

sense a manual of color making, but it will be found most useful by those who are called upon to examine pigments as a guide to the selection of those which are suitable and the rejection of those which as a class, or through individual inferiority are unsuitable for the class of work to be undertaken.

**EASY LESSONS IN ROOF MEASUREMENTS.** By William Neubecker. New York: David Williams Company, 1903. 16mo. Pp. 31. Price 25 cents.

Twelve short lessons on figuring from architects' or scale drawings the amount of material required to cover a given surface in flat, hiped, or irregular-shaped roofs.

**THE ROENTGEN RAYS IN MEDICINE AND SURGERY AS AN AID TO DIAGNOSIS AND AS A THERAPEUTIC AGENT.** By Francis H. Williams, M.D. New York: The Macmillan Company, 1903. 8vo. Pp. 757. 428 illustrations. Price, \$6.

No discovery of modern times has made a more profound sensation than the discovery of the Roentgen rays, and it is fortunate that instead of being a scientific plaything it has been put to practical use in the diagnosis of disease, and as a remedial agent. In two years there have been three editions of the volume before us, the first edition being exhausted in three months. The descriptions of the apparatus and methods employed are clear and concise, and the half-tones of radiographs are well executed. The subject is treated in a scholarly way and the book is one which we commend not only to the physician, but to the physicist as well.

**ELECTRIC WIRING. A Primer for the Use of Wire Men and Students.** By W. C. Clinton, B.Sc. New York: E. P. Dutton & Co. 16mo. Pp. 179. Price, 60 cents net.

This little book is intended as an introduction to the art of indoor electric wiring as practised in the fitting up of private houses, stores, etc., with lamps and bell circuits. Worked examples have been given where possible. The book is intended specially for the use of those preparing for the preliminary examination of the City and Guilds of London Institute. We have already expressed our opinion of the English examination system in this column. The practice is, of course, English, but it will prove useful as well to the American student. We regret to note that the title page has no date. All scientific books should be properly dated.

**AN INTRODUCTION TO THE STUDY OF TEXTILE DESIGN.** By Aldred F. Barker. New York: E. P. Dutton & Co. 1903. 8vo. Pp. 211. Price, \$2.50.

A most admirable book. The primary object of this work is to show clearly how the special knowledge required in the textile industries may be co-ordinated into a truly educational discipline. The numerous plates and design sheets are admirably engraved and printed and the diagrams showing the principles upon which textile machinery is based are the best we have ever seen. The chapter on the Science of Cloth Construction is particularly valuable. It is a book which should be in the hands of all those connected with mills.

**THE PRINCIPAL SPECIES OF WOOD. Their Characteristic Properties.** By Charles Henry Snow, C.E., Sc.D. New York: John Wiley & Sons. 1903. 8vo. Pp. 203. Price, \$3.50.

An excellent book, admirably illustrated by thirty-nine full-page plates and many figures in the text. It is intended for those who are not foresters or botanists, but who use woods or desire knowledge of their distinguishing properties, therefore it will appeal especially to engineers, but all who have occasion to use woods will find it of great value. Under "Live Oaks," for instance, we find that the author deals with Nomenclature, Locality, Features of Tree, Color, Appearance or Grain of Wood, Structural Qualities of Wood, Representative Uses of Wood, Weight of Seasoned Wood in Pounds per Cubic Foot, Modulus of Elasticity, Modulus of Rupture, Remarks. Other woods are treated in a similar manner.

**FOREIGN TRADE REQUIREMENTS.** New York: Lewis, Scribner & Co. 1903. 4to. Pp. 532. Price, \$10.

This reference volume, which is published annually, contains complete information concerning the commercial countries of the world as to trade conditions, traveling salesmen, agencies, and advertising, credit customs, commercial, trade-mark, and patent laws, transportation facilities, principal cities, postal regulations, coins and currencies, weights and measures, and cable rates. While the book was issued primarily for the benefit of the American exporter, the demand for it from England and Germany has been large, and this proves that the manufacturers of these countries are keenly alive to the necessity of utilizing every possible aid for the extension of their foreign business. The work has been conscientiously done, and the book cannot but prove of great value.

**THE IMPROVEMENTS OF RIVERS.** By B. F. Thomas and B. A. Watt. New York: John Wiley & Sons. 1903. 4to. Pp. 356. 92 full-page and folding plates. Cloth, \$6.

