

NEW BOOKS AND PUBLICATIONS.

AN INTRODUCTION TO THE STUDY OF METALLURGY. By W. C. Roberts-Austen, C.B., F.R.S. London: Charles Griffin & Company, Philadelphia: J. B. Lippincott Company, 1891. Pp. xii, 292. Price \$2.50.

The eminence of the author, his great ability as a writer, and the most interesting researches already developed by him in lectures remove this work from the necessity of a review. It is sufficient to say that its standard is as high as the rest of Dr. Austen's works, and that the subjects are treated from the same scientific standpoint that has so long characterized the author's lectures and publications. It contains numerous illustrations and tables when required to illustrate the subject. As was to be anticipated, the subject of alloys is treated at great length, especially as regards Chinese and Japanese compounds.

SURVEYING AND LEVELING INSTRUMENTS. By William Ford Stanley. London: E. & F. M. Spon, and the author. 1890. Pp. xi, 545. Price \$3.

This work, written by a manufacturer of the instruments he describes, possesses considerable value from the very practical details of construction and full appreciation of features of instruments that can be expected from no one that is not equally conversant with their use and manufacture. It contains over three hundred illustrations and can be warmly commended to surveyors and civil engineers for their reading.

THE CORLISS ENGINE. By John T. Henthorn. Management of the Corliss Engine. By Charles D. Thurber. Edited by Egbert P. Watson & Son. New York. 1891. Pp. 92. Price \$1.

These two papers, which are republished from the Engineer, of New York, are entirely practical in their character. It is stated that they are intended as a guide to the most economical management of the Corliss engine, and there is no doubt that they will be of use to the progressive engineer. The work is illustrated and contains a table of data, indicator diagrams, etc.

ARCHITECTURAL IRON AND STEEL. By William H. Birkwire. New York: John Wiley & Sons. 1891. Pp. xiv, 201. Price \$3.50.

The title of this work describes its contents. It is devoted to the application of iron and steel in the construction of buildings, including the subject of specifications, ornamental work, and numerous tables of the properties of structural iron. It comprises also tables of squares, cubes, etc., such as required continually by the designer. It presents at the end the proposed New York building law, given as a useful example of legal limitations. It contains numerous illustrations, as required to illustrate its subject.

ODONTOLOGY, OR THE THEORY AND PRACTICE OF THE TEETH OF GEARS. By George B. Grant. The Lexington Gear Works, Lexington, Mass. 1891. Pp. 103. Price \$1.50.

This very practical work is made up of a series of contributions to the American Machinist for 1890. The subject seems to be excellently treated and contains numerous illustrations for skew, bevel, and the most complicated gears, as well as for simple, straight work.

PRACTICAL BLACKSMITHING. Compiled and edited by M. T. Richardson. Volume IV. New York: M. T. Richardson. 1891. Pp. 276. Price \$1.

We are glad to see the fourth volume of this series, the preceding members of which have been reviewed in these columns. It is made up of a collection of articles by different skilled workmen. The present volume is devoted to "Jobs of Work," including tires, axle setting, springs, tool tempering, etc. A set of tables giving the sizes of iron and steel terminate the work.

HINTS TO POWER USERS. By Robert Grimshaw, M.E., etc. New York: Cassell Publishing Co. 1891. Pp. 160. Price \$1.

The author considers that this book is for the practical man. It is, he states, free from high science, and is intended for the man who pays the bill. The very graphic and even humorous way in which the author possesses the art of presenting his views makes the little work interesting reading for every one.

LOOKING FORWARD FOR YOUNG MEN. Their interest and success. By Rev. George Sumner Weaver, D.D. Fowler & Wells Co. 1891. Pp. 218. Price \$1.

The young man in this work is considered in the aspect of his patrimony, friends, politics, money and other practical factors in existence. The subject is popularly and well presented and should be a help to many in their struggles with the problems of life.

THE BIOGRAPHY OF DIO LEWIS, A.M., M.D. By Mary F. Eastman. New York: Fowler & Wells Co. 1891. Pp. 398.

This biography will undoubtedly be of interest to many readers of Dr. Lewis' popular medical works. It seems to be well put and graphically written, and will doubtless be warmly received by many readers.

SEASICKNESS: Cause, prevention, and cure. Voyaging for health. By Thomas Dutton, M.D. London: Bailliere, Tindall & Cox. (No date.) Pp. 79.

A work treating on seasickness as a serious trouble, and purporting to give what may at least be termed remedial measures therefore, should certainly command considerable attention. This work is devoted to this subject, treating also of the different voyages to be undertaken by invalids, and being written by one who has had considerable experience at sea as a ship's surgeon, and who is himself a victim to the malady of seasickness, possesses peculiar value.

TRAITE PRATIQUE DE PHOTOGRAPHIE, A L'USAGE DES AMATEURS ET DES DEBUTANTES. Par Charles Mendel. Paris: Librairie de la Science en Famille. 1890. Pp. 90. Illustrated.

LA VIE AU SEIN DES MERS. Par L. Dolls. Paris: J. B. Bailliere et Fils. 1891. Pp. 304.

The subject of deep sea life is here presented in a very popular manner with illustrations. The whole is produced in the neat and acceptable manner so characteristic of French publishers, and is a welcome addition to popular natural history.

