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PUBLIC NOTICES

Air Ministry.

DIRECTORATE OF TECHNICAL DEVELOPMENT

DRAUGHTSMEN are REQUIRED at the Royal Aircraft Establishment, South Farnborough, Hants., as follows—

Ref. No. A. 418.9.—TWO DRAUGHTSMEN, GRADE II.—One for work in connection with

engines and General Mechanical Work; candidates should have had a good technical training and some experience and some drawing-office experience in connection with high-speed internal combustion engines or allied mechanical work. One for Technical Publications Work; candidates for this post should have good general knowledge of aircraft and aerodynamics, ability to prepare perspective sketches suitable for reproduction in technical handbooks and to draw up perspective illustrations from workshop drawings.

Starting salary £125 plus Civil Service bonus per annum, giving a present total remuneration of £168, per annum on the scale £125-£7 10s.-£150 plus bonus per annum.

Ref. No. A. 387/420.—FOUR DRAUGHTSMEN, GRADE II.—One for detail work in connection with design of Small Mechanical Apparatus, such as gauging and indicating instruments; three for work in connection with Aircraft and Engines. Candidates should have had good technical education and works experience; actual drawing-office experience not essential.

Salary 40s. to 52s. plus Civil Service bonus per annum (present total equivalent £3 6s. 2d. to £4 2s.), the salary depending on experience.

Insurance given, other things being equal, to married men.

For full particulars of training and experience required, and for full particulars of training and experience required, apply to the CHIEF SUPERINTENDENT, Royal Aircraft Establishment, South Farnborough, Hants. 4776

Civil Service Commission.

The Home Office announces 22 VACANCIES for INSPECTORS OF FACTORIES, Class II (Men or Women). Salary £200, rising by £15 a year to £350, with usual Civil Service bonus in addition.

The initial salary plus bonus at present would amount to £299. The appointments are subject of promotion to the higher grades. Competition for these vacancies is about to be invited by the Civil Service Commissioners, in conjunction with the Home Office. A few additional appointments may arise later and may be filled from the candidates.

Candidates must be over 23 and under 32 years of age on 1st May, 1930, but applications from candidates over 32 with exceptional qualifications will be considered.

Applications for the competition and forms of application should be sent to the Civil Service Commissioners, 1, Whitehall, London, S.W. 1.

The Engineer

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PUBLIC NOTICES

The University of Sheffield.

A RESEARCH ASSISTANT is REQUIRED in the Mechanical Engineering Department, to work under the direction of Professor F. C. Lea. Salary £400 per annum.

Application should be made, on or before April 23rd, to the undersigned, from whom further particulars may be obtained.

W. M. GIBBONS,

Registrar.

4760

PATENTS AND DESIGNS ACTS, 1907 TO 1925

Notice is Hereby Given that

SOCIÉTÉ ANONYME DES ÉTABLISSEMENTS NLU, of 47, Rue Fourrier, Lille, France, SEEK LEAVE TO AMEND THE SPECIFICATION OF LETTERS PATENT No. 303,489 granted to them for an invention entitled "Improved Method of Means for the Cleaning or Sweeping, by Blowing, Steam Generators, Superheaters, Water Heaters, Heaters, or the like."

Particulars of the proposed Amendment were set forth in No. 2149 of the "Illustrated Official Journal (Patents)," published on the 26th March, 1930.

Any person, or persons, may give Notice of Opposition to the Amendment by leaving Patents Form No. 19 at the Patent Office, 25, Southampton-buildings, London, W.C. 2, within one calendar month from the date of publication of the said Journal.

W. S. JARRATT,

Comptroller-General.

P6363

City and Royal Burgh of Dundee—ELECTRICITY DEPARTMENT.

The Corporation invites TENDERS for the CONSTRUCTION of a REINFORCED CONCRETE PUMP CHAMBER in the River Tay under the Eastern Wharf, together with the CONSTRUCTION of a REINFORCED CONCRETE PILED FOUNDATION for Circulating Water Pipe, approximately 515ft. long, at Carolina Port, Dundee. Specification, schedule of quantities, form of Tender and general conditions of contract and drawing, may be obtained from the undersigned on payment of a deposit of £2 2s., which sum will be returned upon receipt of a bona fide Tender.

Tenders (sealed in envelopes provided) must be lodged with W. H. Blyth Martin, Esq., Town Clerk, City Chambers, Dundee, not later than by Saturday, 10th May, 1930.

The Corporation does not bind itself to accept the lowest or any Tender.

D. H. BISHOP, B.Sc., M.I.E.E.,

General Manager and Engineer,

Electricity Supply Department,

Dundee City Council, Dundee,

25th March 1930.

4773

Railway and Road Matters.

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

THE annual report of the Metropolitan District Railway Company shows that in 1929 it carried 1,750,948,937 passengers, of whom 65,607,932 were booked at workmen's fares, as compared with 1,744,771,986 passengers, including 62,465,869 workmen, in 1928. The average fare per passenger was, however, 1.91d., as against 1.93d. The gross receipts were £1,605,538, as compared with £1,550,328, and the net receipts £541,528, as against £541,802.

ANSWERING a question addressed to him on March 20th, as to a train running into a motor car near Burton-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, he already had the power to require railway companies to abolish level crossings, to which Sec. 7 of that Act applied, if 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 Office 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 tonnage of coal, coke, and patent fuel, the tonnage of the merchandise traffic rose by 5.6 per cent. The freight traffic 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 hour from 418½ to 426½.

THERE are four lines of way for the whole of the distance from Elland to Normanton on the former Lancashire and Yorkshire, except for the short length at the west end of Mirfield Station, where the railway crosses the river Calder. That length of line is now to be quadrupled under the Development (Loan Guarantees and Grants) Act. Another piece of work which, under the same Act, has been approved 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 will necessitate 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.

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.

CELLULOSE films are, according to Dr. H. Levinstein, generally good insulators—a property which has recently opened up new fields of usefulness for all types. The thin film has been tried in electrical condenser work, and also instead of paper for cable insulation. The results are encouraging and further developments are expected.

THE recently issued Home Office report on the danger to employees in the asbestos industry caused by the inhalation of dust, emphasises, as preventive measures, "the education of the individual, as in other dangerous trades, to a sane appreciation of the risk, and to his personal responsibility in the prevention and suppression of dust." The protection afforded by respirators was, it is said, only partial, and there was a real danger that the use of them might give a sense of false security.

AN auxiliary, solid-drawn copper steam pipe on a steamer burst and the accident was inquired into by the Board of Trade. The Engineer-Surveyor-in-Chief explains that the pipe was about 23 years old and had been repaired on two occasions, the last being about 12 years ago. There had been no indication since that the pipe was in any way defective. The local thinning of the pipe was not of itself sufficient to cause the explosion, and it is not known whether the condition of the material of the pipe was due to its treatment during the repair or its age. It is advisable that any steam pipes, the failure of which may cause loss of life, should be annealed and tested periodically.

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.

Miscellanea.

THE Ganges Canal hydro-electric scheme, which is nearing completion, has cost Rs. 74,40,000.

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 £6400.

THE total quantity of plumbago exported from Ceylon during the year 1928, of which the latest official figures are available, was 14,346 tons 11 cwt., as compared with 12,884 tons 6 cwt. for the previous twelve months.

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.