

### Our Bookshelf.

*Gas Manufacture, Distribution and Use: Teachers' Notes for Lessons, with Blackboard Illustrations.* Second and revised edition. Pp. 148. (London: Compiled and Published by the British Commercial Gas Association, 30 Grosvenor Gardens, 1922.)

As may be gathered from the title, the primary purpose of this volume is to place at the disposal of teachers who wish to give lessons on the subject trustworthy information which may be of service to them. In addition, the introduction of a number of simple and clear diagrams is intended to lighten the task of illustrating lessons on the blackboard. The book will serve its purpose admirably. The information is of the right kind, and in the hands of a good teacher, who will naturally select what he wants for his own purpose, should be capable of rendering excellent service.

It would be a mistake, however, to suppose that the usefulness of the book would be confined to those who wish to use it for teaching purposes. As a matter of fact it brings together, and presents systematically, descriptions of gas plants, gas appliances of all kinds, and illustrations of their use such as it would be impossible to consult, so far as we know, in any single work. There is probably nobody in the gas industry, or preparing for it, who would not find this book useful at times, and for the journalist who in the absence of more thrilling themes may be called upon to deal with "the gas peril" it should provide a very desirable substratum of corrective knowledge.

Moreover, the householder who wishes to have a better understanding of the construction and method of operation of the gas appliances which he has installed, or is thinking of installing, will almost always be able to find something pertinent to the questions before him in one or other of the 121 lessons here set out, while in Appendix C, under the head "Gas by the Therm," he will find a clear explanation of this unit of heat as a basis of charge with a summary of the circumstances leading up to the Gas Regulation Act of 1920.

J. W. C.

*The Failure of Metals under Internal and Prolonged Stress: a General Discussion held on Wednesday, April 6, 1921, in the Hall of the Institution of Mechanical Engineers.* Edited by F. S. Spiers. Pp. iv+215. (London: Faraday Society, 1921.) 10s. 6d. net.

THE general discussion on the failure of metals, organised by the Faraday Society in conjunction with a number of technical institutions, was one of the most successful of the series. The volume containing the papers and discussions is likely to serve for some time to come as the standard source of information on season-cracking and similar defects in worked metals. The phenomenon is a puzzling one, and it was necessary first of all to collect the observations of many workers, whose experience touched the subject at different points, before any attempt at explanation could be made. The metallurgist and engineer, however wide his experience, will probably find much in the volume that is new to him. The very extensive records from Woolwich Arsenal are particularly valuable.

The theory of the origin of season-cracking is still imperfect. The hypothetical amorphous film between the crystal grains of metals is invoked by Dr. Rosenhain and others as the responsible material, but other workers have found the evidence unconvincing, and it is too early to say that any satisfactory explanation of the whole of the facts has been devised. Hardening cracks in steel present a rather different problem, but one so closely related to that of season-cracking as to justify their inclusion in the same volume. Fortunately, the results of recent work are not of academic interest merely, but experiments have shown that the cracking of cold-worked objects may be prevented entirely by annealing at a temperature so low as to cause no appreciable loss of hardness. This result has great theoretical as well as practical importance.

C. H. D.

*Die europäischen Bienen (Apidæ). Das Leben und Wirken unserer Blumenwespen.* Bearbeitet von Prof. Dr. H. Friese. 1. Lieferung. Pp. 112+7 Tafeln. (Berlin und Leipzig: W. de Gruyter und Co., 1922.) 10s.

THE name of Dr. H. Friese is well known to students of the Hymenoptera, and his published writings on bees render him competent for a work of this description. His aim is to give a general account of the life and habits of European bees within a compass of about 450 pages, of which 112 pp. are comprised in this first instalment. In some ways the work is scarcely abreast of the times, and it is a matter of surprise to find in the introduction the old Linnean classification of insects still adhered to, with the dragonflies included among the Orthoptera. Bees are regarded as constituting a single family, and the other major groups of Hymenoptera are relegated to a similar status. Furthermore, no outline of the classification of the Apidæ is presented to the reader, which is a distinct drawback. The section devoted to the general characters of bees might well have been longer—it is too brief and elementary to be of much value to the serious student. We note only the barest reference to the salivary glands, respiration system and other organs, although several pages are devoted to an account of the body-hairs, nearly fifty different kinds being illustrated. The author's main aim, however, is bionomics, and it is evident that the remainder of the book, when completed, will provide a trustworthy, well-illustrated dissertation on the habits and life-economy of the insects with which it deals. The seven coloured plates which accompany the present part are composed of original figures. Those which portray the various types of nest structure are among the most attractive illustrations of their kind which we have seen.

A. D. IMMS.

*Morbid Fears and Compulsions: their Psychology and Psychoanalytic Treatment.* By Dr. H. W. Frink. Reprinted from the American Edition. Pp. xxiv+344. (London: Kegan Paul, Trench, Trubner and Co., Ltd., 1921.) 21s. net.

DR. FRINK'S text-book deals with psycho-analytical treatment and the theories on which it is based. In the introduction, by the late Dr. James Putnam, there is a criticism of Freud's view that the duty of the psycho-therapist ends with the undeception of the patient and the dissipation of his symptoms, without any considera-