

NEW BOOKS, ETC.

THE PRINCIPLES OF ALTERNATING CURRENTS. By Edgar T. Larner, A.I.E.E. New York: D. Van Nostrand & Co., 1908. 12mo.; pp. 136; illustrated. Price, \$1.50.

The man who is familiar with the mechanical and practical side of electricity, but who has not had a technical college training, is decidedly at a disadvantage in studying the principles of alternating current, owing to the scarcity of books on this subject which are not filled with complex and involved mathematics. In the preface of the present work the author states that his aim is to furnish this class of men with a non-mathematical treatise on alternating currents, but the difficulty of the task he has set out for himself is apparent on looking over the pages of the book. Undoubtedly, the use of mathematics has been reduced considerably, but nevertheless the student must be familiar with algebra and trigonometry before understanding this work. A valuable feature of the book is to be found in the exercises at the close of each chapter, which if worked out by the student will give him concrete practical examples of the principles enunciated in the preceding chapter.

RADIO-TELEGRAPHY. By C. C. F. Monckton, M.I.E.E. New York: The Van Nostrand Company, 1908. 8vo.; pp. 272; 173 figures. Price, \$2.

The remarkable advances in wireless telegraphy made since the first practical application of Hertzian waves twelve years ago, have been so rapid that it has been difficult to keep pace with them. For this reason there have been many books written on this subject. The present work brings the practice up to date in a fairly comprehensive manner.

ELECTRIC MOTORS. Their Installation, Control, Operation, and Maintenance. By Norman J. Meade. New York: McGraw Publishing Company, 1908. 12mo.; pp. 159; 126 figures. Price, \$1.

This book is particularly adapted to assist the practical man in the care and management of electric motors. The theory of electric motors is explained, and the various types are classified. The most useful part of the book is the chapter on Operating Hints, in which various handy suggestions for the care of the machines are given. Following this is a chapter on repairs, which explains how best to mend breaks and overcome defects that may arise in actual practice. The last chapter contains tables and formulas which are indispensable to the practical man. Mathematics have been almost entirely eliminated from the book.

HOW TO UNDERSTAND ELECTRICAL WORK. By William H. Onken, Jr., Associate Editor of the Electrical World, and Joseph B. Baker, Technical Editor U. S. Geological Survey. With Dictionary of Electrical Terms by Joseph H. Adams. New York: Harper & Bros., 1908. 8vo.; pp. 359; illustrated. Price, \$1.75.

Electricity is so much a part of every-day life that it is perfectly natural for the modern American boy to take a keen interest in every phase of the subject. The present work aims to answer all the questions the boy is liable to put. The subjects dealt with comprise not only the generation of electricity and its use for lighting, heating, power, and traction purposes, but also electricity in the home, on the farm, in the hospital, on board ship, and in various industries. The book also gives a chapter on Transmission of Intelligence, under which heading are included the telephone, telegraph, wireless telegraph, telautograph, etc. The Dictionary of Electrical Terms and Phrases makes a very useful appendix to the work. The book is copiously illustrated, diagrams being given where necessary to explain the arrangements of electrical circuits.

THE ELEMENTARY THEORY OF DIRECT-CURRENT DYNAMO-ELECTRIC MACHINERY. By C. E. Ashford, M.A., and E. W. E. Kempson, B.A. Cambridge: University Press, 1908. 12mo.; pp. 120; 75 figures. Price, \$1.

The aim of this work is to explain the underlying principles of direct-current dynamos in such a logical way that one is able to gain a comprehensive knowledge of the whole subject. The statements which are made are backed up with evidence, so that one is able to understand the cause of the various phenomena described. Thus the student will be prepared to deal with new types of machinery which are constantly being brought out, owing to his thorough grounding in the main principles.

ARTIFICIAL AND NATURAL FLIGHT. By Sir Hiram S. Maxim. New York: The Macmillan Company, 1908. 12mo.; pp. 166; 96 illustrations. Price, \$1.75.

