

Typographical errors are rare, and the make-up of the book is good.

JAS. LEWIS HOWE.

METALLURGICAL CALCULATIONS By JOSEPH W. RICHARDS, A.C., PH.D.
PART I. INTRODUCTION, CHEMICAL AND THERMAL PRINCIPLES,
PROBLEMS IN COMBUSTION. New York McGraw Publishing Com-
pany 1906 Price, \$2.00.

This book contains a reprint of a series of papers published in "Electrochemical and Metallurgical Industry" from March, 1905 to March, 1906, to which have been added many problems for practice. Other papers yet to appear in the same journal are expected to make up a second and a third part of the completed work.

Chapter I fully explains the use of chemical equations for such computations of weights, and of volumes in case of gases, as may be required in metallurgical operations. The second chapter treats of the applications of thermochemistry, and the third chapter explains and well illustrates the applications of thermochemical data. Chapter IV treats of the thermochemistry of high temperatures, and chapter V, of specific heats, heats absorbed in fusion, and other related matters. The titles of the three following chapters are, "Artificial Furnace Gases," "Chimney Draft and Forced Draft," and "Conduction and Radiation of Heat." There is an appendix containing twenty-three problems in addition to the twenty-four given in the text. Chapters II, IV and V contain copious tables of data. The metallurgical master will need this harmonious collection of the physical data of his art, and the metallurgist who is not yet a master will find the clear teachings of this book an indispensable guide to the understanding of the scientific principles on which his art is founded, and by the knowledge of which only can it be intelligently advanced.

EDWARD W. MORLEY.

A HANDBOOK FOR CANE-SUGAR MANUFACTURERS AND THEIR CHEMISTS.

By GUILFORD L. SPENCER, D.Sc., formerly Chief of Sugar Laboratory U. S. Department of Agriculture, Chief Magnolia Plantation, Chaparra Sugar Co., Cuban-American Sugar Co., Nicaragua Sugar Estates, Ltd., etc. 16mo. viii + 331 pp. 52 illustrations, morocco. New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 1906. Price, \$3 00.

This book is the fourth edition of the same work by this author,