the problem. Sir P . the Chairman of this Committee, holds very strong views on the subject of electrification of railways, and these were presented very ably and forcefully in a Memorandum published by the Indian Chamber of Commerce before he accepted the Chairmanship of the Calcutta Terminal Facilities Committee.

Sir Padamji argued, *inter alia,* that burning of coal in a locomotive boiler is the most wasteful way of using it, only 4 per cent of its heat energy is utilised while the other 96 per cent is wasted together with all the valuable by-products which could be recovered. But he did not rest his case only on the economy of coal consumption. The essential requisite for the development of industry and agriculture is the supply of electricity and the condition for cheap electricity supply is a constant heavy load. Nothing is calculated to provide a more constant and heavy load and thus effect economy than the use of the same transmission lines for feeding railways and other consumers. The cost of transmission even at the lower American rate is 1 J- times the cost of generation. This cost can be greatly reduced if electrification of railways goes hand in hand with development of industry and agriculture. Obviously, the area that best lends itself to immediate electrification of railways is the neighbourhood of the coal fields of Bengal and Bihar. Sir Padamji refuted the objection that shortage of water was an impediment. This was in 1044 when DVC had not been born. Today, no such objection can be raised and yet electrification of tailways has won only a grudging acceptance from the Planning Commission who have accepted it only where heavy traffic and the cost of laving additional lines leave no alternative. They say:

Electric traction offers advantages on some sections of Indian Railways and there are two in particular where its introduction should not be delayed much longer. The Calcutta suburban sections which have reached saturation point with steam traction should be electrified as early as possible, this electrification being extended to the Bengal-Bihar coalfields as lands permit.

" The extension of electric traction from Igatpuri to Bhusaval, on the main Central Railway line serving Bombay, will also have to be undertaken before very long as the capacity of this double line section has practically no margin left for mute steam crains and, unisess and uness electrification, or a third railway line over 200 mile length, is provided the quantum of goods moved to and from Bombay cannot be increased.

The Planning Commission do not, as could have been expected, view the question from the wider consideration of conservation of the nation's resources, or as an acceleration to industrialisation. This is regrettable. But the Planning Commission may overlook the interconnection between all three; others cannot, especially in view of the immense potentialities and the immediate urgency of developing what is India's richest mineral belt today, which, incidentally, happens to coincide with the transport requirements of Calcutta's growing population. Anything that helps the development of the mineral belt will help to soften the hard core of the East Bengal refugee problem, which is the problem of the middle class refugee who can be rehabilitated only in occupations suitable to his social status, education and aspirations. This is a further argument in favour of electrification but it is not realised as widely as it deserves to be.

Remains the question of cost which the Ginwala Committee answered as follows .

' It is inevitable that we must spend large sums of money in the course of the next 15 or 20 years, if Calcutta is to have a system of transport and conditions of living commensurate with its importance and position in the life of a country —the size of a continent. Whatever the political and constitutional changes or the political vicissitudes of Calcutta, it is and will probably remain, and should develop as, the most outstanding city in this part of the world. Its commerce, its industries, its financial position, its proximity to the principal mineral and agricultural resources, both for local consumption and for export, and its possession of a great port demand and would justify that vast expenditure on the adoption of measures to improve its transport facilities in every possible manner. Some people may ask: Can we afford to incur such expenditure? But the question ought rather to be: Can we do without it? To this question there can be only one answer."

If there is any other, that answer has not been given yet, either by the Railway Board or by the Planning Commission.

Train Lighting Equipment

INDIA ELECTRIC WORKS joined Indian manufacturers of railway supplies when they started manufacturing train lighting equipment in 1936. 'They began with 24-way-fuse and junction box and 15-way link and junction box which were approved by the Indian Railways and are now in service in thousands. Since then IEW have made considerable progress and now manufacture the full range of electric train lighting equipment.

Train lighting equipment manufactured by the IEW Ltd has to pass rigid tests before it is finally supplied to the railways. Right from the designing stage, during the course of manufacturing, every part of each equipment is thoroughly tested, both mechanically and electrically, until the complete unit is assembled.

India Electric Works have developed a complete Electric Train Lighting System incorporating the best features of other systems but without the undesirable ones. They have introduced improvements for making the system economical in tunning costs and in initial cost as well.

CARRIAGE FANS

Electric fans in railway compartments are in this tropical country essential and it is highly gratifying that every coach whether of upper or lower classes is now being fitted with electric fans. IEW is one of the main suppliers of fans to railways.

Himalaya," the trade mark of this series of fans, can compete with any make of foreign fan. This is no idle claim. It is based on the full load guaranteed performance obtained at Government test house Alipoie, and services rendered to the railways and the travelling public.

Attached to the works, IEW have a fully equipped research laboratory where research is being carried on, not only to improve the quality and appearance of the I E W fans but also to reduce their cost of production.

Such manufacturers deserve all encouragement from the Indian railways so that they can make the country self-sufficient in all types of railway equipment.