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BOOK REVIEWS.

American Sewerage Practice. By Leonard Metcalf and Harrison Eddy. Vol. 1, Design of Sewers. Published by McGraw-Hill Book Co., New York, 1914. 747 pages, size 6 x 9 ins., 328 illustrations, 172 tables. Price, \$5.00.

It is with the first volume that we are here dealing. In the past the literature dealing with sewers has been compiled from the experience gained in European cities. In this volume Messrs. Metcalf and Eddy, consulting engineers of broad experience in this special class of work, have brought together the results of good practice on the American continent and have presented in a most thorough manner a vast amount of data from their own experience and from that which has been placed at their disposal by other engineers.

From the character of the volume it is quite evident that the authors have produced a book which will be a valuable aid to the engineer engaged in a sewerage practice. It presents the various steps taken in designing a sewerage system and the reasons for each step. In addition to dealing with the general features connected with such design, special structures necessary for various local conditions are dealt with.

The list of chapters indicate clearly the breadth of scope of the volume:—Introduction: The lessons taught by early sewerage works; the general arrangement of sewerage systems; flow of water in pipes and channels; velocities and grades; measurement of flowing water; quantity of sewage; precipitation; formulas for estimating storm-water flow; the rational method of estimating storm-water run-off in sewer design; gauging storm-water flow in sewers; sewer pipe; the design of masonry sewers; examples of sewer sections and the loads on sewers; the analysis of masonry arches; street inlets, catch-basins and manholes; junctions, siphons, bridges and

flushing devices; regulators, overflows, outlets, tide gates and ventilation; sewage pumping stations.

A most practical test such a volume can be put to would be to make use of it in the solving of problems that arise in the practical designs and construction of work. When put to this practical test and allowance made for the slight variation of practice in different offices it will not be found wanting.

This volume tabulates results which are rather the result of experience than experiment and as such will be more readily accepted.

Those who have read or studied this volume will await with much interest the publication of the second volume entitled "The Construction of a Sewerage System" and the third volume which will deal with the "Design of Works for the Treatment and Disposal of Sewerage."

Gasoline Engines, How to Run and Install. By C. Von Culin. Published by Norman W. Henley Publishing Co., New York City. 1915 edition. 98 pages, plus advertising; illustrated, 3½ x 6 ins. Paper cover. Price 25c.

This is a pocket instructor for those who use marine engines of the two and four-cycle types. The instructions given will enable anyone to properly install, care for and operate his own engine. The book contains a complete index by which each trouble, remedy, etc., can be readily referred to. The 1915 edition is a considerable enlargement on those of previous years.

Engineering Workshop Drawing. By Henry J. Spooner, C.E. Published by Longmans, Green & Co., London and New York. First edition, 1914. 128 pages, 618 illustrations, 9½ x 7 ins. Board cover. Price 50c. net.

The author has written a number of books on geometrical drawing and machine design, several of them being to-day in prominent use. This new work relates to the first steps to be taken in engineering drawing. It deals with the drawing instruments and their proper use; with the proper presentation of conic sections and such simple problems relating to them as occasionally occur in engineering drawing; with scales, their construction and use, and with spirals and miscellaneous curves such as are used in machine drawing. Then there is taken up the subject of detail in working drawing, such as keys, bolts, nuts, pipes, and pipe joints, etc. A chapter is devoted to lettering, dimensioning and tracing. An interesting section of the work is a chapter on the principal metals used in the construction of machines.

While a work of this kind necessarily entails an abundance of illustrations, some of them not susceptible to reproduction on a scale which a page of ordinary size will permit, one regrets the use, however, of an 8-inch reading line such as is used in the compilation of this work. There is no small difference of opinion respecting the most suitable length of lines, but, fortunately, one is rarely called upon to use a line much longer than five inches. In the opinion of the reviewer, the work would