

## NEW BOOKS, ETC.

THE NEW INTERNATIONAL ENCYCLOPEDIA. Editors Daniel Coit Gilman, LL.D., Harry Thurston Peck, Ph.B., L.H.T., Frank Moore Colby, M.A. Vol. VIII. New York: Dodd, Mead & Co. 1903.

Considering the scientific portions of this eighth volume of the New International Encyclopedia, our attention is first drawn to the article on "Fungi." Although brief, it must be confessed that the discussion is quite adequate. Two excellent colored plates picture the more common varieties of edible mushrooms. In the article on "Galvanometers" will be found a description of the usual types of instruments. "Garbage Disposal" is the title of a review of modern methods of disposing of refuse material. No similar article will probably be found in any other encyclopedia. The article evidently comes from the pen of an engineer, who knows whereof he writes; for it is both full and authoritative. The text is accompanied with technical drawings that show far more than half-tones. An equally good article on "Gas" will likewise be found in the work. Gas engines are discussed fully. The section on "Geology" is as good as anything we have seen in the way of a concise and clear explanation of the leading principles of a vast science. "Glassmaking" is treated both from its historical and modern industrial aspects, with some little fulness. In the matter of illustrations and printing, the high standard set by the first volumes has been maintained.

DESIGN OF DYNAMOS. By Silvanus P. Thompson, D.Sc., F.R.S. New York: Spon & Chamberlain. London: E. & F. N. Spon. 1903. 8vo. Pp. vi, 235. Price \$3.50.

Prof. Thompson assures us in his preface that his notes on dynamo design are not intended to supersede the more complete handbooks on the special branch of electrical engineering of which this is only a part. The present short work, intended primarily for Prof. Thompson's own students, is purposely confined to continuous current generators. In the section on armature-winding schemes, special attention is given to series-parallel windings and to the doctrine of the equivalent ring.

MONT PELÉE AND THE TRAGEDY OF MARTINIQUE. By Angelo Heilprin. Philadelphia and London: J. B. Lippincott Company. 1903. 8vo. Pp. xiii, 335.

Prof. Heilprin was one of the first, if not the first, to ascend Mont Pelée after its first terrible eruption, and probably the first to publish in the periodicals any full scientific account of what was there to be seen. The present work comprises a complete study of the effects of the eruptions of Mont Pelée. The pictures which Prof. Heilprin took in August, give one at least a slight idea of the terrible magnificence of the volcano's outburst in August. The publishers have seen to it that Prof. Heilprin's book appears admirably printed and illustrated.

ANNUAL REPORTS OF THE WAR DEPARTMENT FOR THE FISCAL YEAR ENDED JUNE 30, 1902. Report of the Chief of Engineers. Part 2. Washington: Government Printing Office. 1902. Pp. 993-1876.

ANNUAL REPORTS OF THE WAR DEPARTMENT FOR THE FISCAL YEAR ENDED JUNE 30, 1902. Report of the Chief of Engineers. Part 4. Washington, D. C.: Government Printing Office. 1902. Pp. 2567-3265.

UNITED STATES MAGNETIC DECLINATION TABLES AND ISOGONIC CHARTS FOR 1902. And Principal Facts Relating to the Earth's Magnetism. By L. A. Bauer. Washington: Government Printing Office. 1902. Pp. 405.

ANNUAL REPORT OF THE CHIEF OF ENGINEERS, UNITED STATES ARMY. 1902. Part I. Washington, D. C.: Government Printing Office. Pp. 991.

THE THEORY OF PROSPERITY. By Simon N. Patten, Ph.D. New York: The Macmillan Company. London: Macmillan & Co., Ltd. 1902. Pp. ix, 237.

A NEW SYSTEM OF HEAVY GOODS TRANSPORT ON COMMON ROADS. By Bramah Joseph Diplock. London, New York, and Bombay: Longmans, Green & Co. Pp. 116.

KATHAMET TEXTS. By Franz Boaz, Bureau of American Ethnology, J. W. Powell Director. Bulletin 26. Washington: Government Printing Office. 1901. Pp. 261.

A TEXT-BOOK OF FIELD ASTRONOMY FOR ENGINEERS. By George C. Comstock. New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 1902. 8vo. Pp. x, 202. Price \$2.50.

In the engineering curriculum, work in astronomy is part of the course of technical and professional training of students who do not intend to become astronomers. Consequently, the instructor selects for presentation those parts of astronomical practice most closely allied to the work of the future engineers under his charge. The parts of astronomical practice most pertinent to engineering instruction seem to be, to the author, training in the art of numerical computation; in the accurate use of instruments of precision, such as the sextant and the theodolite; and in determining time, latitude, and azimuth, with portable in-

struments. The astronomical problems presented in the book have been found by the author well suited for school use. As a rule, in the development of formulæ no attempt has been made to deal with the general case when the solution of a particular case suffices for the problem in hand.

