hot ginger, tea or coffee." We are told not to use water to put out a fire at a substation before the station has been made completely "dead." The reason given for this is that the operator would receive a shock if he directed a jet of water on to a "live part." This may be true for very high voltages, but it is not true at low voltages. This book will interest station engineers in Great Britain.

Physiologische Pflanzenanatomie. Von Prof. Dr. G. Haberlandt. Sechste, neubearbeitete Auflage. Pp. xvii+671. (Leipzig: Wilhelm Engelmann, 1924.) 22 gold marks.

THIS work, originally published in 1884, is best known to English students from Prof. Drummond's translation of the fourth German edition. A fifth edition appeared, during the War, in 1917. The latest edition has been brought more up-to-date, especially by additions to the "notes" at the end of each chapter, the most useful feature being the references to recent German research. Some of the rather dogmatic statements of earlier editions have been modified, and it is acknowledged that modern cytological work has reopened questions, such as those relating to the origin of the chloroplastids and other chromatophores, which have previously been regarded as answered. By deletion of some less important passages the size of the book has been very little increased, though room has been found for brief accounts of such new discoveries as those of Merl and Czaja on the mechanism of the Utricularia bladders. Possibly owing to the lack of access to recent literature, English and American work appears to have been almost entirely ignored. Thus the account of mycorrhiza is very incomplete. Prof. Haberlandt realises that the subject will soon require a more basic revision than can be given without re-writing the whole book, but declares it is not possible for him to undertake this.

Fuel: Solid, Liquid and Gaseous. By Prof. J. S. S. Brame. Third edition. Pp. xv+388. (London: E. Arnold and Co., 1924.) 18*s*. net.

PROF. BRAME points out that the second edition of his book was published in 1917, when no large amount of revision was possible; since the issue of the first edition there has been very considerable extension of our knowledge of fuels for internal combustion engines, of the use of powdered coal as fuel, of the ignition points of fuels of all classes, on the velocity of combustion of gaseous mixtures, and on problems of low temperature carbonisation. All these subjects have been revised, and the chapters on liquid fuels for internal combustion engines have been re-written. Additional material on the composition and the coking properties of coal has also been included. The author has made full use of the publications of the Fuel Research Board, and has evidently found them of great value.

Metallurgy: an Elementary Text-Book. By E. L. Rhead. New and revised edition. Pp. xii+403. (London: Longmans, Green and Co., 1924.) 7*s*. 6*d*.

MR. RHEAD'S little book on metallurgy was first published thirty years ago, and has been through many editions. The copy before us is a new and revised edition published late last year. Considerable additions have been made throughout the book, especially in the metallurgy of iron and steel, copper, silver, gold, and nickel. Certain processes which have become obsolete or the importance of which has diminished have either been deleted or condensed into smaller compass. The author, however, has wisely retained certain other processes which, although obsolete or much modified, make clear the principles underlying their modern successors. Elementary metallography has been introduced, and we think he has done wisely in taking this step. There is no better method of emphasising that all metals and alloys at whatever stage of their manufacture, provided they are solid, have a definite structure. H. C. H. C.

The Marketing of Metals and Minerals. A Series of Articles by Specialists. Edited by Josiah Edward Spurr and Felix Edgar Wormser. Pp. xii+674. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1925.) 30*s*. net.

THIS work consists of a series of articles, each written by a specialist, describing the methods of commercial dealing in the metals, ores and non-metallic minerals produced by the labours of the metallurgist and the miner. The economic side of the great mineral industries has been generally neglected in literature, and the present work will be welcomed by a large circle of readers. Unfortunately for us, it refers almost exclusively to American conditions, and whilst therefore of very great value to any one connected with the mineral industry in the United States, its usefulness in Great Britain will be limited to the relatively few people who deal with the United States in mineral products. A companion volume dealing with British conditions and methods would be of very great value, especially at the present moment.

Laboratory Manual of Organic Chemistry. By Dr. Harry L. Fisher. Second edition. Pp. xii+338. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1924.) 11*s*. 6*d*. net.

DR. FISHER has introduced some improvements and additional experiments into the second edition of his excellent book. The principal feature is the thoroughly practical character of the information, and the innumerable hints and details given in the descriptions of preparations and experiments will be found of the greatest value to students and demonstrators. References to important new work are frequently given. The section on elementary analysis is very detailed, and is perhaps the best account in existence.

A Class-Book of Chemistry. By G. C. Donington. Part 5: *Organic Chemistry.* By Prof. T. M. Lowry and Dr. P. C. Austin. Pp. vi+531-706. (London: Macmillan and Co., Ltd., 1925.) 3*s*.

THIS volume is a continuation of Donington's well-known class-book, and a further volume on physical chemistry is promised. The treatment is clear and accurate, and several good experiments are included. The book is suitable for medical and pharmaceutical students, and provides generally a useful introduction to organic chemistry. Recent work (*e.g.* on the structure of sugars and starch) is included.