

and has brought out some matters in a different light, although most of the material has already appeared in other works.

The real value of the book appears to be in presenting a number of mathematical applications of calculus and geometry as they are used in thermodynamics, and in doing this it serves a valuable purpose. Many students are taught mathematics in such a way as not to recognize its practical value, and this book should be a stimulus to them and also a reference book when reviewing some of the principles after they have been forgotten.

The collection of problems given at the end of the chapters will also be helpful.

PUBLICATIONS RECEIVED.

Public Works Department.—Annual report for 1915 of the Department of Public Works, Manitoba.

Canadian Society of Civil Engineers.—By-laws and list of members of Ottawa Branch. Published July, 1916.

Ontario Good Roads Association.—Proceedings of the fourteenth annual meeting of the Ontario Good Roads Association, 1916.

Precise Levelling.—Vol. 3, No. 6 of the publications of the Dominion Observatory, Ottawa. W. F. King, C.M.G., LL.D., director.

Topographical Surveys Branch.—Annual report of the Topographical Surveys Branch, Department of the Interior, Ottawa, for the years 1914-15.

Year Book, 1915, of the Swedish Chamber of Commerce for the United Kingdom (Inc.), 5 Lloyd's Avenue, London, E.C. Secretary, Louis Zettersten.

Standards for Electric Service.—Circular No. 56 of the Bureau of Standards, Department of Commerce, Washington, D.C. S. W. Stratton, director.

Magnetic Properties of Cobalt.—By Herbert T. Kalmus, B.Sc., Ph.D., and K. B. Blake, B.Sc. Published by the Mines Branch, Department of Mines, Ottawa.

Water Rights Branch.—Report of the Water Rights Branch, Department of Lands, British Columbia, for the year ending December 31st, 1915. William Young, compfroller.

Concrete Swimming and Wading Pools and How to Build Them.—An 18-page illustrated leaflet issued by the Portland Cement Association, 111 West Washington Street, Chicago, Ill.

Federal Aid Road Act.—Circular No. 65 issued by the United States Department of Agriculture, Washington, D.C., containing rules and regulations of the secretary of agriculture for carrying out the Federal Aid Road Act.

Manitoba.—Map showing the disposition of lands of this province corrected to January 1st, 1916. Prepared in the Railway Lands Branch, Department of the Interior, Ottawa, under the direction of Mr. F. C. C. Lynch, superintendent.

Levelling Operations.—Report on levelling operations from their inauguration in 1908 to October 31st, 1914, with a summary of the results. Published by the Topographical Surveys Branch, Department of the Interior, Ottawa.

Canadian Society of Civil Engineers.—Report of annual meeting held in Montreal January, 1916. Seventy-

three pages and cover. Distributed by the society only to members, or upon special requests approved by the council of the society.

Dynamic Balance.—A 13-page illustrated leaflet, containing an abstract of a paper by N. W. Akimoff, presented at the spring meeting of the American Society of Mechanical Engineers. Describes the machine of the Dynamic Balance Machine Co., Philadelphia, Pa.

The History and Development of Gold Dredging in Montana.—Bulletin 121, Bureau of Mines, Department of the Interior, Washington, D.C. By Hennen Jennings, with a chapter on placer mining methods and operating costs by Charles Janin. Sixty-three pages, illustrated.

American Road Builders' Association.—Proceedings of the thirteenth annual convention of the American Road Builders' Association, held at Pittsburgh, Pa., February 28, 29, March 1, 2 and 3, 1916, together with reports of the executive committee, secretary and treasurer, presented at the annual meeting, February 4, 1916, list of members, etc. Published by the association, 150 Nassau Street, New York. Secretary, E. L. Powers.

Specifications for Vitrified Brick Pavements.—Two pamphlets about 45 pages each, which are being distributed gratuitously by the National Paving Brick Manufacturers' Association of Cleveland, Ohio. One contains specifications for laying vitrified brick pavements upon green concrete with cement grout fill, and the other contains specifications for what is called the sand-cement super-foundation type with cement grout fill.

CATALOGUES RECEIVED.

Auto Starters.—A 15-page illustrated pamphlet issued by the Canadian Westinghouse Co., Hamilton, Ont., describing their auto starters for squirrel-cage induction motors.

War Munitions.—Illustrated booklet describing the war munitions manufactured by the Canadian General Electric Co., Limited, and subsidiary company, Canadian Allis-Chalmers, Limited.

Surveying Instruments, Etc.—Catalogue for 1916 of E. R. Watts & Son, Canada, Limited, 45 Bank Street, Ottawa, manufacturers of surveying and other instruments of precision, drawing material, etc. Contains 229 pages and is well illustrated.

Milburn Oxy-Acetylene Welding and Cutting Apparatus.—Catalogue No. 24, issued by the Alexander Milburn Co., 1418-1428 W. Baltimore Street, Baltimore, Md., describing, with illustrations, the Milburn products, including gas plants for industrial buildings, portable acetylene lights, oxy-acetylene welding and cutting apparatus, etc.

Leffel Turbine Water Wheels.—Bulletin No. 54, issued by the James Leffel & Co., Springfield, Ohio, and distributed in Canada by Wm. Hamilton Co., Limited, Peterborough, Ont., who are the Canadian manufacturers of Leffel lines, including Samson water turbines, type Z turbines, Francis type turbines for medium and high heads with scroll or volute casings, etc. Bulletin No. 54 contains 32 pages and cover and is profusely illustrated. As it is in three colors throughout, the illustrations are very good. It is printed on coated paper and the whole arrangement is attractive. Considerable technical data is tabulated and presented.