The second title is "A Treatise on the Methods Employed for Improving Streams for Open Navigation and for Navigation by Means of Locks and Dams." This is the first work of its kind published in the English language, although engineers have long recognized the

value it would be to the profession to have a treatise covering the principal features of that branch of engineering pertaining to the improvements of rivers. This branch comprises a great variety of works: Locks and Dams for Canalization, Dikes and Jetties for Concentrating and Controlling Streams and Bank Protection in Regularization, Levee Building and Storage Reservoirs for the Prevention of Inundations, and Dredging and Snagging for Keeping Channels during Times of Low Water. The object of the work is to provide in concise form a description of the various systems employed for bettering the condition of navigable streams, together with the methods usually adopted for their design and execution. It is an admirable contribution to engineering literature.

**STORAGE BATTERY ENGINEERING.** By Lamar Lyndon, B.E., M.E. New York: McGraw Publishing Company, 1903. 8vo. Pp. 382. Price, \$3.

The evident and long unfulfilled need of a practical work on the storage battery, particularly adapted for electrical engineers who are not chemists, and on the details of its engineering applications, has induced the preparation of this work which is intended to assist the practising engineer in designing, installing, and maintaining battery equipments and to guide him in the selection of types of batteries and auxiliary apparatus best suited to the service which they are to perform and at the same time to impress on the technical public both the advantages and limitations of the storage battery in practice. The author has performed an extremely difficult task in a most acceptable manner.

**FIRE INSURANCE AND HOW TO BUILD.** By Francis C. Moore. New York: The Baker & Taylor Company, 1903. 8vo. Pp. 860. Price, \$5.

It will prove a convenient book for architects, builders, and property owners who contemplate erecting buildings, enabling them to make inexpensive structural alterations which would secure lower insurance rates and save the burden of a lifelong insurance tax. The idea and plan of this book are excellent. The systems in use by the Fire Underwriters for determining rates are very complicated and are puzzling to the lay mind, but with the aid of this book the principles which underlie the formation of a rate will be understood. The work also deals with fire prevention and extinction, special features of manufacturing risks, the writing of policies, the adjustment of losses, etc.

**MODERN MEXICO'S STANDARD GUIDE TO THE CITY OF MEXICO AND VICINITY.** By Robert S. Barrett. Published by "Modern Mexico," the City of Mexico and New York, 1902-3. 8vo. Pp. 186, profusely illustrated. Price, 50 cents.

An admirable guide which should prove indispensable to all tourists. The illustrations are happily chosen, the plates have been well executed, and the printing is excellent. There is not a feature of the city, important or unimportant, which is not properly dealt with.

**TREATISE ON HYDRAULICS.** By Mansfield Merriman. New York: J. Wiley & Sons. 1903. 8vo. Pp. 585. 192 illustrations. Price, \$5.

The eighth edition has been rewritten and enlarged, which was rendered necessary by the many advances which have been made in hydraulics since 1889, when the first edition of this treatise was issued. Too much cannot be said in praise of this admirable book which is a standard text book for engineers and engineering students. It deals with the entire range of hydraulics, taking in the flow of waters through orifices, tubes, pipes, and over weirs. It also deals with the flow of rivers, water supply and water power, water wheels, turbines, naval hydromechanics, and pumps and pumping.

**EXPERIMENTS ON THE FLEXURE OF BEAMS. Resulting in the Discovery of New Laws of Failure by Buckling.** By Albert E. Guy. New York: D. Van Nostrand Company, 1902. 12mo. Pp. 122. Price, \$1.25.

The study of the failure of beams by the buckling of the compression side has been strangely neglected and now that it has been taken up it proves to be the central fact and key to the entire subject when looked at in the broadest sense. The analogy of the failure of the compression side of a beam by buckling to the method of failure of a long column was, of course, long ago remarked, but we believe that there has been no previous attempt to connect the two by a formula. Mr. Guy's experiments have been very successful in connecting them and in showing that Euler's formula for long columns is, in fact, the fundamental formula which lies at the base of the whole subject.

**HAND BOOK OF CLIMATOLOGY.** By Dr. Julius Hann. Part I. General Climatology. New York: The Macmillan Company, 1903. 8vo. Pp. 437. Price, \$3.

Dr. Hann's book has been translated by Prof. Robert de Courcy Ward, of Columbia University. The writer undertook the work primarily in order that it might serve as a textbook in the course in general climatology in Harvard University. At the same time the publication of a standard work on climate will, he hopes, lead to the extension and improvement of the teaching of scientific

climatology in English-speaking countries. The work is a very important one, and this new edition is an excellent contribution to the literature of meteorology.

