

gone into. This portion of the book, besides being of value to the student engaged in scientific research, is of interest to the practical man. One of the instances given where the value of having these instruments in works is that of an annealing oven fired by an old and new hand, the record showing how the more experienced hand saves time and money.

A final chapter treats of the standardization of pyrometers, etc. The bibliography of 24 pages is very extensive. The authors are to be congratulated upon the conciseness of their explanations, the long theories being well isolated in such a manner as to give no trouble to the reader not interested in "such dry information." The book, in fact, "gives results."

The Transit Theodolite, and Other Instruments Mechanically Considered. By H. W. Vallé. Published by the author. Cloth; 4 x 6½ inches; 76 pages; illustrated. Price \$1.00.

Mr. Vallé was for twenty-three years instrument maker to different firms in England, and is, therefore, well-qualified to write on the subject of instruments. This little volume has been written for the purpose of assisting surveyors, engineers and others in those difficulties associated with their instruments where help has not hitherto been forthcoming. The adjustments of the different instruments are covered very thoroughly and their general design is thoroughly discussed.

Engineering Directory, 1912. Published by the Crawford Publishing, Chicago, Ill. Cloth; size 4 x 6¾ inches; 1496 pages. Price \$5.00.

The book aims to be a complete directory of the plumbing, heating, lighting, power plant and mill supply industries in the United States. It contains a list of wholesale dealers in plumbing, heating and lighting supplies; list of jobbers and dealers in mill, steam, mine and railway supplies, tools and machinery and in addition there are reliable mailing lists of waterworks and gas companies power plants, wholesale dealers in hardware and in electrical supplies and purchasing agents of railroads. The book will be found invaluable to the manufacturer and the engineer.

Modern Illumination Theory and Practice. By H. C. Horstmann and Victor H. Tousley. Published by Frederick J. Drake & Co. Leather; 4½ x 7 inches; 265 pages; illustrated. Price \$2.00.

This volume is intended as a hand-book of practical information for the users of electric light, architects, contractors and electricians. Only as much of the theory is given as is needed for a comprehension of the underlying principles. Emphasis is placed upon the practical points which must be considered in the laying out of illumination.

Farm Gas Engines. By H. R. Brate. Published by The Gas Engine Publishing Co., Cincinnati, Ohio. Cloth; 5 x 7 inches; 190 pages; illustrated. Price \$1.00.

This is a practical treatise on the action of the parts necessary to the successful running of a gas engine and is intended for the non-technical man. Chapters are given on carburation, compression, ignition, lubrication and cooling, and descriptions are included of the different types of gas engines in common use.

Problems in Engineering. First series. Edited by Sydney G. Turner. Published by St. Bride's Press, Limited, London. Cloth; size 5 x 7½ inches; 186 pages; illustrated. Price \$1.25.

This is a compilation of the questions and answers printed from the assistants' and students' section of the "Surveyor and Municipal and County Engineer," of London. The present volume is published in response to

requests from readers of this section. The series of questions and answers will be found of assistance in the solution of many knotty points which arise in the daily work of the municipal engineer, for the series cover practically every phase of the municipal engineers' work.

PUBLICATIONS RECEIVED.

American Waterworks Association. Proceedings for 1911 of the Thirty-first Annual Convention, held at Rochester, N.Y., June 9-10, 1911. Secretary-treasurer, John M. Diven, 47 State Street, Troy N.Y.

Association of Dominion Land Surveyors. The annual report, together with the papers read at the sixth annual meeting, held at Ottawa, on the 5th and 6th of March, 1912. Secretary-treasurer, E. M. Dennis, B.L.S., Ottawa.

Canal Statistics for the Season of Navigation, 1911. Issued by the Department of Railways and Canals. A. W. Campbell, Deputy Minister, Ottawa.

Memoir No. 28, Department of Mines, Geological Surveys Branch. The Geology of Steep Rock Lake, Ontario, by Andrew C. Lawson, and Notes on Fossils from Lime Stone at Steep Rock Lake, Ont., by Charles D. Walcott. R. W. Brock, Director.

An Investigation of the Coals of Canada, With Reference to Their Economic Qualities, as Conducted in McGill University, Montreal, under the authority of the Dominion Government. In six volumes, Vol. 2 by J. B. Porter and R. J. Durley, issued by the Department of Mines, Mines Branch. Eugene Haanel, Director.

Commission of Conservation, Canada, 1912. The third annual report of the annual meeting held at Ottawa, January 16, 1912. James White, Secretary.

Illinois Water Supply Association. Proceedings of the fourth meeting held at the University of Illinois, March 5-6, 1912. Published by the society, Urbana-Champaign, Illinois.

Association for Standardizing Paving Specifications. The proceedings of the third meeting held at New Orleans, January 8-13, 1912. John B. Hittell, secretary-treasurer, 5917 Winthrop Avenue, Chicago.

The Test of Clay Refractories with Special Reference to Their Load-Carrying Capacity at Furnace Temperatures. By A. V. Bleining and G. H. Brown, being No. 7 of the Technologic papers of the Bureau of Standards, Department of Commerce and Labor, U.S. S. W. Stratton, director, Washington.

The White River Development. A description of the construction of the Power Plant and system of Lakes at Puget Sound. Copyright, 1912, by Stone & Webster Engineering Corporation, Boston, Mass.

Electric Power from the Mississippi River. Being Bulletin No. 5, March, 1912, of the Mississippi River Power Co., Keokuk, Iowa.

Vitrified Brick Pavements. The National Paving Brick Manufacturing Association, Engineers' Building, Cleveland, Ohio, forward pamphlet illustrating the use of vitrified brick pavements for city streets and country highways.

CATALOGUES RECEIVED.

Circular 1155, entitled Series Arc Light Systems with Westinghouse-Cooper Hewitt Rectifiers, has just been issued by the Westinghouse Electric and Manufacturing Company. This publication deals very thoroughly with series arc light systems, describing in detail the rectifier apparatus, the arc