Laboratory Manual of Testing Materials.—By William Kendrick, Hatt, C.E., Ph.D., Professor of Civil Engineering, Purdue University; and H. H. Scofield, M.E., Assistant Professor in Laboratory for Testing Materials, Purdue University. Published by McGraw-Hill Book Company, Inc., 239 West 39th Street, New York. Cloth; 5 x 7½ inches; 125 pages. Price, $1.25 net.

Reviewed by Robert J. Marshall, B.A.Sc.,
Department of Applied Mechanics, University of Toronto.

In the mass of engineering literature published on all sorts of technical subjects, this book by Professors Hatt and Scofield is the first work of its kind which has come to my notice on this particular subject. There is a real field for a student's text in Testing Materials, and this book is the first of its kind which deals in detail with experiments and methods of performing the tests, and seems to fulfil the above need.

The book, which is of convenient size, is well edited and nicely bound. It is divided into two sections. The first forty pages contain: a chapter on general instructions to the student, such as the necessary precautions for successful experimenting; a chapter of definitions which serves to refresh the instruction of the earlier years and a chapter descriptive of the ordinary machines and instruments used in an average experimental laboratory. Chapters VI. and VII., which comprise the second section, outline the experiments and give detail methods of performing each experiment. The instruction is precise and to the point. The references are well chosen, and in all the book appears to be the result of long experience in this kind of work.

Reinforced Concrete Construction.—By M. T. Cantell, Head of the Technical Department of the Kelvin Technical High School, Winnipeg, Man. Published by E. F. & N. Spon, London, Eng., and Spon & Chamberlain, 123 Liberty Street, New York. 240 pages; 250 illustrations; 7 plates; 7 x 10 inches. Price, $5.00 net.

Reviewed by Prof. P. Gillespie
Department of Applied Mechanics, University of Toronto.

This well-printed volume, comprising some 240 pages, is the second and more advanced of two works by Mr. Cantell on reinforced concrete design. A knowledge of the elements of design in this material is really necessary to an understanding of the text, and it is assumed by the author that the reader possesses such a knowledge. The book favors the British in its notation, in its illustrative typical designs, and in the authorities which it follows. This is apparent, for example, in those somewhat arbitrary rules of design which all regulations contain, and which are necessary in cases where theoretical treatment is impossible or unduly involved. Such matters as the limiting ratio of width of slab to thickness of web in tee-beams, and the minimum spacing of rings in columns reinforced by hoops are decided according to R.I.B.A. practice rather than American. This circumstance, however, should not spoil the text for American readers nor deprive them of its benefits. Indeed, it is the reviewer's opinion that had American practice been leavened somewhat more by British caution and thoroughness during the past decade, fewer fatal failures of reinforced concrete structures on this continent would have occurred.

An excellent feature of the work is the large number of actual problems which have been worked out in detail by the author. These comprise a great many types of construction in reinforced concrete, and are admirably adapted to the needs of the inexperienced designer. Graphical and analytical methods are employed, and the problems present great diversity.

The chapters on Retaining Walls, Water Tanks and Towers, Bunkers, and Arches and Bridges are among the most interesting in the book, and, as the reader will observe, investigate fields among the latest of those invaded by this material, whose applications in building construction are daily increasing in number. The volume is a marked improvement over the ill-digested amateurish stuff that, during recent years, has appeared on this side of the water, and could very properly find a place in the library of both young and old students of the subject.

Locomotive Boiler Construction.—By Frank B. Kleinhan, with additions by George L. Fowler, M.E. Published by Norman W. Henley Publishing Company, 132 Nassau Street, New York. 478 pages; 5 folding plates; 40 tables; 350 illustrations; cloth; 5½ x 8 inches. Price, $3.00 net.

Reviewed by R. W. Angus,
Professor of Mechanical Engineering, University of Toronto.

This is a practical treatise for the use of boiler-makers, boiler-users and inspectors; and, since it is designed for the practical man, there is none of the so-called theory, to speak of, in its subject matter.

The chapter on the types of boilers is very short, and is purely introductory, no illustrations being inserted. The laying out of the various sheets of a boiler, which is next dealt with, is a quite complicated and difficult matter, requiring much skill for exactness. The author has omitted the elaborate methods, substituting for them approximations which are probably accurate enough. Explanations as to why things are done are usually not given, and for this reason the reader might have trouble applying any of the methods to slightly different designs.

Considerable space has also been devoted to flanging, which has been treated entirely in a descriptive way, and illustrated quite fully. This is followed by chapters on punching, shearing, plate-planing, etc., the effort being to follow the various parts through the shop in order in which the work would be done. Riveting and staying receive some fair share of attention, and such matters as the mountings and general assembling are dealt with.

The concluding 120 pages contain tables of various sorts, many of which would be helpful, while the back of the book contains five folding plates.

To the builder or mechanic wanting general ideas on working out the details of a locomotive boiler the book would be of some interest, but as it deals only with the locomotive boiler it can scarcely be said to be of general interest. The problems connected with the building of the locomotive boiler are, however, similar to those with other types.

PUBLICATIONS RECEIVED.

Office and Field.—Seventh annual convention number of the L.U.A.C., Ottawa, 1913. 372 pages, 6½ x 10 inches. Published by W. B. Campbell.

Carbon Circuit Breakers.—Circular No. 1205, of the Canadian Westinghouse Company, Limited, Hamilton, Ont., is descriptive of a half-dozen types, and their auxiliary mechanisms.

Handbook of British Columbia.—Bulletin No. 23 (seventh edition) of the Bureau of Provincial Information, descriptive of British Columbia, as to its position, resources, climate, industries, etc.

The Resources of Tennessee.—This is a magazine published quarterly by the State Geological Survey, and devoted to the description, conservation, and development of the resources of Tennessee.