

mathematician accustomed to treating these problems and a professional builder and designer of reinforced concrete with many years of practical experience behind him.

**Rivers and Estuaries.**—By W. Henry Hunter. Published by Longmans, Green & Company, 39 Paternoster Row, London. Canadian agents, Renouf Publishing Company, Montreal. Cloth; 6 x 9½ inches; 66 pages.

This little volume, which comprises an elementary study of "Rivers and Estuaries," is to a large extent based upon lectures on this subject, which were delivered by the author in the beginning of 1911 at the desire of the Council of the Institution of Civil Engineers, and under the Vernon-Harcourt bequest, to the students of the Institution in various parts of Great Britain; and upon further lectures on the subject of "Streams and Tides," delivered in the University of Manchester to the students in the Department of Engineering there.

The treatise contains a great deal of valuable information on the behavior of rivers under natural and artificial conditions, much of which information has been compiled from the author's personal experience. Some idea of the treatment of the subject may be obtained from the headings of the various chapters, viz.: Difficulties of the Subject, Physical Difficulties, the Pursuit of Information, Flow around Bends, Mouth of the River, River Improvement Works, Some European Examples, Some American Examples, the Mersey Estuarial Models.

The book is well written in clear and simple language, and forms a valuable addition to the literature of the subject.

**Electric Interlocking.**—(First edition.) Published by the General Railway Signal Company, Rochester, N.Y. 435 pages; 4 x 7 inches. Price, \$3, postpaid.

"Electric Interlocking" is a handbook that will be of service in switch and signal practice, containing in well-printed, well-illustrated and durably-bound form a careful treatment of electrically-operated interlocking mechanisms and appliances. The handbook contains 284 illustrations, and many tables similar to those found in ordinary handbooks. Some of its illustrations and wiring diagrams have the current-carrying wires printed in red ink, making them readily distinguishable when referred to in the text. Sections are devoted to the installation and operating data of the various appliances, to wire and conduit work, installations in concrete, including general information covering methods of mixing and tables of volumes of materials required. Various sections also are devoted to standard signals, nomenclature of units, wires, etc.

The book will prove itself generally useful to railway men, not only for the newer instruction it contains, but for its concise form for reference and its carefully compiled index, covering in detail the entire work. The index is one of the distinctive features of the handbook.

**The D'Este Steam Engineers' Manual.**—Published by the Julian D'Este Company, Boston, Mass. 480+54 pages; 4½ x 7 inches. Price,

The manual is in two sections, Steam and Electrics. It contains a carefully selected mathematical introduction leading to the manipulation of logarithm and of steam tables, etc. The first part then covers mechanical details, such as the heating of feed water, shafting, size of pulleys, and the like, clearly and concisely, and, although we are of the opinion that the space devoted to elementary mechanics is somewhat unnecessary to the text, still it is largely a question of opinion, and is atoned for by the admirable treatment of mechanical energy and power transmission. The handbook also contains sections relating to internal combustion engines, mechanical refrigeration briefly.

Peculiar to this latest edition, which is the second, is an electrical appendix by Charles Penrose, E.E., which occupies some 360 pages, and is entirely distinct from the steam section. It is to be pointed out that the latter comprises a valuable addition of material not contained in the first issue of the manual, but that the electrical appendix outclasses the steam section to such a degree that the title of the book as given above hardly seems applicable.

The electrical section contains 240 illustrations of electrical equipment and diagrams, and no phase of electrical work that would be of interest to steam engineers has been overlooked. The section is, on the whole, well arranged as to prove itself of value for electrical engineers as well.

One feature which the book lacks is a suitable index. That relating to the steam section is buried in the midst of the text, illustrations are not indexed at all, and the index to the electrical appendix is scant. Overlooking these deficiencies, the manual is, as stated, greatly enhanced by the additional sections, and will prove itself almost indispensable to steam engineers. An attractive feature is in the comprehensive bibliography which supplements the steam section.

**The Concrete House and its Construction.**—By Maurice M. Sloan. Published by the Association of American Portland Cement Manufacturers, Philadelphia. 224 pages; 6 x 9 inches; illustrated; cloth binding. Price, \$1.00 net.

This book endeavors to make clear the advantages of concrete in the construction of buildings. It compares in its preface the fire losses of American and European countries, and attributes the lack of fireproof construction to a mistaken idea of cost. It goes into detail with concrete construction as applied to houses, and should be particularly valuable to the architect.

Chapter I. deals with the advantage of concrete over other materials for house construction. Architectural design is dealt with in Chapter II., and in this chapter, as well as throughout the book generally, the illustrations are for the most part new and unique, certainly displaying a wide adaptability of cement in both the interior and exterior. Details, such as types of floor construction and reinforcement, roof and wall construction, are dealt with superficially in Chapter III., which is followed by general suggestions regarding construction operation, including the laying of reinforcement, the treatment of concrete surfaces, etc. The determination of strength and design of reinforced concrete in house construction suitably well covered, little of a technical nature being attempted, only sufficient to bring out general proportions of various members as called for by the loads to which they will be subjected.

Chapter VII. contains a number of tables for use in the design of reinforced concrete construction, giving resistance moments of floor beams or slabs, etc., for various diameters of reinforcing rods and spacings. Concrete block houses are lightly dealt with in the closing chapter, included in which are a number of illustrations showing the attractive character of concrete, even in its use as plain block, no ornamentation or pretentious manner being attempted.

The book is well printed and very handsomely illustrated, and the qualities which concrete construction possesses by way of durability, sanitation, fire resistance, etc., are carefully outlined.

**Electricity for the Farm and Home.**—By Frank Koester, A.M.A.I.E.E. Publishers, Sturgiss & Walton Company, New York. 279 pages; 5 x 7 inches; 35 illustrations; cloth. Price, \$1.00 net.

Frank Koester's books generally lend themselves to careful reading by reason of the continued interest which is created as one progresses, and his latest book is no ex-