

us. Originally written for civil engineers only, the vast amount of practical information condensed into it has made it equally a favorite with contractors, builders and machinists; beside leading to its adoption as a text book in many educational institutions.

Many new engineering facts are scattered throughout the volume; some subjects, such as "Cements and Concretes," "Rivets and Riveting," "Strength of Materials," "Iron" and "Wooden Pillars," "Trusses," "Railroads," etc., have been entirely rewritten or much altered; and those on "Buoyancy, Flotation, Metacenter," "Moments of Rupture and Resistance," "Kutter's Formula" for the mean velocity in feet per second in pipes, aqueducts, canals, rivers, "Open and Closed Beams," "The Shearing of Beams," "Test Borings," the valuable experimental results of C. Shaler Smith on "Eye Bars and Pins," "Velocities in Sewers," etc., are given for the first, time together with many new tables indispensable to engineers, builders and machinists.

The work is profusely illustrated with diagrams, explanatory of the most important formula, and the modern Engineer's Transit Instrument and Level as made by Heller and Brightly, Philadelphia, are now figured instead of the old-fashioned instruments, but we regret to notice, *without* their latest improvement—the Hoffman patent shifting tripod head.

Although the work was originally prepared specially for young members of the profession, it has been in most respects brought up to the present standard of civil engineering and experts will find it a most convenient work for ready reference, facilitated as it is by the improvement in the letter-press and insertion of much heavy black letter.

R.

---

SCHOOL AND INDUSTRIAL HYGIENE. By D. F. Lincoln, M. D. 16mo. Philadelphia: Presley Blakiston. 1880.

This latest issue of the American Health Primers, so admirably edited by Dr. W. W. Keen, is in some respects the most important of the series, as it takes up school hygiene, in which so many thousands of parents in every large city are interested. In the chapter on the "Amount of Study," the author states that he does not believe the Kindergarten system injurious to a child of four years, unless carried to the point of over-excitement, which is not often done; but the common primary school is decidedly objectionable. It takes very young children, and compels them to remain twice as long as is good for

them. By great ingenuity and vivacity, a teacher can keep them upon various studies for three hours. This is all that is reasonably possible, yet the children are expected to come back for a second session in the afternoon. He concludes by stating that a school conducted by lessons and recitations—a mimic grammar school in fact—should not receive children under seven or eight years of age. The chapters on the “Care of the Eyes” and “School Desks and Seats” are very important; while the second part of the work takes up “Industrial Hygiene,” and, after treating of the injurious effects of inhaling dust, poisonous substances, etc., the author treats of those from atmospheric changes, over-use of certain organs and accidents. Chapters on the regulation of hours of labor, and the duration of life in various occupations, are then given. A full index completes this very interesting little volume, which can hardly fail to be extensively read. N.

---

THE CARPENTER'S STEEL SQUARE AND ITS USES. By Frederick T. Hodgson. Square 16mo. New York: Industrial Publication Co. 1880.

This little work consists of a republication of some papers contributed by its talented author some time ago to the *American Builder*, and which were received with so much favor by artisans, for whom they were written, as to induce their author to collect them into the present volume. It is not claimed that the rules and methods herein stated are original with him, but only that they have never been brought together before in so handy a volume. The work is well illustrated by upwards of fifty cuts which have been well engraved, and can hardly fail to give any one an idea of the capabilities of the steel square and what can be accomplished from it in skillful hands. N.

---

AMERICAN NEWSPAPER DIRECTORY. 8vo. New York: Geo. P. Rowell & Co., Publishers. 1880.

In this large volume of 1044 pages we have a complete list of the various newspapers and periodicals published in the United States and Canada, arranged alphabetically by States and places of publication, the population, location and prominent industries, etc., being also indicated. Such a list is exceedingly valuable, and as it is revised and printed every year must be up to date. Pains seem to be taken to make it as complete as possible, and the only fault that can be found with it is in the statement of the circulation of any publication, which after all, must be a matter of conjecture, except with the publisher. We know of no other work in which so much information on the above topics can be obtained. N.