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the city, characteristic of the success, the wealth and the measure of welcome to the port!

The subject, "Wharves and Piers," is important, almost too vast for one volume. The author has, however, covered with excellent descriptions many important, even essential considerations in the design and operation of, to use the familiar term, "docks," in a volume of 250 pages.

The author is to be congratulated on his publisher. The volume is well bound and the printing and paper are most attractive to the reader, fatigued with the close type and coarse paper of so many present-day technical works. Many paragraphs are well worth reading, even if experience and practice does not permit the reader to subscribe to the ready opinions of the author: "Materials of Construction," "Concrete vs. Timber," "Commercial Life of Wharves and Piers," "Dimensions of Wharves," and "Growth of Ships." Important phases of these essential subjects are discussed, but they are justified by New York arguments, which the author admits have been subject to frequent changes of views.

The chapter on retaining walls is most complete in its description of various types of quay walls and distinctive features of design. "Piers" is the subject of another excellent chapter, where principles of construction and type of design are explained and magnificently illustrated.

In the chapter on "Wharf and Pier Sheds" the function of sheds is to shelter freight and passengers from the elements and to prevent theft of merchandise. "Fire danger," not included, would appear to be a more essential feature than theft. The principle is, however, characteristic of American port designers, who still hold to wooden roofs, doors, floors and supporting docks. One is, therefore, not surprised to read the following sentence: "Unprotected steel frames are sometimes cheaper than those of wood, but do not last as long in case the freight takes fire." In a fireproof shed fire in the goods can usually be controlled, which is not the case when the structure itself adds to the progress of the fire, both above and below.

The chapter on "Fire Protection" is well worth the price of the book, and the automatic sprinkler system, although at high cost, is explained and recommended.

Chapter VIII, "Cargo Handling Machinery," with an appendix on Costs, completes the volume.

Port authorities will welcome "Wharves and Piers," and their libraries will be enhanced in value by the addition of this volume, with another recent publication of similar nature on "Mechanical Handling and Storing of Material," by George Frederick Zimmer, A.M.Inst.C.E.

Elements of Hydraulics. By S. E. Slocum, B.E., Ph.D. Published by McGraw-Hill Book Co., Inc., New York. Second edition, 1917. 329 pages, illustrated, $6 \times 9\frac{1}{4}$ ins., cloth. Price, \$2.50. (Reviewed by Willis Chipman, B.A.Sc., of Chipman & Power, civil engineers, Toronto.)

That a second edition of Prof. Slocum's textbook on hydraulics was demanded within two years of its publication early in 1915 is evidence that it was appreciated by the engineers interested in hydraulic work.

In the revised edition the author has improved the typography, numbered the paragraphs for convenience in reference, simplified certain terms, and made important additions to the text.

The first section of the volume is devoted to "Pressure of Water," including applications to accumulators,

hydraulic jacks, elevators, pressure on dams, lock gates, etc. The second section, "Flow of Water," presents in a most convenient way various formulæ respecting flow through nozzles, pipes, channels, weirs, etc. The third section on "Energy of Flow," deals principally with motors, turbines and pumps.

The diagrams explanatory of theories are exceptionally clear and the selections of photogravure illustrations have been made with great discernment. In few books on engineering subjects are the cuts and illustrations so interesting and instructive. In some instances, however, the nomenclature in formulæ does not agree exactly with that in the accompanying diagrams.

The hydraulic data and tables comprised in Section 4 are a fitting appendix, and will be found useful for reference.

This volume will be found a valuable addition to the library shelf of the practising engineer.

Elementary Mechanics for Engineers.—By Clifford Newton Mills, B.S., A.M. Published by the D. Van Nostrand Co., New York. 127 pages, 36 illustrations, $4\frac{1}{2} \times 7\frac{1}{4}$ ins., cloth. Price, \$1 net. (Reviewed by Prof. Robert W. Angus, Toronto University.)

This little book is written in as simple a manner as possible so as to meet the needs of younger students. The subject has been divided into the three parts, Kinematics, Kinetics and Statics, and the general method of treatment is very similar to that of most other writers on the same line.

The book can be read by persons having a very limited knowledge of mathematics, but the reader would have to understand trigonometry, as an acquaintance with it is assumed and formulæ involving it are used. One of the most valuable parts of the book is the large collection of examples illustrating each point, and typical cases are worked out in detail.

CATALOGUES RECEIVED.

McAvity Corporation Specialties.—Catalogue No. 1004, illustrating World and McAvity Brass Corporation specialties. Twenty-eight pages; well illustrated. Covers hydrants, crane attachments, valves, service boxes, sewer castings, indicator posts, alarm whistles, fire hose nozzles and couplings, sewage pumps, lighting posts, tapping machines, water meters and corporation brass work.

Crushing Rolls.—Thirty-eight page, well-illustrated catalogue of crushing rolls manufactured by the Traylor Engineering & Manufacturing Co. at Allentown, Pa. Nicely printed on glossless coated paper and well-arranged so as to be easily read. Contains much data and information of interest to engineers or others who have rock or ore to crush.

Partial List of Contracts.—Twelve-page and cover pamphlet, printed in colors, issued by the Foundation Co., Limited, giving partial list of contracts successfully completed in Canada by that organization. The list includes 16 bridges, 11 substructures for buildings, superstructures for 2 industrial plants, 4 underpinning jobs, 50 diamond drill boring contracts, and approximately 14 general contracts, including piers, tunnels, shafts, railway stations, freight sheds, dams, docks, hydro-electric developments, etc.