to extra weight and cost due to the producer. On the Continent there are many gas-engined small vessels fed by producer gas. The position attained by engines fed by compressed gas was reviewed and it was considered that engines using injected fuel with high compression ratios will give performances equal to those of compression ignition engines operated with fuel oil. Progress with road vehicles has been determined by the use of thin walled containers of alloy steel capable of working at 3,500 lb. pressure. Dr. H. Wahl gave an optimistic account of the position and future of an engine running on coal dust.

National Smoke Abatement Society

FOR many years the National Smoke Abatement Society, from headquarters in Manchester, pursued its modest efforts to secure a purer air and for the last ten years it has issued a quarterly journal. Since its removal to London, its efforts have been accompanied by greater progress. Even Whitehall has almost gone over to smokeless fuel and the L.C.C. has become more active. The extensive rebuilding in progress all over Great Britain is providing an unusual opportunity to diminish atmospheric pollution. Even the coal industry, long indifferent to the manner in which its wares were consumed, is showing an increased desire to avoid the reproach of causing smoke. The Society has taken a further step by issuing its journal in a new form, larger, more ambitious and under the more attractive name of *Smokeless Air*. This will be issued quarterly at 1*s*. and for 2*s*. 6*d*. post free per annum. The first number of the new series is bright and well produced, containing news of the movement and interesting articles on the subject of atmospheric pollution. At its price it ought to receive a much wider circulation.

Telephone and Telegraph Statistics of the World

IN *Electrical Communications* of October 1938, statistics of the telephone and telegraph services of the world are given. The telephone development of the world by countries is first discussed, the figures taken being for January 1937. North America possesses nearly 54 per cent of the total number of telephones in the world, the United States alone possessing nearly 50 per cent, and having 14·4 per cent per 100 of the population. South America possesses 2 per cent of the total and nearly 1 per cent per 100 of the population. The whole of Europe possesses 36·5 per cent of the total world number and has an average of 2·4 per 100 of the population. Great Britain and Northern Ireland, France, Germany, Italy and Russia have 7·5, 4·0, 9·25, 1·5 and 2·6 per cent of the total world telephones and 5·9, 3·5, 5·1, 1·3 and 0·6 per 100 of the population. Asia possesses nearly 4·6 per cent of the world's total, of which about three quarters belong to Japan. Africa possesses about 0·9 per cent of the world's total, of which more than half belong to the Union of South Africa. Oceania possesses nearly 2·3 per cent, Australia having 1·5 per cent. The number of telephones per 100 of the population is also given for large cities. Washington and San Francisco head the list each with 37. Stockholm comes next with 35. Then New York with 22, London with 16, Paris with 15, Berlin with 13, Rome with 8, Tokyo with 3·9, Moscow with 3·5 and Shanghai with 3·4. In Canada, Montreal with more than a million inhabitants has 16 telephones per 100 of the population, and Toronto with more than three quarters of a million inhabitants has more than 25 telephones per hundred. In 1936, the total number of 'wire' communications, that is, of telephone conversations and telegrams per capita in Canada was 222, of which only 1 was a telegram. In the United States it was 211, 1 being a telegram, and in Great Britain and Northern Ireland it was 44, the number of telegrams sent per capita being a little greater than 1.

Meteorology in India

THE report on the Administration of the Meteorological Department of the Government of India in 1937–38 shows that certain undertakings that had been under consideration for a number of years were carried out. Of these the most important is considered to be the daily preparation of an afternoon synoptic weather chart at the Meteorological Office at Poona, which was begun on April 1, 1937. This has enabled that office to issue forecasts twice a day instead of only once. This afternoon synoptic chart is printed in the Indian Daily Weather Report, and adds greatly to the value of that report. Another important development was introduced on August 1, 1937, when the short-wave aeronautical wireless stations at Karachi and Calcutta began to issue regional broadcasts of synoptic data twice daily. The new Burma Meteorological Department followed this lead by beginning the broadcasting of data for stations in Burma from October 1, 1937. With the commencement by the Posts and Telegraphs Department of the construction of a short-wave wireless station at Poona, the time is approaching for the issue from headquarters of collective and regional synoptic issues. Further plans were made in accordance with recommendations made at a meteorological conference held in Delhi in December 1936. They included the reopening of a forecasting office at Delhi and the transfer of the Upper Air Office from Agra to Delhi. These plans were approved in principle by the Government of India, but sanction for putting them into effect had to be postponed owing to the unfavourable financial situation. Another new development was the introduction at the request of the Royal Indian Navy of an arrangement for broadcasting synoptic data and weather bulletins for the whole of the Indian waters from the Navy Wireless Station at Bombay, for the benefit of shipping. The new broadcasts are additional to those issued from the civil wireless stations at Bombay and Calcutta.

Osiris

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