

first switched on by closing the mains switch, the starting switch, which is either thermally or magnetically operated, short-circuits the lamp and allows the filamentary electrodes to heat up. The starting switch then opens automatically, inducing a momentary voltage kick across the lamp high enough to start the discharge.

The tube when alight has a creamy white appearance, the brightness being about 0.5 candles per sq. cm. The colour of the light, which is determined by the fluorescent coating, has been chosen very carefully to give an effect approximating to noon sunlight; the colour-rendering properties are excellent—very much better than those of ordinary incandescent filament lamps. It is not possible to obtain satisfactory colour-rendering by the use of a single fluorescent powder, since all the known powders give bands of light with a well-defined maximum in some region of the visible spectrum, but are deficient in light from other regions. To overcome this difficulty the fluorescent coating comprises a number of different powders, selected so that the peaks of their emission bands occur in complementary regions of the visible spectrum. The proportions of the component powders present in the mixture are adjusted to give the required luminosity distribution throughout the spectrum. The increase in light output due to the fluorescent coating is about 800 per cent. This application of fluorescent powders to obtain high-efficiency sources of white light was first developed in Great Britain in connexion with high-voltage tubular lighting.

Experience gained so far indicates that the new fluorescent lamp has applications in many spheres of industry and commerce, such as fine assembly benches, inspection benches, drawing and general offices, and in any situation where high-efficiency illumination approximating to daylight in its general properties is required. A range of trough reflector fittings, suitable either for high-intensity local lighting or for general lighting from greater heights, is available for use with the lamps.

FORTHCOMING EVENTS

Monday, March 17

ROYAL GEOGRAPHICAL SOCIETY (at Kensington Gore, London, S.W.7), at 5 p.m.—Capt. Graham Rowley: "Crossing Baffin Land".

Tuesday, March 18

ROYAL SOCIETY OF ARTS (Dominions and Colonies Section) (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Mr. C. W. Hobley: "Wild Life Conservation in its Wider Aspects."

Wednesday, March 19

INSTITUTE OF CHEMISTRY (London and South-Eastern Counties' Section) and the INSTITUTE OF PHYSICS (London and Home Counties' Branch) (Joint Meeting), (at the Royal Institution, Albemarle Street, London, W.1), at 2.30 p.m.—Dr. J. J. Fox: "Infra-Red Absorption and Molecular Structure".

Thursday, March 20

ROYAL SOCIETY (at Burlington House, Piccadilly, London, W.1), at 2.45 p.m.—Mr. G. E. Briggs, F.R.S.: "Photosynthesis in Intermittent Illumination". Mr. E. C. Bullard and Mr. T. F. Gaskell: "Submarine Seismic Investigations."

APPOINTMENTS VACANT

APPLICATIONS are invited for the following appointments on or before the dates mentioned:

PRINCIPAL of the Leeds College of Technology—The Director of Education, Education Department, Calverley Street, Leeds 1 (March 29).

DEMONSTRATOR IN ANATOMY at St. Thomas's Hospital Medical School—The Dean of the Medical School, Manor House, Godalming, Surrey (March 30).

PART-TIME DEMONSTRATOR IN BIOLOGY—The Principal, Technical College, Kingston-upon-Thames, Surrey.

REPORTS AND OTHER PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

British Empire Cancer Campaign. Seventeenth Annual Report of the Grand Council. Edited by J. P. Lockhart-Mummery. Pp. 280. (London: British Empire Cancer Campaign.) [52]

Greece No. 1 (1941). Convention between His Majesty in respect of the United Kingdom and His Majesty the King of the Hellenes respecting the relations of Learning and Culture between Great Britain and Greece, Athens, December 30, 1940. (Cmd. 6250.) Pp. 7. (London: H.M. Stationery Office.) 2d. net. [102]

University of Leeds: Department of Coal Gas and Fuel Industries, with Metallurgy. Report of the Livesey Professor (D. T. A. Townend) for the Session 1939-40. Pp. 15. (Leeds: The University.) [102]

University of Birmingham. Report of the Vice-Chancellor and Principal to the Council for the Fortieth Session, 1939-40. Pp. 38. (Birmingham: The University.) [102]

