

NEW BOOKS, ETC.

THE TWENTIETH CENTURY TOOLSMITH AND STEELWORKER. By H. Holford. Chicago: Frederick J. Drake & Co. Fully illustrated; 12mo.; cloth; 240 pages. Price, \$1.50.

A very complete set of directions for working steel. It contains methods of both a general and of a special nature, including specific accounts of the making of a number of tools. The author is a man of the greatest practical experience, and his book contains the results of the intelligent observations that he has made during a lifetime successfully spent in the carrying on of his craft.

THE MECHANICS OF HOISTING MACHINERY. Including Accumulators, Excavators, and Pile Drivers. By Dr. Julius Weisbach and Prof. Gustav Herrmann. Authorized translation from the second German edition by Karl P. Dahlstrom. New York: Macmillan Company. 8vo.; cloth; 332 pages; 177 illustrations. Price, \$3.

This work is translated from Prof. Herrmann's edition of Weisbach's great work on "Engineering Mechanics." Several volumes of this treatise are already familiar to English readers through the translations completed successively by Messrs. Cox, Du Bois, and Klein, treating respectively of Theoretical Mechanics, Steam Engines and Hydraulics, and Machinery of Transmission. The present section, however, has never heretofore appeared in English print, although its great value has been recognized by all the above able translators, and by institutions of learning all over the world. The need of such a textbook as this is great, and this translation will fill a great want. In itself the treatise is particularly comprehensive and complete. It treats of all the important forms of hoisting machinery, from the ordinary lever and jack to the most complicated form of crane. The text contains many problems, all of which are dealt with in a manner sufficiently simple to be readily followed by any one having the ordinary knowledge of mathematics.

UP-TO-DATE AIR BRAKE CATECHISM. By Robert H. Blackall. Twenty-first edition, revised and enlarged. New York: The Norman W. Henley Publishing Company. 12mo.; cloth; 374 pages; fully illustrated. Price, \$2.

The altered conditions of railroad service which now prevail, consisting in the use of longer trains, of cars of greater capacity, and of locomotives with power and weight commensurate with their increased duties, have made imperative radical changes in the air-brake art. The original air-brake was designed to handle a train of a maximum length of fifty cars, each having a capacity of sixty thousand pounds. At present trains are usually made up of 100 cars, each having a capacity of one hundred thousand pounds. As is quite natural, the locomotives have also been increased in hauling power in order to stand up to their added requirements. The new information necessary to handle this up-to-date equipment has been incorporated with the former editions of the "Air Brake Catechism" to make this, the twenty-first edition. Written in the familiar class-room style, it embodies in the form of "question and answer" a complete discussion of all parts of the air-brake equipment, the troubles and peculiarities encountered and a practical way to find and remedy them.

LESSONS ON SANITATION. A Hand Book for Students Arranged on the Principle of Question and Answer. Forming a Complete Course of Study on the Subject. By John W. Harris. London: Charles Griffin & Co., Ltd. Philadelphia: J. B. Lippincott Company. 12mo.; cloth, 175 pages; 53 illustrations. Price, \$2.

"Lessons on Sanitation" consists of four hundred questions and answers arranged in fifteen lessons. The first fourteen lessons are made up of twenty-four questions and answers each, and the fifteenth lesson of sixty-four questions and answers. The lessons are illustrated by fifty-three illustrations, and preceded by a list of abbreviations used both for examination and in practice. As a conclusion, there is given, in an appendix, a list of the places and societies holding examinations in sanitation, with the names and addresses of the secretaries. Although this work is written from the English standpoint, and although the questions are based upon the English Sanitary Acts, its usefulness is only to a certain extent impaired by this slight difference from our point of view. Even in America much benefit can be derived from this book, although an American would not be able to get the useful information with regard to the actual condition of the law that an Englishman would get in regard to his laws from the same volume.

ELECTRICAL WIRING AND CONSTRUCTION TABLES. By Henry C. Horstmann and Victor H. Tousley. Chicago: Frederick J. Drake & Co. 16mo.; leather; 119 pages. Price, \$1.50.

This book is primarily intended for "pocket reference." For that reason, much of the matter that is usually included in so-called hand books, such as tables of tangents, logarithms, and matters that come into use only on very extensive or elaborate installations,

has been omitted. Engineers or contractors are not usually called upon to give estimates or information on such work at a moment's notice, consequently there is little need of carrying about a volume containing such data. The need is rather for a really practical handbook which will give in as complete and concise a manner as possible that information which the wireman, the foreman, the contractor, the engineer, or the architect is in daily need of, and which, without the aid of such a work, requires tedious calculation. This volume will meet all these requirements, and will be found convenient and efficient both in its contents and in their arrangement.

CASSELL'S ENGINEER'S HANDBOOK. Comprising Facts and Formulae, Principles and Practice, in all Branches of Engineering. By Prof. Henry Adams. Philadelphia: David McKay. 8vo.; cloth; 576 pages. Price, \$2.50.

A compendium of hints useful in refreshing the memories of practical civil engineers. The measurements are in the English system, a fact that will appeal strongly to many.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending July 30, 1907.

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 Abdominal support, Acetylene generator, Adjustable bracket, and various mechanical devices.

Table listing inventions with patent numbers, including items like Car fender, Car for conveying vehicles, Car grain door, and various mechanical devices.

Table listing inventions with patent numbers, including items like Engine indicator, Engine regulating apparatus, Engine vaporizer, and various mechanical devices.