

The Engineer's Library

Any book reviewed in these columns may be obtained through the Book Department of
The Canadian Engineer, 62 Church Street, Toronto.

CONTENTS.

Book Reviews:

Concrete on the Farm and in the Shop. Campbell	577
Hydraulic Flow Reviewed. Barnes.	577
American Civil Engineers' Pocket Book; Third Edition. Merriman.	577
Web of Steel. Brady and Brady.	578
Practical Design of Steel-framed Sheds. Spencer	578
Air-Craft in War and Peace. Robson.	578
Parks and Park Engineering. Lyle.	578
General Specifications for Concrete Bridges. Watson.	578
Proceedings of the Pan-American Road Congress	579

Publications Received

BOOK REVIEWS.

Concrete on the Farm and in the Shop. By H. Colin Campbell, C.E. 128 pages, 5 x 7 ins., 51 drawings, cloth. Price, 75 cents.

This is a new book from cover to cover, illustrating and describing in plain, simple language many of the numerous applications of concrete within the range of the home worker. It deals with the principles of reinforcing, form construction, mixing by hand and machine, foundations, materials and reinforcing, and a great many other specific uses to which concrete can be put. Of concrete books there is no end, but this book would seem to fill a decided want so far as the non-technical concrete worker is concerned. The author has endeavored to translate technical expressions and technical terms into plain, everyday English, so that any one who can read can understand it. The text is accompanied by fifty-one simple drawings, in some cases these drawings being purposely exaggerated to better show what is meant.

Hydraulic Flow Reviewed. By A. A. Barnes, A.C.G.I., Assoc.M.Inst.C.E. Published by E. and F. N. Spon, Limited, London, and Spon and Chamberlain, New York. First edition, 1915. 158 pages, 6 x 9 1/2 ins., with frontpiece and 11 folding plates, cloth. Price, \$3.50. (Reviewed by John H. Parkin, B.A.Sc., University of Toronto.)

This book, written by an English engineer, is similar to that of Williams and Hazen, so familiar to hydraulic engineers in America. The general equation employed is of the same form, in the notation of the book $v = Km\alpha B$, but in this equation K , α and B are constants for each type of pipe or channel, all three changing with a change in type while being independent of size or proportions.

In the first part of the book, which deals with the flow of water in pipes and channels, is given the method of determining the values of K , α and B for each type, by a system of logarithmic plotting of published experimental results for the particular type. A tabulated test is given of equations for velocity, friction head and discharge for

seventeen types of channel from cast iron pipe to a canal or river. For purposes of design the deterioration in carrying capacity is taken care of by the addition of a certain percentage to the required discharge.

A most valuable feature of the book is the portion (some fifty pages) in which are tabulated the results of 807 tests on which the equations are based. The data given is very complete, covering published results of tests on various classes of pipes and channels in many parts of the world. In these tables a comparison is shown in each case of the results by the author's equations and the test results, the agreement being very good.

The second part of the book is devoted to the consideration of the measurement of water and equations are evolved of the same general type, giving the velocity and discharge for V notches, weirs and circular orifices. The equations have the advantages that they contain no valuable coefficient and apply without limitation as to head, breadth, angle of notch, etc. The equations are based on published experimental data which is given in tabulated form in the book, together with the results as given by the author's equations showing the close agreement forming a valuable reference feature.

A number of large size logarithmic charts are provided for the solution of problems dealing with cast iron and steel pipes, channels, rivers, weirs and circular orifices.

The book forms a very concise review of the experimental work done on the flow of water and the tabulated data gives it a high place as a reference work. The author's treatment, while leading to equations similar to that of Williams and Hazen, is a step in advance through the elimination of the troublesome Chezy coefficient and the adoption of different values of the exponents for different channel types, which admittedly gives more accurate results than a single pair of exponents for all cases. The work should be of much value to hydraulic and irrigation engineers or those having to do with the flow or measurement of water.

American Civil Engineers' Pocket Book. Edited by Mansfield Merriman and fifteen associate editors. Published by John Wiley & Sons, Inc., New York. Third edition, 1916. 1,571 pages, 4 1/4 x 7 ins., 1,300 cuts and 550 tables, leather. Price, \$5 net.

This is a new edition, being the third since the work was published in 1910. A great many minor changes have been made and some new matter has been added, the following being a short list of the more important: Azimuth of Polaris at Elongation, and other astronomical calculations; Statistics of Railroad Operation; New Specification for Cement Testing; Arches Under Water Pressure; Discharge and Friction Heads for Long Pipes; Biel's Formula for Flow in Pipes and Channels; besides other matter which makes each section more complete. The book now contains 41 articles, 31 tables, 103 cuts and 120 pages more than the second edition.

An entirely new section of 96 pages has been added covering harbor and river works. Frederick R. Harris, Corps of Engineers, U.S. Navy, is responsible for the section.