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The Engineer.

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Railway and Road Matters.

MAKING at the annual meeting of the combined companies that form the London "Underground" Railways Lord Ashfield, the chairman, remarked that the runs on the railways were down to four minutes per 10,000 cars run. That was a record and was mainly due to the care and attention which had been paid to the running stock.

THE annual report of the Metropolitan District Railway Company shows that in 1929 it carried 1,780,948,937 passengers, of whom 65,607,932 were booked at workmen's rates, as compared with 1,744,771,986 passengers, including 55,889 workmen, in 1928. The average fare per passenger was, however, 1.91d., as against 1.93d. The receipts were £1,605,538, as compared with £1,550,328. The net receipts £541,528, as against £541,802.

ANSWERING a question addressed to him on March 10, as to a train running into a motor car near Ton-on-Trent, the Minister of Transport said that the accident appeared to have been due to lack of care on the part of the driver of the motor car. Proceeding, Mr. Morrison said that under the Railway Clauses Act, 1865, already had the power to require railway companies to level crossings, to which Sec. 7 of that Act applied, necessary for the public service. He was prepared to consider applications from highway authorities for financial assistance towards well-considered schemes.

THE Ministry of Transport railway statistics for December have recently been issued as a Stationery publication, price 3s. 6d. They show that, compared with December, 1928, there was an increase of 1.9 per cent. in the number of passenger journeys made, but the receipts therefrom decreased by 1.2 per cent., combined with an increase of 1.9 per cent. in the passenger train mileage. Thanks to an increase of 8.1 per cent. in the use of coal, coke, and patent fuel, the tonnage of the merchandise traffic rose by 5.6 per cent. The freight receipts increased by 0.6 per cent., and the train mileage by 4.6 per cent. The average train load increased from 129½ to 130½ tons, and the net ton-miles per engine from 418½ to 420½.

THERE are four lines of way for the whole of the distance from Eland to Normanton on the former Lancashire and Yorkshire, except for the short length at the west end of Field Station, where the railway crosses the river Calder. The length of line is now to be quadrupled under the Transport (Loan Guarantees and Grants) Act. Another line of work which, under the same Act, has been provided by the Government is the widening from two to four lines of the 1½ miles between Broadholme signal-box, north of Belper, near Derby, and Ambergate. That work necessitates the opening out of Alderwasley tunnel, which, as it was completed in 1840, is no doubt of reduced dimensions as to structure gauge when compared with the requirements of the present day.

THE 33,858 steam-worked trains that ran on the Great Northern Railway in January last, 86.87 per cent. arrived at their destination on time, 26.63 per cent. were from 5 minutes late, and 5.26 per cent. were from 6 to 10 minutes late. The average late arrival was 1.32 minute. But that is a very good record, the freight trains are a yet better showing, as of 16,957 trains run, 87.5 per cent. arrived on booked time and 8.7 per cent. were from 16 minutes late. Equally creditable was the fact that the average late start from the commencing point was 1.9 minute. The *Southern Railway Magazine* for January, in giving the statistics from which the above facts have been extracted, says that fortunately there was very little fog during the month, but heavy gales caused a large amount of dislocation and late running.

THE announcement that the London, Midland and Great Northern Railway Company is installing colour light automatic signalling on "17 miles of double track" between Euston and Watford suggests that only the two lines that are now used for electric traction will be automatically signalled. There are six lines of way between Euston and Watford, of which two were provided, partly before and partly after the war, for the electrical services. They are at Chalk Farm by two electrically equipped lines, Broad-street and at Queen's Park by the Bakerloo and Waterloo line of the London Electric Railways.

Notes and Memoranda.

AMONG the hydro-electric installations of Canada there are eighteen with an output of over 100,000,000 kilowatt-hours per annum.

STEEL castings may be considered by some people as a comparatively modern innovation, but that the art is of some antiquity is vouched for by an illustration in the current issue of the *Edgar Allen News*. In it there are depicted anvils, gear wheels, hydraulic cylinders, and so forth, which were cast somewhere about 1873.