**THE NEW ONION CULTURE.** By T. Greinier. New York: Orange Judd Company, 1903. 16mo. Pp. 114. Price, 50 cents.

A complete guide in growing onions with the greatest profit, explaining the whys and wherefores. Clear and minute directions are given of how the plants are grown; the cold frame; seed bed; planting; fire hotbed, hotbeds heated by steam; cheap greenhouse for market gardeners; greenhouse heated by hot water; quantity of seed required; time of sowing; varieties; what soil to select; how to manure and prepare it; onions on muck soil; clean soil essential; how the plants are set in the ground; tillage as moisture preserver and weed killer; tools of tillage; when and how to harvest the crop; danger in delay; signs of maturity; curing the crop; curing sheds; weight of crop; wintering onions; advantages and profits of the new way; estimation of cost and returns.

**THE RESISTANCE AND POWER OF STEAMSHIPS.** By W. H. Atherton, M.Sc., and A. L. Mellanby, M.Sc. Manchester: The Technical Publishing Company, Ltd. 1903. 16mo. Pp. 200. Price, \$2.

Almost all the recognized methods of determining the engine power required to propel steamships are discussed in considerable detail, and examples of their application given. The subject of the fouling of ships has also been dealt with fully, because of its important influence on the actual resistance of seagoing ships. The book will appeal to marine engineers and shipbuilders, and, in fact, to all who are interested in watching the development of steamships.

**A HAND BOOK ON THE STEAM ENGINE. With Special Reference to Small and Medium-Sized Engines.** By Herman Haeder, C.E. Translated by H. J. P. Powles. London: Crosby Lockwood & Co. New York: D. Van Nostrand Company, 12mo. Pp. 458. 1,085 illustrations. Price, \$3.

The present volume is profusely illustrated by very helpful engravings, and the number of tables is surprisingly large. The best Continental practice is given. The book shows the results of practical experience of engineers.

**TECHNICAL MYCOLOGY. The Utilization of Micro-organisms in the Arts and Manufactures.** By Dr. Franz Lafar. Vol. II. Eumycetic Fermentation. Part I. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lipincott Company, 1903. 8vo. Pp. 189. Price, \$4.

A practical handbook on fermentation and fermented process for the use of brewers and distillers, analysts, technical and agricultural chemists, pharmacists, and all interested in the industries dependent on fermentation. The first volume dealt with Schizomycetic Fermentation.

**THE UTILITY OF AN ACADEMIC OR CLASSICAL EDUCATION FOR YOUNG MEN WHO HAVE TO EARN THEIR OWN LIVING AND WHO EXPECT TO PURSUE A COMMERCIAL LIFE. An Investigation.** By R. T. Crane. Chicago. 1903. 16mo. Pp. 109.

**SIMPLE SCIENTIFIC EXPERIMENTS.** By Aurel de Ratti. London: Dawbarn & Ward, Ltd. 1903. 16mo. Pp. 69. Price, 20 cents.

**INFORTUNI SUL LAVORO. MEZZI TECNICI PER PREVENIRLI.** By Effren Magrini. Milan: Ulrico Hoepli. 1903. 16mo. Pp. 251. Price, 75 cents.

**INDEX OF INVENTIONS**

For which Letters Patent of the United States were Issued July 28, 1903, AND EACH BEARING THAT DATE. (See note at end of list about copies of these patents.)

Table listing inventions with patent numbers and dates, including items like 'Abrading material, tool for holding, M. E. McAfee', 'Acid, making sulfuric, G. Gin', 'Advertising device, J. D. Smith', etc.

Table listing inventions with patent numbers and dates, including items like 'Beer, apparatus for converting wort into, O. Spindler', 'Berth, sleeping, E. Dawe', 'Bicyclist's strength testing machine, E. W. Blaisdell', etc.

Fence wire ratchet or tightener, Willmarth & Barnes 735,026
Fiber from leaves, machine for extracting, A. Pares 734,936
Fifth wheel, H. C. Swan 734,996
Filter, E. M. Knight 734,890

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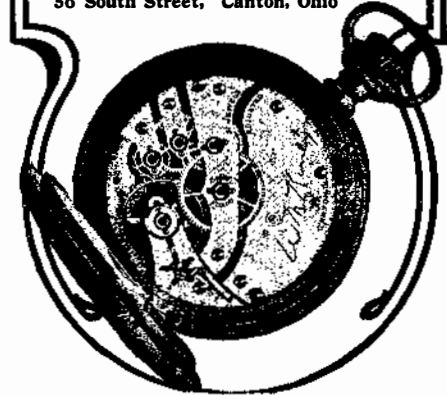
MUNN & CO., Publishers, 361 Broadway, New York.

Nut lock, G. H. Layng 734,577
Nut lock, J. E. Lenholt 734,579
Obstetrical instrument, H. Mendenhall 734,586
Oil burner, F. W. H. Jahn 734,712

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