

NEW BOOKS, ETC.

WIRELESS TELEGRAPHY POPULARLY EXPLAINED. By Richard Kerr. With preface by W. H. Preece. New York: Imported by Charles Scribner's Sons. 1898. Pp. 111. Price 75 cents.

In the last two years considerable interest has been manifested in wireless telegraphy, and so far as we know, this is the first book upon the subject. The experiments of James B. Lindsay, Mr. Preece, Marconi, and Dr. Lodge are given concisely, but the book is confessedly intended for popular use.

HANDBUCH DER BAUSTOFFLEHRE. Bearbeitet von Richard Krüger. Two volumes with 443 illustrations. Vienna: A. Hartleben. Large octavo. Pp. 887. Price, paper \$8.

Within the last fifteen years artificial building materials have become so numerous and have found so wide an application that a book in which they are discussed in detail should be welcomed. In the work now lying before us, the author, besides describing the natural materials used in building, such as stone, wood, and the like, also treats of those important artificial substances now so generally employed. In describing the various building stones and woods, the author has made use of his own experience and of the tests made by the German government at its various experiment stations. The book is divided into three sections. In the first section, the natural and artificial stones, the earths and metals are discussed. The second section treats of the various mortars, asphaltum, and cement. The third section deals with the making and use of glass, resin, tar, paints, varnishes, caoutchouc, gutta-percha, oiled cloths, asbestos fabrics, carpets, ropes, hemp, and moss. In order to facilitate the use of his work, the author has compiled an exhaustive index of the subjects discussed. The book will be a desirable acquisition to the libraries of architects, engineers, and manufacturers of building materials.

BUILDING CONSTRUCTION AND SUPERINTENDENCE. By F. E. Kidder. Part II. Carpenter's Work. New York: William T. Comstock. 1898. Pp. 544. 524 illustrations. 8vo, cloth. Price \$4.

Mr. Kidder has long been known to the manufacturing profession through his "Architect's and Builder's Pocket-book," and in the present volume he deals with the materials employed by the carpenter and joiner, more especially with the details of all forms of wooden construction, from the rough framing of wooden buildings to nicely finished cabinet work. The work is in every sense what may be called a practical one, while at the same time the reasons for, and advantages of better systems of construction are intelligently pointed out, and also the defects of cheaper and more common forms. The book will not only be of value to the carpenter, but will be simply invaluable to the architect. With the aid of clear sections of windows, doors, etc., the architect will not have to spend much time thinking out the proper arrangement of stops, stiles, etc. He will only have to refer to this book to find a large scale section which will give him just the information he wants with the dimensions lettered upon it. Hardware of all kinds is described, and the proper method of applying it is shown. It is one of the most valuable books which ever appeared on the subject in this country and we have no hesitation in recommending it.

THE AMERICAN STREET RAILWAY DIRECTORY AND BUYERS' MANUAL. New York and Chicago: E. L. Powers. 1898. Published quarterly. Price \$3 per annum.

This directory contains a complete list of electric, cable, horse and elevated railways in the United States, with the capital, bonds, names of the officials, mileage, gage of the track, number of cars, power plant, names of the makers of the generators, engines and boilers, etc. It also contains some valuable statistics of the work, mileage, capitalization, and car equipment of street railways in the United States, from which we find that there are at present 909 electric roads out of the 1,074 roads which exist in the United States. In other words, there are at present over eight times as many electric roads as horse roads, and only twenty-one cable roads are now in operation in the entire country. The capital stock of these 1,074 roads amounts to \$975,625,827, and the bonds amount to \$1,537,970,220, the total mileage 16,466.78, and there are 48,209 cars in use.

POOR'S MANUAL OF THE RAILROADS OF THE UNITED STATES FOR 1898. Thirty-first Annual Number. New York: H. V. & H. W. Poor. 1898. 8vo. Pp. 1,600. 70 maps. Price \$7.50.

Poor's Manual is always a welcome visitor. It is simply invaluable to all who are engaged in any part of the railroad world. All who are in any way interested in securities will find the book indispensable. Each railroad is taken up in turn. The mileage of all main lines, branch, and leased roads are then given, and in the case of leased lines the annual charge is given. Then comes the history of the road, a detailed account of its rolling stock, floating equipment, operations for the year, capital stock, bonds, equipment trusts, etc. Then comes full information regarding leased roads. From this it will be seen that the book contains information of such a wide range that it is simply invaluable to all who are interested in any way in railroads. The total mileage of railroads of the United States at the end of 1897 was 179,692.57 miles. The total length of track was 236,911.52 miles. There were also 35,810 locomotive engines, 25,275 passenger cars, 8,133 mail cars, etc., and 1,229,335 freight cars. Total liabilities of the various roads amounted to \$11,631,711,740. The number of passengers carried was 504,106,525, and 788,385,445 tons of freight were moved. There are a number of pages with just such statistics which are of importance from an economic point of view. In addition to steam roads, street railways, and miscellaneous corporations, there is also a department of State and municipal indebtedness. The book is well printed and contains a perfect mine of information.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

- Marine Iron Works. Chicago. Catalogue free. "U. S." Metal Polish. Indianapolis. Samples free. Gasoline Brazing Forge, Turner Brass Works. Chicago. Yankee Notions. Waterbury Button Co., Waterbury, Ct. Schwaab Stamp & Seal Co., Milwaukee. Send for cat'g. Machinery designed and constructed. Gear cutting. The Garvin Machine Co., Spring and Varick Sts., N. Y. FERRACUTE Machine Co., Bridgeton, N. J. Full line of Presses, Dies and other Sheet Metal Machinery. Easy Experiments of Organic Chemistry. Book by Prof. Appleton. 60 cents. Snow & Farnham, Providence, R. I. For Sale—File of SCI. AM. from June, 1886, to date. Cheap. "Machinist," 77 Jefferson Av., Jersey City, N. J. Hub, spoke, wheel, bending, and handle machinery. Single machines or full equipments, by the Defiance Machine Works, Defiance, Ohio, U. S. A. The celebrated "Hornby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Fort of East 138th Street, New York. The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y. "Model Engineer and Amateur Electrician," a first-class paper, published every month. Annual subscription, 75c. Send 8c. for sample number. Agents wanted. Spon & Chamberlain, 12 Cortlandt St., New York, U. S. A.

Notes & Queries

HINTS TO CORRESPONDENTS. Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication. References to former articles or answers should give date of paper and page or number of question. Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and though we endeavor to reply to all either by letter or in this department, each must take his turn. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. Special Written Information on matters of personal rather than general interest cannot be expected without remuneration. Scientific American Supplements referred to may be had at the office. Price 10 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(7509) X. asks: If a pendulum were hung on a frictionless pivot and placed in a perfect vacuum, would it continue to swing forever, if once set in motion? A. We do not know the answer to this question. There never was a pendulum hung on a frictionless pivot, nor was there ever a perfect vacuum produced, and even if both these conditions were met, there has not been a forever in which to see if the pendulum might not, somehow, after all, stop. All the light which can be thrown on this problem comes from Newton's first law regarding inertia, which is to be found in every text book of physics. We should prefer to devote our time and space to real questions.

INDEX OF INVENTIONS

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