

perhaps in the demand for, and absence of, seasoned timber for the increasing aeroplane construction, that led to the first marked improvements in artificial kiln seasoning. Experiments and research in this direction were taken up at the Institute in the early years after the War, and this small leaflet gives briefly some of the results which have been reached—results which are at least as important economically as in temperate zones. The general principles of the steam-heated internal-fan kiln and four types of furnace kilns are discussed, the direct-heated forced-circulation furnace kiln, the indirect-heated internal-fan furnace kiln, the new F.R.I. furnace kiln and the hot air kiln. The results of tests show that a steam-heated internal-fan kiln is suitable for the seasoning of almost all kinds of woods. Of the furnace kilns, the first mentioned above is suitable for drying furniture woods, the second for drying packing-case timbers only, the third for the slow seasoning of furniture woods and the fourth for completing the drying of partially air-seasoned half-wroughts for the manufacture of certain types of articles. The third of these furnace kilns is cheaply manufactured, was designed at the Research Institute and is termed the indirect-heated thermal-circulation furnace kiln.

The fourth furnace kiln, the hot air kiln, briefly alluded to here, is discussed in detail in Leaflet No. 5, issued by the Research Institute in 1941. It is common knowledge that air-seasoning of timber is slow but yields eminently satisfactory results, well known to previous generations. In these hurrying days of greater demand, assisted by two major wars, the periods required to produce air-seasoned material of the various species of timbers are too long. As an example, 1-inch planks of hardwoods suitable for furniture manufacture take at least three to four months to become properly air-seasoned, and larger-sized timber correspondingly longer. The kiln considerably reduces the period. For example, it is estimated that $2\frac{1}{2}$ in. \times $2\frac{1}{2}$ in.-blanks of refractory hardwoods cut from planks which have been air-seasoned for about two months can be completely seasoned in about fifteen days in a hot air kiln of this type. This kiln is a masonry chamber provided with a number of ducts in the floor through which hot gases from a wood-burning furnace are passed. The chamber is fitted with racks for holding the half-wroughts of wood to be seasoned. These consist of shuttles, bobbins, picker arms, helves and tool handles.

FORTHCOMING EVENTS

(Meeting marked with an asterisk is open to the public)

Friday and Saturday, July 24-25

BRITISH ASSOCIATION (DIVISION FOR THE SOCIAL AND INTERNATIONAL RELATIONS OF SCIENCE) (at the London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1), at 10 a.m.—Conference on "Mineral Resources and the Atlantic Charter", to be opened by Sir Richard Gregory, Bart., F.R.S.*

Friday Morning Session

Chairman: Sir Thomas Holland, K.C.S.I., F.R.S.; Speakers: Prof. H. H. Read, F.R.S., Prof. P. G. H. Boswell, F.R.S., and Prof. C. B. Fawcett.

Friday Afternoon Session

Chairman: Sir William Larke; Speakers: Prof. W. R. Jones, Sir Lewis Fermor, F.R.S., Lt.-Col. the Hon. Colin A. Campbell.

Saturday Morning Session

Chairman: Dr. C. H. Desch, F.R.S.; Speakers: Dr. E. F. Armstrong, F.R.S., Dr. W. H. Hatfield, F.R.S., Dr. David Williams, and Sir Harold Hartley, F.R.S.

Saturday Afternoon Session

Chairman: Sir Stafford Cripps, P.C.; Speakers: Prof. J. G. Smith, Dr. W. A. Lewis, Dr. E. P. Penrose, Mr. A. Notman, Dr. O. W. Roskill and Dr. L. Dudley Stamp.

Tickets from the Secretary, British Association, Burlington House, Piccadilly, London, W.1.

Saturday and Sunday, August 1-2

ASSOCIATION OF SCIENTIFIC WORKERS (IN COLLABORATION WITH THE FEDERATION OF Ayrshire SCIENTIFIC FILM SOCIETIES) (at Ayr).—Conference on "The Scientific Film and Scientific Film Societies"

APPOINTMENTS VACANT

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

VETERINARY INVESTIGATION OFFICER—The Secretary, West of Scotland Agricultural College, 6 Blythswood Square, Glasgow (July 30).

LECTURER IN MATHEMATICS in the Technical College, Cardiff—The Director of Education, City Hall, Cardiff (July 31).

GRADUATE IN ENGINEERING TO TEACH TECHNICAL SUBJECTS AND ALSO TO ACT AS ORGANIZER OF THE TECHNICAL CLASSES in the Basingstoke Queen Mary's School and Technical Evening School—The County Education Officer, The Castle, Winchester (endorsed 'Basingstoke') (July 31).