SEALING-WAXES, WAFERS, AND OTHER ADHESIVES FOR THE HOUSEHOLD, OFFICE, WORKSHOP, AND FACTORY. By H. C. Standage. London: Scott, Greenwood & Co. 1902. 16mo. Pp. 95. Price \$2.50.

Although sealing-waxes are by no means so generally used as they once were, they are, nevertheless, so serviceable in many cases that they probably will never pass entirely out of use. Wafers were also at one time a means of sealing a letter; now, they too, have almost entirely disappeared from use. This little book gives the requisite particulars for the production of sealing-wax and for the making of wafers. Sections are added on household cements, office pastes, and adhesives for the factory and workshop. The author informs us that the recipes which he gives are those which are being daily used in the commercial world, and that they are all well tried.

THE SABBATH TRANSFERRED. By Rev. Johns D. Parker, Ph.D. With an Introduction by Rev. F. N. Peloubet, D.D. East Orange, N. J.: Johns D. Parker & Co. 1902. Pp. 242.

CONTINUOUS POWER THE NATURAL RESULT OF CONVERTING HEAT INTO WORK IN AN INSULATED EXPANSION ENGINE AT TEMPERATURES BELOW THE NORMAL OF THE ATMOSPHERE. By J. F. Place. New York: The Standard Power Company. 1903. 8vo. Pp. 48.

CONTRIBUTIONS TO THE ENCEPHALIC ANATOMY OF THE RACES. First Paper. Three Eskimo Brains from Smith's Sound. By Edward Anthony Spitzka, M.D. With 20 Text Figures. Pp. 25-71.

THIRTEENTH BIENNIAL REPORT OF THE KANSAS STATE BOARD OF AGRICULTURE TO THE LEGISLATURE OF THE STATE FOR THE YEARS 1901 AND 1902. Topeka. 1903. Pp. 1127.

SWITCH LIGHTS. By Ed. E. Sheasgreen. Illustrated by P. J. Carter. Minneapolis. 1902. Pp. 150.

BULLETIN OF THE UNITED STATES FISH COMMISSION. Vol. XXI. for 1901. George M. Bowers Commissioner. Washington. 1902. Pp. 476.

REPORT OF THE DEPARTMENT OF MINES FOR THE YEAR 1901. Western Australia. Perth. 1902. Pp. 107.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1900-1901. Volume I. Washington, D. C.: Government Printing Office. Pp. 1216.

DIE KUENSTLICHE KUEHLUNG. Isolation Gegen Feuchtigkeit und Fuer Elektrizitaet. Von Alphons Forster. With 20 illustrations. Vienna and Leipzig: A. Hartleben. 1903. 12mo. Pp. 256. Price \$1.25.

The author of this book has treated the subject of artificial refrigeration from an eminently practical standpoint, paying particular attention to the explanation of the construction of plants in which provisions of all kinds are preserved by cold. In the division of the work which is devoted to insulation against moisture, will be found a discussion of various processes by means of which wood and building material can be protected from moisture. In his account of electrical insulation the author presents descriptions of some entirely new compositions.

DIE ZENTRALHEIZUNG. Ein Leitfaden zur Projektierung und Berechnung von Heizungsanlagen und zur Beurteilung von Projekten für Baumeister, Architekten, etc. Von Ingenieur Hugo Freiherr von Seiller. Mit 116 Abbildungen. Vienna and Leipzig: A. Hartleben. 1903. 8vo. Pp. 176. Price \$1.25.

This book may be regarded as an authoritative handbook on heating plants. No similar work has ever come to our knowledge before. The book may therefore be well regarded as a desirable addition to the scant literature that even remotely bears on this subject.

CATALOGUE OF THE ANNUAL ARCHITECTURAL EXPOSITION FOR 1902-1903. Edited by William C. Hays. Published by the T-Square Club.

IGNITION DEVICES FOR GAS AND PETROL ENGINES. By S. R. Bottome. London: Gilbert Pitman. 1902. Pp. 22. Price \$1.

This little handbook will be found invaluable to all amateur electricians and automobileists interested in spark coils and their workings, as well as in the other parts of an electric ignition system. The author is a practical man of experience. One of the most interesting descriptions in the book is that of a combination jump spark coil and dynamo of his own invention. Instructions are given for making both primary and secondary spark coils. The theory of their working is also clearly explained. An introductory chapter on the automobile is of considerable interest.

## INDEX OF INVENTIONS

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