

The chapters assembled in this volume appeared originally in *The Engineering Magazine* as a series of articles, which ran from January to July, 1912. The volume forms a comprehensive definition of this philosophy of management, and forms a valuable addition to Efficiency Management textbooks.

**Energy and Velocity Diagrams of Large Gas Engines.**—By Paul L. Joslyn. Published by the Gas Engine Publishing Co., Cincinnati, O. Cloth; size, 6 x 9 in.; 70 pages, 62 diagrams. Price, \$2.00.

The designer of large gas engines has to consider many things which on small engines are often left to be worked out after the engines have been built in its first form. With small engines it is not so expensive or so difficult to change some points, and it frequently happens that very radical changes in construction are so effected. But with the engine of several thousand horse-power it is impossible to do this. So far as can be done, everything must be worked out in advance. Castings and machine work run into a large amount of money on engines working on blast furnace gas, and to scrap a cylinder or a bed casting because some change is found necessary may amount to several thousand of dollars in initial expense, manufacturing cost, delays, etc. In this book, the author gives the methods of laying out energy and velocity diagrams for large engines operating on blast furnace, producer or natural gas, with instructions as to their use, etc. The data given is the result of actual designing of this character on some of the largest engines built in American and Europe, and will be found of inestimable advantage to the designer working on engines of this character.

**Central Station Heating.**—By Byron T. Gifford. Published by Heating and Ventilating Magazine Co., New York. Leather; size, 5½ x 9 in.; 208 pages.

Central Station Heating during the last three or four years has received a great impetus, and a new era in this branch of engineering is rapidly dawning. With the increased attention and interest it has become desirable that the engineers interested in this department of engineering design should have the existing data on the subject presented in concrete form. Central station heating in its broader sense is properly classed as a public utility, and will eventually be controlled by the different utility commissions. As the development of these plants increase the field for them will become larger. Many of the elementary principles of the science of heating have been omitted, but the possibilities and the limitations of these plants are clearly outlined. The volume includes chapters on Pipe Line Losses, Pipe Line Design in General, Rates in General, The Heating Station, Operation and Maintenance, Management, Franchises, Building Equipment in General, and miscellaneous data. The book affords a most valuable addition to the literature of the subject, which is exceedingly small, and will be welcomed by all engineers interested in this particular branch of engineering.

**The Materials Used in Sizing.**—By W. F. A. Ermen. Published by Constable & Co., London. Cloth; size, 5 x 7½ in.; 119 pages. Price, \$1.40.

This little volume was compiled from a course of lectures delivered at the Manchester School of Technology, and deals with the chemical and physical properties of the materials used in sizing, giving simple methods for their technical analysis and valuation. Chapters are included on The Starches, Weighting Materials, Softening Ingredients, Antiseptics, Analysis of Size, Warps and Cloth, The Preparation of Normal Volumetric Solutions and Tables.

**Handbook for Highway Engineers.**—By Wilson G. Harger and E. A. Bonney. Published by McGraw-Hill Book Co., 239 West 39th Street, New York. Size, 4 x 7 in.; 500 pages. Price, \$3.00.

This admirable publication is divided into two parts:—  
Part I. Theory of Design.  
Part II. Practice of Design and Construction.

The authors are men actually engaged on roadwork, and are, therefore, in a position to state clearly and well the subject matter of the text.

The publication contains the information ordinarily used in the design and construction of roads warranting an expenditure of from \$5,000 to \$30,000 per mile.

The information is presented in a compact and convenient form, and in addition to a table of contents there is a complete index.

It is a book valuable to experienced and inexperienced road-builders alike.

The cost data furnished is a valuable contribution to the literature on road-making, but the table and lists of quantities is if anything more useful.

The following questions are dealt with in logical sequence: Grades and Alignment, Pavements, Surveyors, Estimating, Construction, Specifications, and in addition the book contains sixty-seven tables.—E.A.J.

**Concrete Highways.**—Published by the Association of American Portland Cement Manufacturers, Land Title Building, Philadelphia, Pa. Paper; size, 6 x 9 in.; 95 pages. Profusely illustrated; free.

Every person interested in the good roads movement is aware of the latest development in this important work through the use of concrete. This new type of road is now the subject of extended experiments by the United States Government. It has met with such pronounced success in Wayne county, Michigan, as to give that locality national celebrity. The Association of American Portland Cement Manufacturers has published for free distribution a comprehensive book, entitled "Concrete Highways," which will interest road supervisors, contractors and taxpayers in every section of the country. The book, which is handsomely and profusely illustrated, contains nearly a hundred pages. It was prepared by expert road engineers, and goes into every detail of construction, concluding with a tabular digest of concrete pavements in all sections of the country. The various chapters include discussion of bituminous compound wearing surfaces, grouted pavements, reinforced concrete pavements and specifications for the one and two-course types. In fact, the book covers the entire subject in the most reliable and authentic way. Road supervisors especially will find it of inestimable value, and the taxpayer will be extremely interested in the economical results obtained by the introduction of these durable concrete highways.

**Tunneling: A Practical Treatise.**—By Charles Prelini, C.E., author of "Earth and Rock Excavation," "Dredges and Dredging," "Earth Slopes, Retaining Walls and Dams"; Professor of Civil Engineering, Manhattan College, New York. Sixth edition, revised and enlarged. New York: D. Van Nostrand Co. Cloth; size, 6 x 9¼ in.; pp. xix. + 349; 167 text illustrations. Price, \$3.00 net.

This standard treatise on tunneling needs little comment, for it is now in the sixth edition, and is recognized as an authoritative exposition of the subject. During the few years that have elapsed since the publication of the first edition of this work, the art of tunneling through different soils, and especially under large bodies of water, has made considerable progress. During the last ten years no