.—Handel's 'Acis and Galatea'.
 10-20 p.m.—Weekly News-letter, Sports Summary, and Announcements.
 10-45 p.m.—Close down.

MONDAY, MARCH 29.

- 4-30 p.m.—Big Ben. A Cinema Organ Recital.
 4-45 p.m.—Names that are History—1.
 5-0 p.m.—Sealed Orders.*
 5-30 p.m.—Haydn and his Band.
 5-55 p.m.—London Theatres and Their Musical Successes—10.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Concert from the Scottish Studios.
 8-0 p.m.—'John Londoner at Home'—12.*
 8-30 p.m.—Arthur Salisbury and his Orchestra.
 9-0 p.m.—A Pianoforte Recital.
 9-30 p.m.—'The Club Dinner'.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, MARCH 30.

- 4-30 p.m.—Big Ben. Light Programme.*
 5-15 p.m.—The Forum Theatre Orchestra.
 5-45 p.m.—'John Londoner at Home'—13.
 6-15 p.m.—Dance Music.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Brass Band Concert.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-47 p.m.—A Concert from the Studio.
 8-30 p.m.—Geiger and his Orchestra.
 9-0 p.m.—Cecil Rhodes Programme.*
 9-45 p.m.—A Programme of Scottish Dance Music.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, MARCH 31.

- 4-30 p.m.—Big Ben. Talk: World Affairs.*
 4-47 p.m.—The New Victoria Orchestra.

- 5-0 p.m.—'Music of the Hours'.*
 5-30 p.m.—A Programme of Light Music.
 6-10 p.m.—A Talk by the Empire Programme Director.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—The Birmingham Hippodrome Orchestra.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. To be filled.
 7-40 p.m.—Variety.*
 8-0 p.m.—A Brass Band Concert.
 8-30 p.m.—Names that are History—1.*
 8-45 p.m.—The BBC Empire Orchestra.
 9-45 p.m.—A Talk by the Empire Programme Director.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

THURSDAY, APRIL 1.

- 4-30 p.m.—Big Ben. Light Programme.*
 5-30 p.m.—A Cinema Organ Recital.
 5-45 p.m.—The Orchestra of the Trocadero Cinema, Elephant and Castle, London.
 6-5 p.m.—'Folly to be Wise'.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Viennese Waltzes.†
 6-55 p.m.—'Food for Thought'.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. 'The Table Under the Tree'.*
 8-17 p.m.—A Programme of Light Music.
 8-45 p.m.—A Military Band Concert.
 9-30 p.m.—Variety.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, APRIL 2.

- 4-30 p.m.—Big Ben. A Violin Recital.
 4-45 p.m.—'The Club Dinner'.*
 5-15 p.m.—The Rutland Square and New Victoria Orchestra.
 5-45 p.m.—Talk: A Hundred Years Ago.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Studio Concert.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Scottish Orchestra.
 8-15 p.m.—A Pianoforte Recital.
 8-45 p.m.—A Countryman's Diary.*
 9-0 p.m.—Dance Music.*
 9-30 p.m.—To be filled.
 10-10 p.m.—The News and Announcements.
 10-30 p.m.—Close down.

SATURDAY, APRIL 3.

- 4-30 p.m.—Big Ben. The BBC Military Band.*
 5-15 p.m.—The BBC Dance Orchestra.
 5-30 p.m.—A Countryman's Diary.*
 5-45 p.m.—Variety.*
 6-15 p.m.—For the Children.
 6-45 p.m.—The News and Announcements.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The Coventry Hippodrome Orchestra.
 8-20 p.m.—The Ghost Train—Part 1.*
 8-45 p.m.—The Glasgow Orpheus Choir.
 9-0 p.m.—Royal Navy v. Army. An Interval Summary and Commentary on 2nd half of the Football Match.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SUNDAY, APRIL 4.

- 4-30 p.m.—Big Ben. A Concert of Bach's Music.†
 5-20 p.m.—'Mother of Parliaments'.*
 6-0 p.m.—The New Victoria Orchestra.

* Electrical Recording.

† Gramophone Records.

- 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—A Short Religious Service.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Stars of Italian Opera.†
 7-50 p.m.—The BBC Midland Orchestra.
 8-45 p.m.—A Religious Service* from Croydon Parish Church.
 9-35 p.m.—The Alfredo Campoli Trio.
 10-0 p.m.—Weekly Newsletter, Sports Summary and Announcements.
 10-30 p.m.—Close down.