Eleventh Annual Report of the National Smoke Abatement Society. Pp. 28. (Woodborough, Nottingham: National Smoke Abatement Society.) [102]

University of St. Andrews. Handbook of the United College. Pp. 30+10 plates. (St. Andrews: The University.) [102]

Abstracts of Dissertations approved for the Ph.D., M.Sc., and M.Litt. Degrees in the University of Cambridge during the Academic Year 1939-1940. Pp. 118. (Cambridge: Printed at the University Press.) [102]

Other Countries

Records of the Geological Survey of India. Vol. 75, Professional Paper No. 6: Did the Indobrahm or Siwalik River Exist? By Dr. M. S. Krishnan and N. K. N. Ayengar. Pp. 24. (Calcutta: Geological Survey of India.) 5 annas; 6d. [52]

Memoirs of the Geological Survey of India. Vol. 76, Water-Supply Paper No. 1: The Geology and Underground Water-Supply of Calcutta, Bengal; with Special Reference to Tube-Wells. By Dr. A. L. Coulson. Pp. vi+150+ix+4 plates. (Calcutta: Geological Survey of India.) 3.12 rupees; 6s. [52]

Indian Forest Records (New Series). Utilization, Vol. 2, No. 2: The Formation of Growth Rings in Indian Trees, Part 2: (a) Champ (*Mitchella champaca*); (b) Kokko (*Albizia lebbek*); (c) Toon (*Cearela toona*). By Dr. K. Ahmad Chowdhury. Pp. iii+41-58+4 plates. 12 annas; 1s. Entomology, Vol. 6, No. 5: New Cerambycidae from India, 2, Coleoptera. By W. S. Fisher. Pp. ii+197-212. 8 annas; 9d. Entomology, Vol. 6, No. 6: New Indian Cerambycidae (Coleoptera). By J. C. M. Gardner. Pp. ii+213-226. 9 annas; 10d. (New Delhi: Manager of Publications.) [52]

New Zealand: Department of Scientific and Industrial Research. Geological Memoir No. 5: Metamorphism in the Lake Wakatipu Region, Western Otago, New Zealand. By C. Osborne Hutton. Pp. 90 (17 plates). (Wellington: Government Printer.) 6s. [52]

Annual Report of the Agricultural Meteorology Section, India Meteorological Department, for the Year 1938-39. Pp. vi+48. (Simla: Government of India Press.) [52]

Report on the Administration of the Meteorological Department of the Government of India in 1939-40. Pp. iii+35+8 plates. (Delhi: Manager of Publications.) 1.2 rupees; 3s. 9d. [52]

Publications of the Observatory of the University of Michigan. Vol. 3, No. 4: A Method of Measuring Radial Velocities in Solar Prominences. By Robert R. McMath, with the collaboration of H. E. Sawyer, Orren Mohler and J. Brodie. Pp. 57-60+1 plate. (Ann Arbor, Mich.: University of Michigan.) [52]

Catalogue of Indian Insects. Part 25: Thysanoptera. By Dr. T. V. Ramakrishna Ayyar and V. Margabandhu. Pp. iv+64. (Delhi: Manager of Publications.) 2.2 rupees; 3s. 9d. [52]

Sudan Government: Department of Agriculture and Forests. Annual Report, Part 2: Being the Report of the Agricultural Research Service for the Year ended 31st December 1938, relating to Experimental Results obtained in the Crop Season 1937-38. Pp. 124. (Wad Medani: Agricultural Research Institute.) [52]

Rainfall in Queensland: Tables showing Monthly and Annual Rainfall Totals at 110 Selected Stations covering all available Years of Record up to and including 1939. Pp. 168. (Cromahurst: Cromahurst Observatory.) [102]

Observatoire de Zi-ka-wei. Annales de l'Observatoire astronomique de Zé-Sé (Chine). Tome 21, Fascicle 5: Tables des planetes 512, 700, 770, 800. Par le P. E. de la Villemarqué. Pp. 30D. (Zi-ka-wei: Observatoire.) [102]