

now been traced to the unjustified assumption that the inner 'cone' of a Bunsen flame is a true cone. It has now been shown that if the true area of the inner cone is measured and used in the calculation, then ignition velocities are obtained by this method which are independent of rate of mixture feed and burner size, depending only on working temperature and pressure. In other words, the ignition velocity so determined is a characteristic of the composition of the gas-air mixture. This should greatly facilitate the study of flame combustion.

It is often overlooked that the inner cone of a Bunsen flame does not touch the burner, from which it is separated by a 'gap' or 'dead space' in which the mixture is preheated to the temperature at which inflammation occurs. It appears that the size of the 'dead space' determines the possibility of 'lighting back', for when the diameter of the burner is reduced to twice the 'dead space', then the flame cannot pass down the tube. The influence of size of tube and hole in stopping the travel of flame is well known and usually ascribed to the cooling, but it now appears to be essentially a characteristic of the gas.

FORTHCOMING EVENTS

(Meetings marked with an asterisk are open to the public)

Tuesday, May 12

CHADWICK PUBLIC LECTURE (at the Royal Society of Tropical Medicine and Hygiene, 26 Portland Place, London, W.1), at 2.30 p.m.—Dr. J. Alison Glover: "The School Medical Service in War-time".*

ILLUMINATING ENGINEERING SOCIETY (at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1), at 5.30 p.m.—Mr. G. H. Wilson: "Street Lighting: Past, Present and Future".

Wednesday, May 13

ROYAL SOCIETY OF ARTS (at John Adam Street, Adelphi, London, W.C.2), at 1.45 p.m.—Miss Helen Masters: "The Post-War Home", 11: "Domestic Offices, Equipment and Maintenance".

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (in the Small Hall of Friends House, Euston Road, London, N.W.1), at 2.30 p.m.—Dr. Philip Hamill: "Prescribing in War-time".

INSTITUTE OF METALS (at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1), at 6 p.m.—Mr. William Thomson Halcrow: "Water Power and its Application to the Production of Metals" (Thirty-second Annual May Lecture).

Friday, May 15

ROYAL INSTITUTION OF GREAT BRITAIN (at 21 Albemarle Street, London, W.1), at 5.15 p.m.—Prof. H. C. Plummer, F.R.S.: "Galileo and the Springtime of Science".*

Sunday, May 17

ASSOCIATION OF SCIENTIFIC WORKERS (SOUTHERN AREA) (in the Refectory, University College, Southampton, at 2.30 p.m. Conference on "Science for Victory").*

APPOINTMENTS VACANT

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

DEPUTY BOROUGH ELECTRICAL ENGINEER in the Electricity Undertaking of the Woolwich Metropolitan Borough Council—The Town Clerk, Town Hall, Woolwich, London, S.E.18 (May 15).

PRINCIPAL OF THE WALKER TECHNICAL COLLEGE, OAKENGATES—The Secretary for Education, County Buildings, Shrewsbury (May 16).

CIVIL ENGINEERING ASSISTANT—The Clerk to the River Ouse (Yorks) Catchment Board, 7 Langcliffe Avenue, Harrogate (May 20).

INSPECTOR OF AGRICULTURE to serve during his early years as Lecturer in the School of Agriculture near Khartoum—The Controller, Sudan Government London Office, Wellington House, Buckingham Gate, London, S.W.1 (endorsed "Inspector of Agriculture") (May 25).

UNIVERSITY CHAIR OF RADIOLOGY (THERAPEUTIC) tenable at Middlesex Hospital Medical School—The Academic Registrar, University of London, Richmond College, Richmond, Surrey (May 26).

HEAD OF THE CHEMISTRY DEPARTMENT—The Secretary, Robert Gordon's Technical College, Aberdeen (May 30).

LECTURER IN BIOLOGY (PART-TIME)—The Principal, Bishop Otter College, Chichester.

LECTURER (WOMAN) IN BIOLOGY AND HORTICULTURE—The Principal, The Training College, Lincoln.

LECTURER IN GEOGRAPHY (PART-TIME) at the Brighton Municipal Training College—The Education Officer, 54 Old Steine, Brighton.

ASSISTANT (MALE) to the Public Analyst—The Secretary, Health Department, Grey Friars, Leicester.

REPORTS and other PUBLICATIONS

(not included in the monthly Books Supplement)

Great Britain and Ireland

British Rubber Producers' Research Association. Publication No. 15: The Molecular Weights of Rubber and related Materials, 3: A Correction of Part 2; 4: The Micellar Theory of the Structure of Rubber. By G. Gee. Pp. 8. (London: British Rubber Producers' Research Association.) [204]