MONDAY, APRIL 5.

- 4-30 p.m.—Big Ben. 'The Table Under the Tree'.*
 5-17 p.m.—Names That Are History—2.
 5-32 p.m.—Haydn and his Orchestra.
 5-55 p.m.—London Theatres and their Musical Successes—11.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Violin Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Dance Music.
 8-5 p.m.—'The Ghost Train'—Part 2.*
 8-30 p.m.—Arthur Salisbury and his Orchestra.
 8-45 p.m.—Talk: A Hundred Years Ago—1.*
 9-0 p.m.—A Pianoforte Recital.
 9-30 p.m.—'The Wheels Go Round'.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

TUESDAY, APRIL 6.

- 4-30 p.m.—Big Ben. 'An Old Time Music Hall'.*
 5-15 p.m.—The BBC Symphony Orchestra.
 6-5 p.m.—A Recital of Frank Bridge's Songs.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—A Brass Band Concert.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Talk: World Affairs.
 7-47 p.m.—Songs from English Light Opera.†
 8-0 p.m.—'The Ghost Train'—Part 3.*
 8-30 p.m.—Geiger and his Orchestra.
 9-0 p.m.—Sports Commentary.
 9-30 p.m.—'John Londoner at Home'—13.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

WEDNESDAY, APRIL 7.

- 4-30 p.m.—Big Ben. Talk: World Affairs.*
 4-47 p.m.—The New Victoria Orchestra.
 5-15 p.m.—Variety.*
 5-35 p.m.—A Programme of Victorian Melodies.*
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Organ Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Programme of Light Music.
 8-0 p.m.—'Trough of Bowland'. A 'Harry Hopeful' Programme.*
 8-40 p.m.—Interlude.†
 8-45 p.m.—The BBC Empire Orchestra.
 9-45 p.m.—Variety—Instrumental.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

THURSDAY, APRIL 8.

- 4-30 p.m.—Big Ben. A Programme of Popular Ballads.
 4-50 p.m.—'John Londoner at Home'—14.
 5-20 p.m.—A Cinema Organ Recital.
 5-45 p.m.—A Commentary* on the Amateur Boxing Championship.
 6-15 p.m.—The Trocadero Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Fred Hartley and his Sextet.†
 6-55 p.m.—'Food for Thought'.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Theatre Organ.
 8-0 p.m.—'Tchiffely's Ride'.*

- 8-40 p.m.—Interlude.†
 8-45 p.m.—A Military Band Concert.
 9-30 p.m.—Reading.
 9-40 p.m.—Variety.*
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

FRIDAY, APRIL 9.

- 4-30 p.m.—Big Ben. A Pianoforte Recital.
 4-45 p.m.—Talk: A Hundred Years Ago—2.*
 5-0 p.m.—The Rutland Square Orchestra.
 5-30 p.m.—'The Wheels Go Round'.*
 6-0 p.m.—The BBC Dance Orchestra.
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—Variety.*
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. The BBC Scottish Orchestra.
 8-15 p.m.—The City of Bristol Police Band.
 9-0 p.m.—Talk.
 9-15 p.m.—Chopin's Music.†
 9-30 p.m.—'Cue for Adventure'—6.
 10-0 p.m.—The News and Announcements.
 10-20 p.m.—Dance Music.†
 10-30 p.m.—Close down.

SATURDAY, APRIL 10.

- 4-30 p.m.—Big Ben. The BBC Northern Orchestra.
 5-15 p.m.—'Mr. Penny'—1.*
 5-30 p.m.—The Commodore Grand Orchestra.
 6-15 p.m.—For the Children.
 6-45 p.m.—The News and Announcements.
 7-5 p.m.—Dance Music.†
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. A Recital.
 8-15 p.m.—Light Programme.*
 8-45 p.m.—The BBC Dance Orchestra.*
 9-15 p.m.—A Commentary on a Semi-Final Tie for the F.A. Cup.
 10-15 p.m.—The News and Announcements.
 10-35 p.m.—Close down.

SUNDAY, APRIL 11.