INTERIOR WORLD. A romance, with an appendix, setting forth an original theory of gravitation. By Washington I. Tower. Oakland, Oregon: Milton H. Tower, publisher. 1885.

In this work the author develops several original theories and ideas of the writer, among others that of negative gravity, thus acting as a companion to Stockton's story based on the same idea.

URSULA. Honore de Balzac. Translated by Katharine Prescott Wormeley. Boston: Roberts Brothers. 1891. Pp. 358. Price \$1.50.

This very elegant edition of Balzac is rapidly developing, Ursula being about the eighteenth volume of the series by the same translator. The translation seems a very good one, and the identification of the translator with the author must be by this time well nigh complete.

ZOOLOGICAL ARTICLES. Contributed to the "Encyclopædia Britannica." By E. Ray Lankester, M.A., LL.D., F.R.S. To which are added Kindred Articles. By W. Johnson Sollas, LL.D., F.R.S., Ludwig v. Graff, Ph.D., A. A. W. Hubrecht, Ph.D., LL.D., A. G. Bourne, D. Sc., W. A. Herdman, D. Sc. Edinburgh: Adam & Charles Black. New York: Charles Scribner's Sons. 1891. Pp. viii, 195. Price \$5.

These reprints from the ninth edition of the Encyclopædia Britannica, profusely illustrated and on very heavy paper, make an exceedingly attractive series for the naturalist. Ten articles devoted to the lower forms of life constitute the work, thus bringing together matter scattered through many of the large volumes of the original work and forming a treatise of great value.

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INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

May 12, 1891,

AND EACH BEARING THAT DATE.

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

Table listing inventions with names and page numbers, including: Adding machine, J. W. Wright; Air brake hose holder, S. M. Beery; Air compressor, E. Hill; Amalgamator, J. W. Culmer; Animal trap, J. Blasi; Anti-friction block, A. A. Youn; Axle collar, N. Harris; Back brace, W. T. Aaron; Bag holder, J. Davnie; Bags, covering plain into bellows-folded satchel bottom, E. Claussen; Bale box attachment, W. Sanders; Band cutter, J. P. Monnett; Barrel machine, Algire & Williams; Bating, Hull & Burns; Battery, See Galvanic battery; Primary battery; Secondary battery; Bed bottom, Bird & Page; Bed, invalid, Johnson & Moore; Bedstead tablet, C. H. Murray; Beer barrels, pressure apparatus for, F. Ackerman; Beer, device for fermenting, J. F. Theurer; Belt, electric, C. D. Williams; Belt frame, conveyer, R. Oliver; Bicycle, J. H. Horah; Bicycle, Huelson & Nagel; Bicycle, H. V. & W. H. Rhoades; Bicycle, N. Rowen; Billiard cue tip fastener, W. H. Jacoby; Billiard tables, game counter for, G. C. Bateman; Block, Venetian, S. J. Fisher; Board, See Anti-friction block; Game board; Ironing board; Rocking board; Boiler furnace, steam, F. T. Rowbridge; Boiler furnaces, gas and smoke consumer for steam, G. A. Farwell; Boot, fabric, Belger & Eberhart; Box, See Letter box; Mail box; Paper box; Shipping and storage box; Toll box; Brace, See Back brace; Brake, D. Hull; Braking trains, E. E. Ries; Breakwater and beach, combined, W. L. Marshall; Bridge gate, J. C. Wallich; Brush holder, H. H. Blades; Brush, reservoir, C. Miller; Burial casket, G. Marqua; Burner, See Gas burner; Oil burner; Butter lifter, J. B. Doolittle; Button, W. E. Jackson; Button fastener, T. R. Hyde, Jr.; Button, hinged, P. Rodier; Cable grip, J. H. Masters; Calk, driving, M. E. Reilly; Camera, See Photographic; amata; Cane splitting machine, G. A. Watkins; Car coupling, L. Gaddis;

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LIST OF BOOKS ON ELECTRICITY

Art of Electrolytic Separation of Metals. By G. Gore. Theoretical and practical. Fully illustrated. 8vo, cloth. London, 1880.....\$3.50
 Arithmetic of Electricity. By T. O'Connor Sloane, A.M., E.M., Ph.D. This work gives Electric Calculations in such a simple manner that it can be used by any one having a knowledge of Arithmetic. It treats of calculations for wiring, resistance in general, arrangement of batteries for different work, and is supplemented by the most practical series of tables ever published. It is absolutely indispensable to the practical electrician, as well as to the amateur. Fully illustrated, 1891.....\$1.00
 Bellhangers' Hand Book. With 97 illustrations. By F. B. Badt, author of "Dynamo Tenders' Hand Book." 1890.....\$1.00
 Dynamo Tenders' Hand Book. A practical guide for the operation of Electric Light Installations, giving, with the exclusion of all scientific terms, plain information on electrical terms, arrangement of power, theories of dynamos, causes of dynamo lamps, instruments, circuits, accumulators, safety regulations, construction of tools, and in addition several useful tables. By F. B. Badt. With 70 illustrations.....\$1.00
 Dynamos and Electric Motors, and all about them. By Edward Trevert. Illustrated, 1891......50
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