Other Countries

U.S. Department of the Interior: Geological Survey. Bulletin 890-B: Spirit Leveling in South Carolina, Part 2: Southern South Carolina, 1896-1938. Pp. ii+457-766+plates 1-2. 40 cents. Bulletin 900-D: Subsurface Geology and Oil and Gas Resources of Osage County, Oklahoma, Part 4: Townships 24 and 25 North, Ranges 10 and 11 East. By L. E. Kennedy, J. D. McClure, H. D. Jenkins and N. W. Bass. Pp. iv+131-172+plate 4. 35 cents. Bulletin 900-E: Subsurface Geology and Oil and Gas Resources of Osage County, Oklahoma, Part 5: Townships 26 and 27 North, Ranges 10 and 11 East. By L. E. Kennedy, W. E. Shamblin, Otto Leatherrock and N. W. Bass. Pp. iv+173-208+plate 5. 40 cents. Bulletin 901: Clay Investigations in the South States, 1934-35. Reports by W. B. Lang, P. B. King, M. N. Bramlette, T. N. McVay, H. X. Bay and A. C. Munyan. Pp. x+346+8 plates. 1 dollar. Bulletin 907: Geology of the Alaska Railroad Region. By Stephen R. Capps. Pp. vi+202+9 plates. 1.25 dollars. Bulletin 913: Triangulation in Utah, 1871-1934. Pp. iv+170+1 plate. 20 cents. Bulletin 914: Microscopic Determination of the Ore Minerals. By M. N. Short. Second edition. Pp. viii+314+14 plates. 1 dollar. Bulletin 915-A: Geophysical Abstracts 96, January-March 1939. Compiled by W. Ayvazoglou. Pp. ii+48. 10 cents. Bulletin 915-B: Geophysical Abstracts 97, April-June 1939. Compiled by W. Ayvazoglou. Pp. ii+49-86. 10 cents. Bulletin 915-C: Geophysical Abstracts 98, July-September 1939. Compiled by W. Ayvazoglou. Pp. ii+87-132. 10 cents. Bulletin 916-D: Transit Traverse in Missouri, Part 4: Northwestern Missouri, 1911-37. Pp. xx+441-564+1 plate. 20 cents. Bulletin 916-E: Transit Traverse in Missouri, Part 5: Southwestern Missouri, 1900-37. Pp. xiv+565-732+1 plate. 25 cents. Bulletin 916-F: Transit Traverse in Missouri, Part 6: Northeastern Missouri, 1900-37. Pp. xiii+733-868+1 plate. 20 cents. Bulletin 916-G: Transit Traverse in Missouri, Part 7: Central Missouri, 1902-37. Pp. xiv+869-1024+1 plate. 25 cents. Bulletin 922-A: Quicksilver Deposits of the Bottle Creek District, Humboldt County, Nevada. A Preliminary Report by Ralph J. Roberts. (Strategic Minerals Investigations, 1940.) Pp. iii+29+plates 1-5. 35 cents. Bulletin 922-B: Quicksilver Deposits of the Mount Diablo District, Contra Costa County, California. By Clyde P. Ross. (Strategic Minerals Investigations, 1940.) Pp. iii+31-54+plates 6-8. 10 cents. Bulletin 922-C: Manganese Deposits in the Little Florida Mountains, Luna County, New Mexico. A Preliminary Report by S. G. Lasky. (Strategic Minerals Investigations, 1940.) Pp. iii+55-74+plates 9-11. 25 cents. Bulletin 922-D: Chromite Deposits of Grant County, Oregon. A Preliminary Report by T. P. Thayer. (Strategic Minerals Investigations, 1940.) Pp. iv+75-114+plates 12-20. 45 cents. Bulletin 922-E: Quicksilver Deposits at Buckskin Peak, National Mining District, Humboldt County, Nevada. A Preliminary Report by R. J. Roberts. (Strategic Minerals Investigations, 1940.) Pp. iii+115-134+plates 21-23. 15 cents. Bulletin 922-F: Tungsten Deposits of Boulder County, Colorado. By T. S. Lovering. (Strategic Minerals Investigations, 1940.) Pp. iii+135-156+plates 24-25. 20 cents. Bulletin 922-G: Manganese Deposits at Phillipsburg, Granite County, Montana. A Preliminary Report by E. N. Goddard. (Strategic Minerals Investigations, 1940.) Pp. iv+157-204+plates 26-34. 40 cents. Bulletin 922-H: Tungsten Deposits of the Atolia District, San Bernardino and Kern Counties, California. By Dwight M. Lemmon and John V. N. Dorr, 2d. (Strategic Minerals Investigations, 1940.) Pp. iv+205-246+plates 35-37. 25 cents. Bulletin 922-I: Antimony Deposits of a part of the Yellow Pine District, Valley County, Idaho. A Preliminary Report by Donald E. White. (Strategic Minerals Investigations, 1940.) Pp. iii+247-280+plates 38-39. 30 cents. Bulletin 922-K: Antimony Deposits of the Wildrose Canyon Area, Inyo County, California. By Donald E. White. (Strategic Minerals Investigations, 1940.) Pp. iii+307-326+plates 45-46. 25 cents. Bulletin 922-M: Tin Deposits of the Black Range, Catron and Sierra Counties, New Mexico. A Preliminary Report by Carl Fries, Jr. (Strategic Minerals Investigations, 1940.) Pp. iii+355-370+plates 54-62. 50 cents. (Washington, D.C.: Government Printing Office.) [144]

U.S. Department of Agriculture. Farmers' Bulletin No. 1893: Control of Grape Diseases and Insects in Eastern United States. By J. B. Demaree and G. A. Runner. Pp. ii+28. (Washington, D.C.: Government Printing Office.) 10 cents. [154]

Publications of the Dominion Observatory, Ottawa. Vol. 13: Bibliography of Seismology, No. 10: Items 5135-5279, July to December 1941. By Ernest A. Hodgson. Pp. 157-188. (Ottawa: King's Printer.) [204]

Transactions of the San Diego Society of Natural History. Vol. 9, No. 32: A Vertebrate Faunal Survey of the Organ Pipe Cactus National Monument, Arizona. By Laurence M. Huey. Pp. 353-376. Vol. 9, No. 33: Notes on some Mexican and Californian Birds, with Descriptions of Six Undescribed Races. By A. J. van Rossum. Pp. 377-384. (San Diego, Calif.: San Diego Society of Natural History.) [204]

The South African Journal of Science. Vol. 38: Being the Report of the Thirty-ninth Annual Meeting of the South African Association for the Advancement of Science, Johannesburg, 1941, 30th June and 1st July. Pp. xx+399. (Johannesburg: South African Association for the Advancement of Science.) 30s. net. [204]

Department of Science and Agriculture, Jamaica. Report for the Year ending 31st March 1941. Pp. 6. (Kingston: Government Printing Office.) [224]