- 3-0 p.m.—Big Ben. A Military Service from York Minster.
 4-0 p.m.—(Approx.) Close down.
 4-30 p.m.—Big Ben. The BBC Empire Orchestra.
 5-30 p.m.—A Commentary* on the Semi-Final of the F.A. Cup.
 6-0 p.m.—A Military Band Concert.
 6-25 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
 6-50 p.m.—Pianoforte.†
 7-0 p.m.—The Erneco Quintet.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. 'Famous Golfers'—1.*
 8-2 p.m.—A Studio Concert.
 8-40 p.m.—A Religious Service* from Granton Church, Edinburgh.
 9-30 p.m.—A Recital on Two Pianofortes by Rawicz and Landauer.
 10-0 p.m.—Weekly Newsletter, Sports Summary and Announcements.
 10-30 p.m.—Close down.

MONDAY, APRIL 12.

- 4-30 p.m.—Big Ben. The BBC Northern Orchestra.
 5-15 p.m.—Names that are History—3.
 5-30 p.m.—Haydn and his Band.
 5-55 p.m.—London Theatres and their Musical Successes—12.†
 6-25 p.m.—The News and Announcements.
 6-45 p.m.—An Instrumental Recital.
 7-15 p.m.—Close down.
 7-30 p.m.—Big Ben. Frank Rea and his Orchestra.
 7-45 p.m.—Talk: A Hundred Years Ago—1.*
 8-0 p.m.—A Studio Concert.
 8-30 p.m.—The Twilight Serenaders.
 8-50 p.m.—Arthur Salisbury and his Orchestra.

* Electrical Recording.

† Gramophone Records.

9-0 p.m.—A Pianoforte Recital.
9-30 p.m.—John Londoner at Home—14.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

TUESDAY, APRIL 13.

4-30 p.m.—Big Ben. A Cinema Organ Recital.
5-0 p.m.—Scenes from 'Henry VIII'.
5-40 p.m.—The Forum Theatre Orchestra.
6-0 p.m.—A Violin Recital.
6-25 p.m.—The News and Announcements.
6-45 p.m.—'Stop Dancing'.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. Talk: World Affairs.
7-47 p.m.—A Banjo and Xylophone Recital.
8-5 p.m.—'The First Days of Steam'.*
8-30 p.m.—The Torquay Municipal Orchestra.
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

WEDNESDAY, APRIL 14.

4-30 p.m.—Big Ben. Talk: World Affairs.*
4-47 p.m.—The New Victoria Orchestra.
5-15 p.m.—English Folk Songs.
5-35 p.m.—Dance Music.*
6-25 p.m.—The News and Announcements.
6-45 p.m.—The Birmingham Hippodrome Orchestra.
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. A Programme of Light Music.
8-0 p.m.—'The Vale of Evesham'.*
8-45 p.m.—The BBC Empire Orchestra.
9-45 p.m.—Variety.
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

THURSDAY, APRIL 15.

4-30 p.m.—Big Ben. A Pianoforte Recital.
4-45 p.m.—John Londoner at Home—15.
5-15 p.m.—A Cinema Organ Recital.
5-30 p.m.—Cue for Adventure—6.*
6-0 p.m.—The Trocadero Orchestra.
6-25 p.m.—The News and Announcements.
6-45 p.m.—Interlude.†
6-53 p.m.—'Food for Thought'.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. Dance Music.*
8-22 p.m.—Vaughan Williams' Songs.†
8-30 p.m.—Talk: Under Big Ben.
8-45 p.m.—A Military Band Concert.
9-30 p.m.—'Uncle Arthur'.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

FRIDAY, APRIL 16.

4-30 p.m.—Big Ben. 'Famous Golfers'—1.*
5-2 p.m.—The Rutland Square Orchestra.
5-15 p.m.—Talk: 'A Hundred Years Ago'.*
5-30 p.m.—'Uncle Arthur'.*
6-0 p.m.—The BBC Dance Orchestra.
6-25 p.m.—The News and Announcements.
6-45 p.m.—An Organ Recital.
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. Variety.*
8-2 p.m.—Operatic Arias.†
8-15 p.m.—The City of Bristol Police Band.
9-0 p.m.—A Recital on Two Pianofortes.
9-30 p.m.—Concert Party.
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

SATURDAY, APRIL 17.

