

calculate the pulley speed, power that may be transmitted, size of pulley or belt required, size of shafting and power certain sizes will transmit. Altogether a most useful calculator.

Welding and Cutting Metals by Aid of Gases or Electricity,

by Dr. L. A. Groth, Consulting Engineer. 267 pages, $5\frac{1}{2} \times 8\frac{3}{4}$. Price 10/6, or \$2.50 net. Published by Archibald Constable Company, Ltd., London, England.

As pointed out in the preface of this book, welding is used to a far greater extent than is generally supposed. Reliable data as to either the relative values of alternative welding processes, or welded unions as compared to joints effected by other means, are difficult to procure, especially if such information is desired in a hurry. That the author of the book has recognized this fact, is very evident from the careful attention to accuracy exhibited throughout the various chapters.

The description of the historical development of the present day manufacture of the various gases used in welding is extremely complete. This, together with the pages devoted to the theory and practice of the various welding methods and the construction of blow pipes suitable for the use of gases in welding, constitute three very interesting chapters both from the standpoint of the engineer and the manufacturer.

The electrical and "Thermit" processes, together with aluminium welding, the accomplishment of which is so difficult, are thoroughly gone into, the dangers and advantages of the different methods being very intelligently pointed out.

The most valuable portion of the book from the engineering standpoint is that devoted to the welding of sheet iron and steam boilers. In the discussion, is given a large amount of certified information from various engineers and directors of works as to the relative reliability of welded as compared with cast iron pipes. Passing to the subject of welding steam boilers, many details of actual cases in which welding has been applied both in constructing new and in repairing old boilers are given. The necessity of employing only experienced men on such work is clearly shown.

The chapter on cutting metals by either gases or by electrical means needs no comment. It is in keeping with the preceding pages.

The remainder of the book is taken up with the description of accidents that have happened in welding practice and the resultant legislation relative for the manufacture of gases and their subsequent use.—T. R. L.

A Study of the Open Hearth, by Harbison-Walker Refractories Company, Pittsburgh.

It would seem rather a presumption to call this book a "Study" of the open hearth furnace. It is, in fact, a synopsis of open hearth practice. There are six chapters embracing the construction of open hearth furnaces, Acid and Basic; and their operation; fuels used, recarbonization; and a concise description of special processes.

The book, extremely well bound in pocket size, ($6\frac{1}{2}$ ins. x 4 ins.) would be of value to any salesman who has to do with iron and steel products, in as much as it would give him a grasp of the manufacture of Open Hearth steel and thereby enable him to more intelligently handle his wares.—T. R. L.

Applied Statics, by T. R. Loudon, B. A. Sc. Published by The Canadian Engineer Press, 62 Church Street, Toronto, Ontario. Size 6 x 9. Pages 100. Price \$1.00.

The author in preparing this text had apparently two objects in view. First, to treat the subject so that the reader

could follow every step in the discussion, and second, to apply the theory to practical problems.

The first few chapters are taken up with the theory of the subject and the matter is dealt with clearly and very fully. The remaining chapters deal each with some particular subject; method of sections; the beam; shearing forces; pulley systems; friction and wind pressure.

In the issue of the Canadian Engineer, October 22nd, Mr. Loudon commenced a series of problems applying the theory he has discussed in this book. These problems will continue for the next five months and together with this text should provide the young engineer, anxious to review or work up his mathematics, an excellent programme of study.

PUBLICATIONS RECEIVED.

"Fuel Tests with Illinois Coal."—By L. P. Breckenridge and Paul Diserens, issued by the Engineering Experiment Station of the University of Illinois as Circular No. 3. It consists of a compilation of data relating solely to the coals of the State of Illinois, selected from the complete reports of the Government investigations on the fuels of the United States. Copies of circular No. 3 may be obtained gratis on application to W. F. M. Goss, Director of the Engineering Experiment Station, University of Illinois, Urbana, Illinois.

Direct and Alternating Current Testing.—By Frederick Bedell, Ph.D., Professor of Applied Electricity in Cornell University, assisted by Clarence A. Pierce, Ph.D.; 300 pp.; 6 x 9; cloth, \$2, net. Published by D. Van Nostrand Company, 23 Murray, and 27 Warren Streets, New York City.

Concrete.—By Edward Godfrey, structural engineer for Robert W. Hunt & Company. 500 pp., pocket size, leather cover. Price, \$2.50 net. Published by the author, Pittsburgh, Pa.

Proceedings of the First Meeting of the Illinois Water Supply Association, held at the University of Illinois, February 16th and 17th, 1909; 200 pp., 6 x 9. Published by the Society, Urbana-Champaign, Ill.

Principles of Reinforced Concrete Construction.—By Mr. F. E. Turneure, Dean of the College of Engineering, University of Wisconsin, and Mr. E. R. Maurer, Professor of Mechanics, University of Wisconsin; second edition; 430 pp.; 6 x 9; \$3.50. John Wiley & Sons, publishers, New York, U.S.A.; Chapman & Hall, Limited, London, Eng.

A Treatise on Concrete: Plain and Reinforced.—By Frederick W. Taylor, M.E., Sc.D., and Sanford E. Thompson, S.B., M. Am. Soc. C.E., second edition; 800 pp., 6 x 9; price, \$5. John Wiley & Sons, publishers, New York City, U.S.A.; Chapman & Hall, London, England.

A Treatise on Masonry Construction.—By Ira Osborn Baker, B.S., C.E., D. Eng., Professor of Civil Engineering, University of Illinois; tenth edition, 6 x 9, 746 pages, 100 tables and 244 illustrations; cloth, \$5, net. John Wiley & Sons, publishers, New York City; Chapman & Hall, Limited, London, Eng.

Field and Office, and Railroad Curves and Earthwork, two books.—By C. Frank Allen, S.B., Mem. Am. Soc., C.E., Professor of Railroad Engineering in the Massachusetts Institute of Technology; 4th edition, 220 pp., gilt edges, pocket size, leather bound, \$2 each. Spon & Chamberlain, publishers, 123 Liberty Street, New York, U.S.A.

Report of the Chief Engineer of the Board of Estimate and Apportionment of the city of New York, U.S.A., for 1908. 400 pages, 6 x 10. Mr. Nelson P. Lewis, chief engineer.