TWO DEMONSTRATORS (MALE OR FEMALE) IN ANATOMY—The Registrar, The University, Sheffield (July 31).

LECTURER IN THE DEPARTMENT OF CHEMISTRY—The Registrar, University College, Southampton (August 4).

LECTURER IN MECHANICAL ENGINEERING in the Cannock Chase Mining College—The Director of Education, County Education Offices, Stafford (August 7).

HEAD OF THE ENGINEERING DEPARTMENT at the County Technical College, Wednesbury, and **COUNTY LECTURER IN ENGINEERING** for South Staffordshire—The Director of Education, County Education Offices, Stafford (August 7).

LECTURER FOR EVENING CLASSES IN CHEMISTRY—The Principal, Technical College, Kingston-upon-Thames, Surrey.

GRADUATE IN ENGINEERING, and a GRADUATE FOR GENERAL SCIENCE AND MATHEMATICS, at the Eastbourne Technical School—The Education Officer, Education Offices, Eastbourne.

CHEMIST OR CHEMICAL ENGINEER WITH EXPERIENCE OF RUNNING AMMONIA SODA PLANTS and with knowledge of the heavy chemical industry, for India—The Secretary, Overseas Manpower Committee (Reference 338), Ministry of Labour and National Service, Hanway House, Red Lion Square, London, W.C.1.

TWO DEMONSTRATORS IN PHYSIOLOGY—The Professor of Physiology, The University, Liverpool.

REPORTS and other PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

Polish Science and Learning. Edited for the Association of Polish University Professors and Lecturers in Great Britain. No. 1, June. Pp. 68. (London: Oxford University Press.) 2s. 6d. [87]

Geological Survey of Great Britain: England and Wales. Wartime Pamphlet No. 25: The Geology of the Warwickshire Coalfield in New Series One-inch Sheets 154-5, 168-9, 184. By Dr. G. H. Mitchell; with Animal Palaeontology, by Dr. C. J. Stubblefield, and Plant Palaeontology, by Dr. R. Crookall. Pp. 40. (London: Geological Survey and Museum.) 1s. 10d. [87]

Annual Report of Gresham's School Natural History Society, 1942. Pp. ii+18. (Holt: Gresham's School.) [137]

Annual Report of the Council of the Yorkshire Philosophical Society for the Year 1941. Pp. 24. (York: Yorkshire Museum.) [137]

Ollscoil na h-Éireann: the National University of Ireland. Calendar for the Year 1941. Pp. x+268+418+52. (Dublin: National University of Ireland.) [137]

Other Countries

Flora of Fukien and Floristic Notes on Southeastern China. By Prof. Franklin P. Metcalf. Fascicle 1. Pp. xvii+82. (Canton: Lingnan University.) [87]

Forest Bulletin No. 100 (Utilisation, New Series): Wrapping and Packing Papers from Ulla Grass (*Themeda arundinacea*, Ridley, Sin. *Anthistiria gigantea* Cav.). By M. P. Bhargava and Chatter Singh. Pp. iii+13. (Delhi: Manager of Publications.) 6 annas; 7d. [87]

Sudan Government: Wellcome Chemical Laboratories, Sudan Medical Service. Report of the Government Analyst for the Year 1941. Pp. 19. (Khartoum: Wellcome Chemical Laboratories.) [97]

Proceedings of the United States National Museum. Vol. 92, No. 3136: A New Species of Phyllopod Crustacean from the Southwestern Short-Grass Prairies. By J. G. Mackin. Pp. 33-39. (Washington, D.C.: Government Printing Office.) [107]

Smithsonian Miscellaneous Collections. Vol. 101, No. 14: Two New Fossil Birds of the Oligocene of South Dakota. By Alexander Wetmore. (Publication 3680.) Pp. ii+6. (Washington, D.C.: Smithsonian Institution.) [107]

Smithsonian Miscellaneous Collections. Vol. 101, No. 15: Fifth Contribution to Nomenclature of Cambrian Fossils. By Charles E. Resser. (Publication 3682.) Pp. ii+58. (Washington, D.C.: Smithsonian Institution.) [137]

Catalogues

Wild-Barfield Heat-Treatment Journal. Vol. 4, No. 32-33. Pp. 71-78. (Watford: Wild-Barfield Electric Furnaces, Ltd.)

A Catalogue of Books on Entomology and General Natural History (No. 600.) Pp. 28. A List of Selected New and Recent Publications (New Book List No. 15.) Pp. 6. (London: Bernard Quaritch, Ltd)

General Catalogue. (Catalogue No. 661.) Pp. 86. (London: Francis Edwards, Ltd.)