4-30 p.m.—Big Ben. A Cinema Organ Recital.
5-0 p.m.—'Mr. Penny'.*
5-15 p.m.—The BBC Dance Orchestra.
5-40 p.m.—Concert Party.*
6-10 p.m.—For the Children.
6-40 p.m.—The News and Announcements.
7-0 p.m.—Talk: Responsibilities of Empire—1.*
7-15 p.m.—Close down.
7-30 p.m.—Big Ben. The Coventry Hippodrome Orchestra.
8-0 p.m.—Variety.*
8-25 p.m.—A Studio Concert: Modern English Composers.
8-55 p.m.—Victorian Melodies.*
9-45 p.m.—Talk: Responsibilities of Empire—1.*
10-0 p.m.—The News and Announcements.
10-20 p.m.—Dance Music.†
10-30 p.m.—Close down.

SUNDAY, APRIL 18.

4-15 p.m.—Big Ben. Feature Programme: The Vale of Evesham.*
5-0 p.m.—A Brass Band Concert.
6-0 p.m.—Big Ben. Troise and his Mandolins.
6-30 p.m.—A Short Religious Service* from the Studio.
6-45 p.m.—Interlude.†
6-50 p.m.—Scotland v. England. A Commentary* on the International Football Match.
7-0 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
7-25 p.m.—Close down.
7-45 p.m.—Big Ben. Eastbourne Municipal Orchestra.
8-30 p.m.—Talk: A Hundred Years Ago—3.*
8-45 p.m.—Interlude.†
8-50 p.m.—Bells and an Empire Service* from St. Paul's Cathedral, London.
9-40 p.m.—Weekly Newsletter, Sports Summary, and Announcements.
10-0 p.m.—Richard Crean and his Orchestra.
10-30 p.m.—Close down.

MONDAY, APRIL 19.

4-15 p.m.—Big Ben. Haydn and his Orchestra.
5-0 p.m.—Talk: Names that are History.
5-15 p.m.—A Ballad Concert.
5-45 p.m.—'Uncle Arthur'.*
6-15 p.m.—Vacation.
6-30 p.m.—Big Ben. Tunes Everybody Knows—1.†
7-0 p.m.—The News and Announcements.
7-25 p.m.—Close down.
7-45 p.m.—Big Ben. A Cinema Organ Recital.
8-0 p.m.—'The Pride of the Regiment'.*
9-0 p.m.—A Sonata Recital.
9-30 p.m.—Military Marches.†
9-40 p.m.—The News and Announcements.
10-0 p.m.—Variety.
10-30 p.m.—Close down.

TUESDAY, APRIL 20.

4-15 p.m.—Big Ben. Variety.*
4-35 p.m.—The Forum Theatre Orchestra.
5-0 p.m.—A Song Recital.
5-15 p.m.—A Short Actuality Programme.*
5-30 p.m.—Big Ben. A Brass Band Concert.
6-15 p.m.—Talk: Coronation Ceremonial.
6-30 p.m.—A Programme of Light Music.
7-0 p.m.—The News and Announcements.
7-25 p.m.—Close down.
7-45 p.m.—Big Ben. Talk: World Affairs.
8-0 p.m.—Military Marches.†
8-10 p.m.—A Play: The Fifth Mask.
8-50 p.m.—The Hungaria Gypsy Orchestra.
9-10 p.m.—John Londoner at Home—15.*
9-40 p.m.—The News and Announcements.
10-30 p.m.—Close down.

* Electrical Recording.

