

ters on "Costs of Buildings," "Foundations," "Ground Floors," "Upper Floors," "Walls, Partitions and Openings," "Roofs and Roofing," "Notes on Special Buildings," "Storage Pockets and Hoisting Towers," "Factory Heating," "Air Washing Systems," "Factory Lighting," "Drainage of Industrial Works," "Water Supply and Storage Tanks," "Steel Chimneys," "Fire Protection," "Cranes," "Yards and Transportation," "Estimating," "Construction," "Welfare Features," and "Standard Buildings." A useful bibliography of the subject of industrial plants is given at the end of the book.

The book is in every way a commendable addition to the literature of industrial plant design and should be in the hands of all those responsible for such work.

**Fire Prevention and Fire Protection, as Applied to Building Construction.** A handbook of Theory and practice.

by Joseph Kendall Freitag, B.S., C.E. Published by John Wiley & Sons, New York. and Chapman & Hall, London. 1,038 pages;  $4\frac{1}{2} \times 7$  inches; 395 illustrations; Morocco, \$4.00 net.

Reviewed by C. H. C. Wright.

This is a very timely handbook for the architectural profession and others interested in the text. It contains a very large amount of useful information sufficiently condensed as to be serviceable without being so brief as to leave the reader in doubt. The whole book is written in a descriptive manner which will make it interesting reading, and has been divided into six parts, viz.: I., Fire Prevention and Fire Protection; II., Fire Tests and Materials; III., Fire-Resisting Design; IV., Fire-Resisting Construction; V., Special Structures and Features, and VI., Auxiliary Equipment and Safeguards.

These parts have been further divided into chapters, each of which has been well studied with reference to the others, so that it is comparatively easy to find information on any matter connected with this broad subject. For example, Chapter III. of Part I. treats very thoroughly and clearly, as a handbook on this subject should, of "The Theory and Practice of Fire Insurance," and is of itself worth the price of the handbook. The chapter immediately following on "Slow-Burning or Mill Construction" is worthy of mention.

Chapter VII. in Part II., "The Materials of Fire-Resisting Construction," contains much useful information compiled as it is from a multitude of reports, laboratory tests, fire tests and conflagration tests, showing the behavior of many building materials. A few quotations which will show the attitude of the author might not be out of place here.

"No material with which we are at present acquainted, at least to any commercial extent, is fireproof." "The word 'fireproof' rather describes an ideal condition yet to be obtained." "Hence, in view of the misconception attached to the term 'fireproof' the word has been discarded for the more rational one 'fire-resisting'."

"The efficiency of fire-resisting construction depends largely upon (1) The choice of materials; (2) The materials used for insulating or protecting those load-bearing members which, of necessity, are not fire-resisting; and (3) The limitation as far as may be possible of combustible finish or trim."

On the much debated question of structural terra-cotta or concrete, the author says (page 235): "No other materials employed in the fire-resisting construction have exhibited such seemingly contradictory testimony as to their fire-resisting qualities as have structural terra-cotta and concrete. Arguments and examples for or against tile and concrete could easily fill a volume of large size. If one has any preconceived bias in favor of either, it is not difficult to find, from recorded opinions and experiences, data sustaining such preferences." After some seventeen pages of condensed

information the author concludes with the following, (page 252): "The writer believes that there is no decided choice between good concrete and good structural terra-cotta construction."

Under the heading of "Permanency and Corrosion" is tabulated the information obtained from the delapidation of a number of buildings such as at the Bank of the State of New York, built in 1855; the Mutual Life Building, San Francisco, 1893; the Gillender Building, New York, 1896, etc.

Among the opening remarks of Part II., on Fire-Resisting Design, is the following: "The question goes deeper than this, for the vital fire-resisting qualities must be inherent in the design, and cared for as naturally as are commercial aspects. A building intended to resist fire may be likened to a position intended to resist attack. The works to be defended must first be well chosen as to position, and substantially and scientifically designed; second, well carried out in all details at crucial points; and lastly, manned by an effective garrison or force."

The conclusions drawn from experience with regard to the many features in planning are very clear and forceful; e.g., no fire drill could be of assistance in a single loft building in New York City, and the only thing left for the occupants of any such building is to jump or be burned to death, as was the case at the Asch Building, (the Triangle Waist fire).

Much could be said of the following chapter on "Efficiency vs. Faulty Construction," as well as of many of those which follow, but space forbids anything more than to say that Part V. treats of the subject under the headings: Theatres, Schools, Residences, etc., and Part VI. of Sprinklers, Alarm Systems, Watchmen, etc.

The question of relative costs is fully dealt with in every case throughout the book and forms a most valuable feature of it.

This book will prove a great stimulus to the scientific and systematic study of fire prevention and fire protection.

**"Canadian Almanac."** Published by the Copp, Clark Company, Toronto. Cloth,  $6 \times 9$  ins.; 520 pages.

This volume, brought out by the Copp, Clark Company, has been published continuously since 1848, and its usefulness increases each year. It contains, among other things, astronomical calculations, the complete customs tariff, a full list of Canadian post-offices, and information as to postal rates, militia list, names of all clergymen and lawyers, of members of the Dominion and Provincial Governments and chief officials, county and township officers, newspapers, educational institutions, Canadian amateur athletic records, and a splendid series of maps.

## PUBLICATIONS RECEIVED.

**"Forest Conditions of Nova Scotia."** By B. E. Fernow. Published by permission of the Department of Crown Lands, Nova Scotia. Issued by The Commission of Conservation, James White, secretary, Ottawa.

**U.S. Bureau of Mines.** The second annual report of the Director of the Bureau of Mines to the Secretary of the Interior, for the fiscal year ended June 30th, 1912. Washington, D.C.

**Report of the Forester for 1912.** By Henry S. Graves, U.S. Department of Agriculture, Washington, D.C.

**Principles of Drying Lumber at Atmospheric Pressures.**—By Harry E. Tiemann. Being Bulletin No. 104, Forest Service, U.S. Department of Agriculture, Washington, D.C.