This is a very interesting and readable volume, containing many of Sir Hiram's observations and investigations into the subject of soaring and mechanical flight. An elaborate preface and introductory chapter is followed by a chapter on air currents and the flight of birds, in which the author attempts to show that the soaring flight of birds is due largely to ascending currents of air. At the end of this chapter there is a table giving the weight in pounds for each square foot of wing surface of various well-known birds. One of the most interesting and valuable chapters is that

devoted to air propellers, in which some of the fallacies of inventors regarding these are shown, and some of the best forms of propellers are described. In another chapter giving hints on the building of flying machines, there is a table giving the actual and relative strengths of different kinds of wood which can be used. Sir Hiram also deals with tests of different aeroplane surfaces, and shows which are the most efficient, while there is also a chapter on "The Action of Aeroplanes and the Power Required Expressed in the Simplest Terms," in which a number of diagrams illustrate the way the air is supposed to act upon different curved surfaces. One of the closing chapters is devoted to some of the recent aeroplanes, and there is an appendix containing a description of Sir Hiram's aeroplane and the experiments therewith. We recommend this book heartily to all those interested in aeronautics.

ELECTRICAL ILLUMINATING ENGINEERING. By William Edward Barrows, Jr., B.S., E.E. New York: McGraw Publishing Company, 1908. 8vo.; pp. 216. Price, \$2 net.

Illuminating engineering is a comparatively new branch of applied electricity, and few good books on the subject have been written. For this reason the present work will be appreciated. It is based on notes compiled by the author for use in his classes, and it makes an excellent textbook for the student of illuminating engineering.

THE BRITISH JOURNAL PHOTOGRAPHIC ALMANAC AND PHOTOGRAPHER'S DAILY COMPANION FOR 1909. Edited by George E. Brown, F.I.C. London: Henry Greenwood & Co., 1908. New York: George Murphy, Incorporated. 16mo.; 1336 pages (text and ads.). Price, \$1.

This is always a welcome visitor with its vast collection of formulae and valuable articles. It grows bigger and bigger every year, and is twice as large as the volume of 1887, which we have before us. Even the latter with its 360 pages seemed large in those days.

THE BOOK. Its History and Development. By Cyril Davenport, V.D., F.S.A. New York: D. Van Nostrand Company, 1908. 12mo.; pp. 258. Price, \$2.

The author begins his subject with rock inscriptions, and then follows marks on wood, Indian palm-leaf books, ideographs, and alphabets. The physical side of the book—its anatomy—is then considered. This is in turn followed by chapters on paper, printing, illustrations, bindings, etc. This book is one of the "Westminster Series," the volumes of which give much information which is either not available to the general public, or if available, is widely scattered.

MASONRY AND REINFORCED CONCRETE. By W. L. Webb, C.E., and W. H. Gibson, C.E. Chicago: American School of Correspondence, 1909. 8vo.; 444 pp.; fully illustrated with photographs and diagrams. Price, \$3.

This work, symmetrical with other textbooks of the Chicago School, discusses fully the materials used in masonry and ferro-concrete work, and their requisite qualifications, methods of testing, and simple formulae for the calculation of all ordinary strains and stresses. Clear instructions are given for the obtaining of various special finishes and for the care in handling and placing upon which the success and permanence of all concrete work so much depends.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending January 26, 1909,

AND EACH BEARING THAT DATE

[See note at end of list about copies of these patents.]

Table listing inventions with patent numbers, including items like Adding machine, Aerial navigating apparatus, Airship, Alarm system, Amusement device, Animal slaughtering instrument, etc.

Legal Notices

PATENTS

INVENTORS are invited to communicate with MUNN & CO., 361 Broadway, New York, or 625 F Street, Washington, D. C., in regard to securing valid patent protection for their inventions. Trade-Marks and Copyrights registered. Design Patents and Foreign Patents secured.

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Table listing inventions with patent numbers, including items like Boiler automatic feed device, Bottle cleaner, Bottle extender, Book leaves machine, Books, magazines, pamphlets, etc., Brake mechanism, Brake shoe, Braking or signaling system, etc.

Table listing inventions with patent numbers, including items like Dynamo-electric machines, Eating utensil, Electric apparatus, Electric carrier system, Electric furnace, Electric heater, Electric hoist, Electric light shade, etc.