

The tables for ammonia are arranged in similar manner to those for steam, and are most useful because of their completeness.

One table, which is of very great value, and the contents of which have rarely appeared in print, gives the properties of mixtures of air and saturated water vapor in such form as to be readily available for computations on drying and humidifying. This table alone makes the book of much value.

A set of examples shows the applications of the tables.

**Handbook of Mathematics for Engineers (with Tables).**

By L. A. Waterbury, C.E., Professor of Civil Engineering, University of Arizona. Published by John Wiley and Sons, New York City; Canadian selling agents, Renouf Publishing Co., Montreal. Second edition, 1915. 213 pages; 80 figures; size, 3 x 5½ ins.; bound in leather. Price, \$1.50 net.

This is a rewritten and enlarged edition of a very useful vest-pocket handbook for engineers. It has few equals as a reference book that the engineer can have with him on the job. The branches of mathematics, algebra, trigonometry, analytical geometry, differential and integral calculus are followed by sections on theoretical mechanics, dynamics, mechanics of materials (including special sections on beams, struts and columns, and reinforced concrete), and hydraulics (including sections on weirs, orifices and jets, flow in pipes, flow in channels, hydraulic grade line). The tables comprising the balance of the book include 5-place logarithms, log. sines, cosines, tangents and cotangents, the natural trigonometrical functions, and conversion factors.

The user of the first edition of this handbook will find revisions and alterations in plenty and the errors of the first work corrected. Much new material has been added, including the extensive section on hydraulics, the conversion factors, and a generous treatment of the subject of reinforced concrete.

As may be inferred, it is not a textbook, but a very serviceable, concise, complete and authoritative reference book.

**McGraw Waterworks Directory.** Published by McGraw Publishing Co., Inc., New York. First edition. 615 pages; no illustrations; 6 x 9 ins.; cloth. Price, \$15; duty charged by Canadian customs, \$1.50.

This directory lists 313 cities and towns in Canada and 4,872 in the United States, giving the essential facts about the ownership and management of the waterworks in each town or city, the source of supply, purification, pumping equipment, distributing system and rates.

The book is arranged alphabetically by states and provinces, with the towns in alphabetical order under each state or province. The description of each waterworks is given under the town which it supplies, while a statistical summary gives the number of plants in each state or province that are municipally or privately owned, the number of towns that are supplied from other towns, the number using electrical equipment, the number of combined light and waterworks plants and the number of plants using water power. Of the 313 plants listed for Canada and Newfoundland, 256 are municipally owned, 48 privately owned and 4 mixed ownership. Five towns are supplied with water from other towns, 24 use electrical equipment, 75 plants are combined light and waterworks, and 31 plants use water power.

In the preface of the directory it is stated that "much information has been obtained from the Canadian Conservation Commission's report on Waterworks of Canada, by Leo. G. Denis"; and, while it is true that the information given in the latter book is used extensively in the McGraw directory, and has probably been the basis for the information given regarding Canada, nevertheless it should be stated that the information given in the McGraw directory is considerably more recent and far more complete than the information given in the first edition of Mr. Denis' book. In other words, the data regarding Canada in the McGraw directory is by no means merely a copy of the report issued by the Commission of Conservation of Canada in 1912.

## PUBLICATIONS RECEIVED.

**Ontario Railway and Municipal Board.**—Ninth Annual report, for 1914, recording the sessions of the Board with judgments or opinions.

**Electro-Plating With Cobalt.**—Part III. of the report or researches by H. T. Kalmus, C. H. Harper and W. L. Savell. 69 pp.; illustrated; 6 x 9 ins.

**Queen Victoria Niagara Falls Park.**—Report of the Commissioners for 1914, including reports of superintendent, chief gardener and assistant engineer.

**Public Works in Ontario.**—Report of the Minister for 1914, including reports of deputy minister, chief engineer, architect, superintendent colonization roads, etc.

**Chemistry of Gas Manufacture.**—A bibliography compiled by the U.S. Bureau of Mines. Selected from a large list of references to the chemical behavior of hydrocarbons.

**Saskatchewan Railways and Telephones.**—Two provincial reports for the year ended April 30th, 1915, issued by the Minister of Railways and the Minister of Telephones, respectively.

**Lime Kilns, Stone Quarries, Brick Plants and Cement Mills in Canada.**—Circulars issued by the Mines Branch, Department of Mines, Ottawa, giving lists of manufacturers, location of plants, etc.

**Safety in Stone Quarrying.**—A 48-page bulletin of the U.S. Bureau of Mines prepared by Oliver Bowles, relating to sources of danger, safety in quarry equipment and methods, safety devices, statistics, etc.

**Geology of Vancouver Island.**—Bulletin 36, Geological Survey, Department of Mines, Canada. 143 pp. besides illustrations and maps relating to the geology of the Victoria and Saanich map areas. Prepared by C. H. Clapp.

**Inflammability of Mixtures of Gasoline Vapor and Air.**—Technical Paper 115, U.S. Bureau of Mines, relating to methods for determining the contents of gasoline vapor in air and the range of complete combustion for mixtures.

**Influence of Temperature on Strength of Concrete.**—A 24-page illustrated bulletin prepared by Prof. A. B. McDaniel of the University of Illinois, describing experiments performed at the Engineering Experimental Station.

**Coking of Coal at Low Temperatures.**—Bulletin 79, Engineering Experiment Station, University of Illinois. 39 pp.; 6 x 9 ins.; illustrated. The bulletin gives special reference to the properties and composition of the products.

**Wabana Iron Ore of Newfoundland.**—Memoir 78, Geological Survey, Bureau of Mines, Ottawa. 163 pp.; illustrated; 6 x 9 ins. A detailed study of the petrology