

A Treatise on Hand Lettering. By Wilfred J. Lineham, B.Sc., M.Inst.C.E., M.I.Mech.E., M.I.E.E. Published by Chapman & Hall, London. First edition, 1915. 282 pages, 117 plates, 8 x 12 inches, cloth. Price, \$2.50. (Reviewed by J. H. Parkin, B.A.Sc., Lecturer in Hydraulics, University of Toronto.)

While good lettering is recognized as being essential in drafting practice, lettering has not been developed nor applied in America to the extent that it has in Europe, due to the difference in the drawing office methods employed. Because of its importance, many books have been published devoted entirely to lettering, and it is dealt with more or less briefly in works on drafting, machine design, etc. The present treatise, however, while written from the standpoint of European practice, is a distinct departure from the usual lettering text, in the clearness of the explanations of the methods, and the number, arrangement and character of the copyplates.

The author treats the drawing of the letters in several stages, namely, pencil outline, inking, complete and properly spaced alphabets, continuous sentences, centralized titles, and applications to drawings. The drawing of each style of letter, commencing with those most commonly used, is shown in these successive stages by a series of plates accompanied by explanatory notes, outlining the method clearly and drawing attention to the difficult points. The letters and figures are arranged on the plates, first in order of difficulty, then alphabetically and numerically, followed by the plates of sentences and titles, the examples chosen for the latter being those likely to occur in the practice of engineers and architects. In addition to the usual types of letters, the familiar American (Reinhardt) and the European "Engrossing" styles are illustrated. Several varieties of letters are shown suitable for architects, together with typical titles, samples of mottoes for friezes and examples of Greek letters, rubber stamp and stencil letters. Short explanations are also included of shading, zincography, photo printing processes, patent office drawing requirements, and the making of scales. An important section of the book is that devoted to the figuring of dimensions showing the proper placing of dimensions, arrowheads, figures, and so on. The book is completed by a series of folding plates showing examples of good practice in various types of drawings, mechanical, civil and architectural.

Summing up, the subject of lettering is dealt with in a comprehensive and practical way, the extreme and seldom used styles having been avoided and the drawing of those in everyday use fully and clearly illustrated. The methods used make the book equally useful for self-instruction or school use. The book will undoubtedly prove of great assistance to all those desiring to become proficient letterers and should make a desirable text for engineering and technical schools.

Irrigation Structures, Vol. III. By B. A. Etcheverry, Head of the Department of Irrigation, University of California. Published by McGraw-Hill Book Co., New York. First edition. 421 pages of text, 186 cuts, 20 plate inserts, 6 x 9 ins., cloth. Price, \$4 net. (Reviewed by H. G. Acres, Hydraulic Engineer, Ontario Hydro-Electric Power Commission.)

This volume is the third and last of a series having the general title "Irrigation Practice and Engineering," the specific titles of the first and second volumes being respectively, "Use of Irrigation Water and Irrigation Practice" and "Conveyance of Water."

The scope of the work as a whole is clearly set forth by the author in his preface to the third volume, from which the following is quoted:

"This treatise on irrigation engineering, as presented in Volumes II. and III., is largely confined to canals and other works which pertain to the usual types of irrigation systems. No attempt has been made to discuss the subject of dams used for the development of storage, and of high masonry dams used for the diversion of water. On the other hand, much space has been devoted to a rather complete consideration of low dams used for diversion weirs.

"The division of this work into two volumes has been made primarily to avoid an excessively bulky book in one volume. The division has had to be made more or less arbitrarily. These two volumes are not entirely separate from Volume I., which has been presented as an introductory volume, and to which reference is made in Volumes II. and III."

It appears, therefore, that as a complete treatise on the subject of irrigation, the three volumes must be regarded as one.

The subject matter of Volume III. is divided into thirteen chapters, having the following headings:—

Diversion Works, Scouring Sluices, Fish Ladders, Logways, Main Headgates or Regulation for Canal System, Canal Spillways, Escapes and Wasteways, Sand Gates and Sand Boxes, Crossings with Drainage Channels, Drops and Chutes, Distribution System, Check Gates, Lateral Headgates and Delivery Gates, Road and Railroad Crossings with Canals, Culverts, Inverted Syphons and Bridges, Special Types of Distribution Systems, Measuring Devices.

To each of the above chapters is appended a copious and valuable list of references. Also throughout the text are distributed a considerable variety of cost data so analyzed and sub-divided as to be most useful for estimating purposes, if used with judgment.

As the author himself indicates in his preface, the volume under discussion cannot be considered as complete in itself, nor, with the possible exception of the first four chapters, is the subject matter susceptible of general application. Chapter 1, which contains an interesting and suggestive discussion on weirs on pervious foundations, is worthy of study by any engineer having to do with hydraulic problems, as is also Chapter 4, which contains an especially valuable theoretic and descriptive treatment of syphon spillways and automatic flashboards.

The evident function of this volume, with its predecessors, is to serve as a text and reference book for the practicing irrigation specialist and the student of irrigation engineering. Judging from Volume III., the author would seem to have produced a work which, as a whole, covers the subject in greater detail than the works of earlier authors, and which, in view of its recent publication, has the additional merit of being quite up to date.

Ford Methods and the Ford Shops. By H. L. Arnold and F. L. Faurote. Published by the Engineering Magazine Co. 440 pages, illustrated, cloth, 7 1/4 x 10 1/4 ins. Price, \$5 net. (Reviewed by J. E. Burns.)

This book is a rearrangement of a series of articles that appeared in the Engineering Magazine, and originated at the suggestion of the editor of that paper. It is wholly descriptive of the men, methods and machinery of the Ford Automobile Co., of Detroit. We are told in the preface that "To the manufacturer, manager or engineer confronted by the problems of mechanical production, this