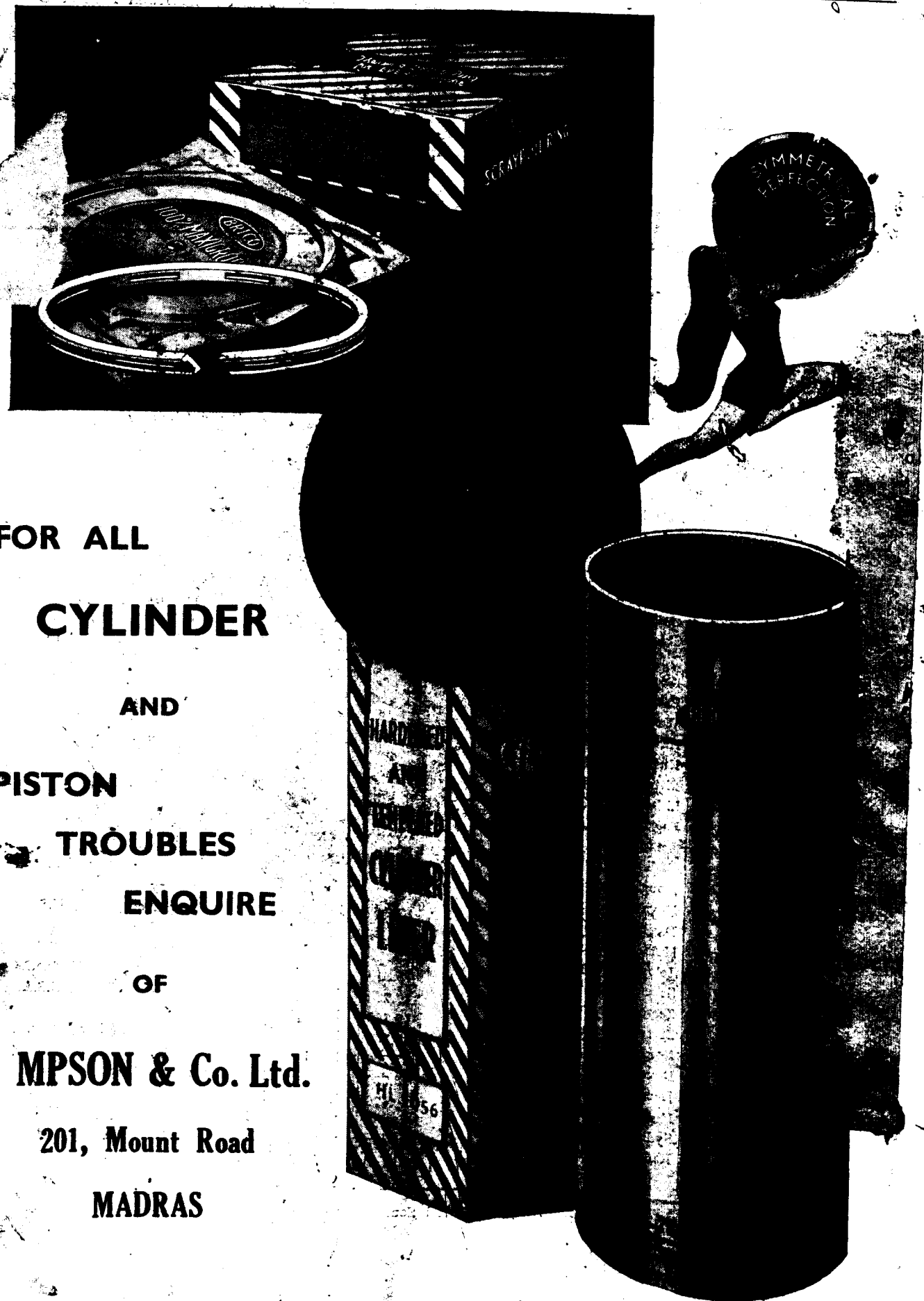
† Gramophone Records.