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IN dealing with the cause and prevention of accidents, in a lecture before the Junior Institution of Engineers, Mr. S. Taylor gave the result of his own experience and the information obtainable from statistics obtained by inspectors and others under the Factory Acts. In 1928 over 154,000 accidents, including 953 fatalities, were reported from factories, docks, buildings, &c., in this country, and these had been classified according to the principal impersonal factors which caused them, and it would probably surprise an audience of engineers to learn that over 108,000, or over 70 per cent., of such accidents, and 524, or over 50 per cent., of the fatalities, were due to causes not connected in any way with the use of machinery.

A good example of how an exhibit at the British Industries Fair may bring a firm business from sources quite outside its ordinary sphere of activity was to be found in the scientific and optical instrument section at Olympia. An old-established firm manufacturing lights for navigation purposes and lighthouse equipment, whose principal exhibit was a revolving light for a navigation buoy, had over a hundred inquiries for the use of this particular apparatus for advertising purposes, and the head of the firm announced his intention of starting a special department of his business to deal with the new and unexpected demand. These inquiries were in addition to excellent orders and inquiries from all over the world for the firm's products for their original purpose.

FOLLOWING tests made by officers of the Imperial Geophysical Survey Committee, the Tasmanian Mines Department has, says the *Iron and Coal Trades Review*, carried out development work in the Dundas district, and the results have borne out what the tests indicated. Four ore bodies of copper-nickel have been discovered, and, although this development at the present stage is important more from the scientific point of view, further work may lead to something of a commercial value. There were no indications of these ore bodies on the surface, but the survey indicated that they would be found, and they were at a shallow depth. The principal instruments used were those of the electro-magnetic type. Smaller ore bodies had been found in the district, but the Department was unaware of the existence of those discovered by the surveys.

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Miscellaneous.

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It is estimated the proposed Pretoria works of the South Africa Iron and Steel Corporation will cost £3,500,000.

THE Ceylon Government is considering a scheme of hydro-electric supply, which will cost Rs. 1,45,00,000.

THE assembly plant of the Ford Motor Company at Norfolk, Virginia, is to be extended to produce an output of 120,000 cars a year.

THE pithead baths which have just been opened at the Parsonage pits, Leigh, of the Wigan Iron and Coal Company, Ltd., have cost £11,000.

A CHEMICAL factory with an annual output of 400,000 tons of superphosphate and 100,000 tons of sulphuric acid is to be put up at Leningrad.

THE Polish Government factory at Radom is to be equipped for the manufacture of bicycles. An annual output of 40,000 machines is expected.

It is reported that the sodium sulphate deposits of the Ormiston district in Saskatchewan are to be exploited by a company which is to put down a plant costing some £100,000.

THE new pit of Amalgamated Anthracite Collieries, Ltd., at Cefn Coed, is approaching the coal-getting stage and will, it is claimed, be the largest anthracite colliery in the country.

It is announced that the scheme for the erection of a blast-furnace plant near Teheran, Persia, will not be proceeded with until the construction of a railway across Persia has been completed.

THE Standard Oil Company, of California, has inaugurated a service for distributing liquefied natural gas, in steel bottles, for domestic purposes, in districts where gas is not supplied through mains.

A MINING centre for the higher education of colliery technical students is to be erected by the Durham County Council Education Authority at West Stanley. It is estimated that the building will cost £8400.

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AN order for some 95,000 tons of coal for the Belgian State Railways has been secured by a Leeds firm of exporters. The coal is to be exported from Humber port and will be delivered between April and September.

A BRIDGE is to be built over the river Irrawaddy about 9 miles from Mandalay to the designs of Messrs. Rendel, Palmer and Tritton. The steel work, which will amount to some 10,000 tons, will be supplied by Braithwaite and Co. (India), Ltd.

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