

# The Engineer's Library

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## BOOK REVIEWS.

**Military Preparedness and the Engineer.** By Ernest F. Robinson, A.M.Am.Soc.C.E. Published by the Clark Book Co., Inc., New York. First edition, 1916. 224 pages, 75 illustrations,  $4\frac{1}{4} \times 6\frac{3}{4}$  ins., flexible leather. Price, \$1.50. (Reviewed by F. A. Snyder, M.Can.Soc.C.E., M.Am.Soc.C.E., Lieut.-Col. National Guard of Pennsylvania—retired.)

This book, while primarily written to encourage military preparedness by the engineers of the United States, can be read with interest and profit by the engineers of any country, especially those engineers or line officers and N.C.O.'s who in peace or war times desire to perfect themselves in the rudiments of military field engineering so as to give their government the best use of their services. The author explains the different work of the engineer in war, how best to obtain a military training, the National Guard or Organized Militia, Military Organization and Administration, the duties, organization, equipment and special services of engineer troops in the field.

Rifle and artillery fire is fully explained, and their effects shown.

Field fortifications are shown in detail and embody practically the latest types used in Belgium and France. The different types of obstacles are shown.

Siege works are described in detail. In the chapter on Demolitions is an excellent article on "High Explosives," by Professor M. C. Whitaker, of Columbia University.

Military bridges, knots and lashings, pile, spar, trestle and floating bridges of all kinds are fully described.

In the chapter on Topographical Sketching the different methods in use by the military topographers of the U.S. Army are described. These differ quite a lot from the methods in use in the British Army, as the preference is given to the plane table methods, either with or without a compass set in the board.

With these methods it is possible to teach men who had no previous knowledge of surveying, how to make

good sketches in two or three lessons, and the prismatic compass is only used for running traverses for control.

These methods should be used more by engineers in civil life for rough reconnaissance surveys for railroads, drainage projects, etc.

The book closes with a brief description of the needs of the engineers in war, and in an appendix is shown a list of references of books that are recommended for reading by civilian engineers and a list of property carried by an engineer company in the field.

While this book does not attempt to cover the whole field of military engineering, it does give the preliminary details in a readable form that should interest civilian engineers and line officers in this branch of the service.

**Concrete Construction for Rural Communities.** By Roy A. Seaton, M.S., Professor of Applied Mechanics and Machine Design, Kansas State Agricultural College. Published by the McGraw-Hill Book Co., Inc., New York. First edition, 1916. 223 pages, 96 illustrations,  $5 \times 8\frac{1}{4}$  ins., cloth. Price, \$2 net. (Reviewed by J. F. Rhodes, Canada Cement Co., Montreal.)

This book in Part 1 covers very thoroughly all those points in regard to materials which are used in making concrete and also the methods used in the field and in the laboratory to test these materials.

In Part 2, "Plain Concrete," the problem of proportioning concrete is well covered and a good explanation is made in regard to the advisability of correctly apportioning concrete. A rule is given which, while it is not new, is made in very plain terms, so that it can be used by any man not well acquainted with engineering formulas. This rule is adapted from Mr. Fuller's rule as to the proportioning of concrete.

In the Part "Reinforced Concrete," he has given in very plain language the necessity of reinforcing and a general discussion of the different materials that are used for reinforcement. He also gives some problems and solutions in this section of the book which are very simple and can be understood and applied by anyone accustomed to doing small building operations.

Part 4 covers miscellaneous matters and goes very much into detail in the production of good surface finishes in concrete, in the use of cement for stucco and plaster work and also in the theory and methods of obtaining waterproof concrete. In this section the methods of constructing building blocks, bricks, drain tile and pipe are covered fairly well and enough information is given to instruct the ordinary builder how to make these products of concrete.

The book as a whole is one which covers the use of concrete in smaller structures completely and is written in a language which can be readily understood by farmers and small contractors. While there is really nothing new in this book of any consequence which has not already appeared in print, it is one of the first books which has appeared on the market which has covered the subject as completely as it is given within its covers.