SELECTED SHORT-WAVE STATIONS

ARRANGED IN ORDER OF FREQUENCIES & WAVELENGTHS

mc/s	m.	Call Sign	Station	mc/s	m.	Call Sign	Station
4.273	70.2	RV13	Kharbarovsk (U.S.S.R.)	9.635	31.13	2RO	Rome (Italy)
4.470	67.11	YDB	Sourabaya (Java)	9.650	31.09	CTIAA	Lisbon (Portugal)
5.969	50.26	HVJ	Vatican City (Italy)	9.677	31	CTICT	Lisbon (Portugal)
6.000	50	RW59	Moscow (U.S.S.R.)	9.860	30.43	EAQ	Madrid (Spain)
6.010	49.92	COCO	Havana (Cuba)	10.260	29.24	PMN	Bandoeng (Java)
6.018	49.85	ZHI	Singapore (S.S.)	10.330	29.04	ORK	Ruysselede (Belgium)
6.020	49.83	DJC	Zeesen (Germany)	10.710	28.01	JVN	Tokio (Japan)
6.042	49.65	HJ1ABG	Barranquilla (Colombia, S. America)	10.740	27.93	JVM	Tokio (Japan)
6.050	49.59	GSA	Daventry	11.720	25.6	TPA4	Radio Colonial (Paris, France)
6.060	49.5	W8XAL	Cincinnati (Ohio, U.S.A.)	11.730	25.57	PHI	Huizen (Holland)
6.060	49.5	OXY	Skamleback (Denmark)	11.750	25.53	GSD	Daventry
6.080	49.33	W9XAA	Chicago (Illinois, U.S.A.)	11.770	25.49	DJD	Zeesen (Germany)
6.080	49.33	ZHJ	Penang (Fed. Malay States)	11.810	25.4	2RO	Rome (Italy)
6.083	49.31	VQ7LO	Nairobi (Kenya, Africa)	11.820	25.38	GSN	Daventry
6.097	49.2	ZTJ	Johannesburg (S. Africa)	11.830	25.36	CTIAA	Lisbon (Portugal)
6.100	49.18	W3XAL	Bound Brook (New Jersey, U.S.A.)	11.830	25.36	W2XE	Wayne (New Jersey, U.S.A.)
6.100	49.18	W9XF	Chicago (Illinois, U.S.A.)	11.860	25.29	GSE	Daventry
6.110	49.1	VUC	Calcutta (India)	11.870	25.27	W8SK	Pittsburgh (Pa., U.S.A.)
6.110	49.1	GSL	Daventry	11.880	25.23	TPA3	Radio Colonial (Paris, France)
6.120	49.02	YDA	Bandoeng (Java)	12.000	25	RW59	Moscow (U.S.S.R.)
6.120	49.02	W2XE	Wayne (New Jersey, U.S.A.)	12.082	24.83	CTICT	Lisbon (Portugal)
6.130	48.92	COCD	Havana (Cuba)	13.075	22.94	VPD	Suva (Fiji)
6.130	48.92	ZGE	Kuala Lumpur (Fed. Malay States)	15.123	19.84	HVJ	Vatican City (Italy)
6.140	48.86	W8XK	Pittsburgh (Pa., U.S.A.)	15.140	19.82	GSF	Daventry
6.150	48.78	CSL	Lisbon (Portugal)	15.180	19.76	GSO	Daventry
6.477	46.82	HJ1ABB	Barranquilla (Colombia, S. America)	15.200	19.74	DJB	Zeesen (Germany)
7.510	39.95	JVP	Tokio (Japan) [land]	15.210	19.72	W8XK	Pittsburgh (Pa., U.S.A.)
7.797	38.48	HBP	Radio Nations (Prangins, Switzer-)	15.220	19.71	PCJ	Eindhoven (Holland) (Experimental)
8.750	34.29	ZCK3	Hong Kong	15.243	19.68	TPA2	Radio Colonial (Paris, France)
9.428	31.8	COCH	Havana (Cuba)	15.260	19.66	GSI	Daventry
9.510	31.55	GSP	Daventry	15.270	19.65	W2XE	Wayne (New Jersey, U.S.A.)
9.510	31.55	VK3ME	Melbourne (Australia)	15.280	19.63	DJQ	Zeesen (Germany)
9.530	31.48	LKJI	Jeloy (Norway)	15.310	19.60	GSP	Daventry
9.530	31.48	W2XAF	Schenectady (New York, U.S.A.)	15.330	19.56	W2XAD	Schenectady (New York, U.S.A.)
9.540	31.45	DJN	Zeesen (Germany)	17.760	16.89	W2XE	Wayne (New Jersey, U.S.A.)
9.560	31.38	DJA	Zeesen (Germany)	17.760	16.89	DJE	Zeesen (Germany)
9.565	31.36	VUB	Bombay (India)	17.780	16.87	W3XAL	Bound Brook (New Jersey, U.S.A.)
9.580	31.32	GSC	Daventry	17.790	16.86	GSG	Daventry
9.580	31.32	VK3LR	Lyndhurst (Australia)	18.830	15.93	PLE	Bandoeng (Java)
9.590	31.28	PHI	Huizen (Holland)	21.470	13.97	GSH	Daventry
9.590	31.28	VK2ME	Sydney (Australia)	21.520	13.94	W2XE	Wayne (New Jersey, U.S.A.)
9.595	31.27	HBL	Radio Nations (Prangins, Switzer-)	21.530	13.93	GSJ	Daventry
			[land]	21.540	13.93	W8XK	Pittsburgh (Pa., U.S.A.)

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