

have been presented to better advantage had this unusual length of line been avoided by the use of two columns. This is, however, a mechanical detail, and does not detract from the instruction value of the publication.

**Motion of Liquids.** By Lieut.-Col. R. de Villamil. Published by E. and F. N. Spon, London and New York. First edition, 1914. 205 pages, 86 illustrations and 30 tables, size 6 x 9 ins. Cloth. Price \$2.

The author of this work, an ardent and enthusiastic student of Col. Dubuat and Col. Duchemin, whose respective works "Principles d'Hydraulique" and "Les Lois de la Resistance des Fluides" are not so well known in England or America as in continental Europe, starts from the assumption that when a body moves in a liquid the latter moves by some means or other from the front to the rear of the body—a very common observation. By reference to suitable experiments, he goes on to show, step by step, how the liquid moves. Then, by confining his attention to flat plates, he has been able to neglect the resistance due to viscosity and to treat the fluid as if it were inviscid. The questions of static and non-static liquids, relative motion, co-efficient of contraction, negative resistance, etc., are severely taken up. A very interesting chapter is devoted to rivers and canals, in which many curious points are brought up; amongst others, the frequently disputed point of a body floating in a stream moving faster than the stream.

Each chapter closes with a summary and list of references that will be found valuable by the reader. The index is comprehensive, the illustrations are clear, the half-tones being particularly attractive. Taken altogether, the book contains much of interest.

**Use of Water in Irrigation.** By Samuel Fortier, D.Sc., chief of irrigation investigation, U.S. Department of Agriculture. Published by McGraw-Hill Book Co., New York City. First edition, 1915. One of the Agricultural Engineering Series of which Mr. E. B. McCormick, U.S. Department of Agriculture, is consulting editor. 264 pages, 71 illustrations, 5½ x 8 ins. Cloth. Price \$2.00 net.

The importance of the scientific use of water in certain sections of America, and the legal and administrative features which irrigation presents, has called for literature on the subject that may be depended upon as being authentic, easily read, understood and thoroughly practical. This book deals with the agricultural side of engineering. It aims to benefit three classes of readers: the new settlers, irrigation farmers and those interested in irrigated agriculture, and students in agricultural and engineering classes of colleges and universities. It describes the manner in which water is used in irrigation throughout the United States, including that of cotton and sugar cane in the southwest, rice in the extreme south, truck and fruit along the Atlantic seaboard, vineyards and orchards along the Pacific, and of forage and cereal crops in the mountain states. It records the experiences gained in the field and laboratory rather than that which may be compiled in a library.

Following the introduction are chapters on The Irrigated Farm; The Necessary Equipment and Structures; Methods of Preparing Land and Applying Water; Waste, Measurement, Delivery and Duty of Water; Irrigation of Staple Crops. Besides the illustrations, there are a number of plates and tables.

**Construction of Masonry Dams.** By Chester W. Smith, consulting engineer. Published by McGraw-Hill Book Co., New York City. First edition, 1915. 280 pages, 68 illustrations, including numerous folding plates; 6 x 9 ins. Cloth. Price, \$3.00 net.

While there is an abundance of useful literature on the design of masonry dams, to such a degree perhaps as to establish certain standards, in features and practice, there is a decided scarcity of corresponding literature devoted to the details of construction and supervision. The present book is written primarily for the construction engineer, and relates only to those features of design which have to do with the particular case or cases under consideration. Earthwork, rock excavation, cement, pumping and many similar subjects have been excluded from the book, either because they have been fully treated in other works, or because adequate treatment was impossible in the present volume. The following review of chapter headings will be of interest: Exploring the Site; Temporary Works for Stream Diversion; Preparing the Foundation; Masonry Construction; Quarrying; Miscellaneous Features; Plant and Power; Installation Required and Power Consumption; Assembling Materials, Crushing and Mixing; Transportation of Materials; Probable Future Methods; Estimates and Costs; Partial List of Existing Dams with Descriptions and Costs. The book is replete with construction views in half-tone, and with drawings of many of the less usual types of construction.

A very important chapter of the book is that devoted to estimates. The inception and promotion of masonry dam projects and their examination by financiers result in a number of engineers being called upon for estimates of cost. Such estimates must often be prepared within a limited time, and for a limited expenditure. In facilitating the rapid and reasonably accurate treatment of such estimates, the chapter included in this book will be found of great value.

**Canadian Almanac, 1915.** Edited by Arnold W. Thomas. Published by the Copp, Clark Co., Limited, Toronto. 528 pages, 6 x 9 ins. Price, \$1.00.

This publication has attained its 68th year, and its usefulness has annually increased. The result is that a great deal of authentic information of a commercial, financial, educational, statistical and departmental nature may be found therein. The work is carefully indexed; a number of additions appear that had not been included in previous editions, and there is little doubt that in its new form the inclusion therein of this new matter will make the work of considerably greater value.

**Concrete Specifications.** By Jerome Cochran, C.E., M.C.E. Published by D. Van Nostrand Co., New York City. First edition, 1913. 274 pages, illustrated, 6 x 9 ins. Cloth. Price, \$2.50 net.

This book contains a set of general specifications for concrete and reinforced concrete, including finishing and waterproofing. While during the past decade committees of various associations and engineering societies have published specifications of this nature, this work is of value in that it makes a vigorous attempt to clear up a number of divergent views upon the substance, form, scope, and phraseology of specifications, and in that it endeavors to present all with due observation for logical order and proper proportioning of different parts.