

would not follow the ways laid out for it. It is not true that the earth curves from a level ten feet in any one mile, as you calculate it to do. The curvature is 8 inches for one mile and 32 inches for two miles. It is true, however, that the surface of the earth is 13 miles nearer the center of the earth at the poles than it is at the equator.

NEW BOOKS, ETC.

LOYD'S REGISTER OF AMERICAN YACHTS. A List of the Yachts, Yacht Clubs, and Yachtsmen of the United States, and the Dominion of Canada, and the West Indies. New York: Lloyd's Register of Shipping, 17 Battery Place. 1908. 8vo.; pp. 454. Price, \$7.50.

The sixth annual volume of Lloyd's Register of American Yachts for 1908 is now ready for delivery to subscribers. The book, which shows a material increase in size over last year, has been thoroughly revised in all particulars; specially in those relating to the engines of the rapidly-growing fleet of cruising launches. There is listed a total of 3,670 yachts, both sail and power, owned in the United States, Canada, and the West Indies, with a total of some 3,500 yacht owners. The color plates give 2,013 private signals of American yachtsmen and the burgees of 365 yacht clubs. One of the most interesting features of the book, as showing the growth of American yachting, is the list of yacht clubs. The first American Yacht List, published in 1874 by the late Neils Olsen, listed a total of 32 yacht clubs, and the greatest number listed prior to the establishment of Lloyd's Register of American Yachts was about 170. Lloyd's club list has grown steadily since 1903 until it has now reached a total of 386 clubs, distributed in all parts of the United States and British North America. Not a few of these clubs have been established during the past winter. This great increase is made up in three ways: first, of yacht clubs established in new localities; second, of new clubs established to meet the recent growth of the sport in localities where many clubs already exist; and the third class of clubs, a large one distributed in all parts of the country, is made up of the so-called "power boat," "motor boat," and "launch" clubs. As many of these clubs are located on narrow inland waters where sailing is out of the question, they appeal to an entirely new class, from which in the future the ranks of American yachtsmen will be largely recruited.

THE CHILDREN'S BOOK OF STARS. By G. E. Mitton. New York: Macmillan & Co., 1908. Small square demy 8vo.; 16 full-page illustrations and 12 diagrams. Price, \$2.

The book which lies before us is a sincere attempt to place before children in the simplest possible form the elementary facts of astronomy. In the main the author has succeeded admirably, although it must be confessed that technical phraseology has not been so thoroughly eliminated as it might have been, largely because of the very nature of the subject. A good chapter on the use of the spectroscope tells with remarkable simplicity "What Stars Are Made Of," and shows that it is possible to present plainly the main facts of one of the most difficult branches of modern astronomy. On page 169 appears an error in describing the spectra of the sun and Sirius, the star Arcturus being incorrectly given instead of Sirius. The general arrangement of the book is that usually adopted in works on astronomy. It proceeds in the order of the earth, moon, planets, sun, comets, meteors, constellations, stars, and nebulae.

PRACTICAL PERSPECTIVE. By Frank Richards and Fred H. Colvin. Third edition. New York: The Norman W. Henley Publishing Company, 1908. 12mo.; cloth; 56 pages; 62 illustrations. Price, 50 cents.

Mr. Richards explains the principles of isometric perspective and shows several of its applications to machine work. The other treatise is on the use of isometric paper, written by Mr. Colvin. The scheme of this important little book is to show how to make all kinds of mechanical drawings by the isometric method and adding practical examples of various classes of work.

THE REFRIGERATING ENGINEER'S POCKET MANUAL. An Indispensable Companion for Every Engineer and Student Interested in Mechanical Refrigeration. By Oswald Gueth, M.E., Mem. Am. Soc. Refr. Engrs. New York, 1908. 12mo.; cloth; illustrated; 156 pages. Price, \$1.50.

The practical experience of the author as an engineer has enabled him to give a digest of rules and data of every branch of mechanical refrigeration. In this work he has made use of the opinions held by the leading experts. The field covered comprises Principles and Properties; Refrigerating Machinery; Applications for Mechanical Refrigeration; Operation of Compression Plant; and the Steam Plant. The subdivisions of these parts take the inquirer into a very clear arrangement of subjects which are thoroughly illustrated with diagrams of apparatus, plans, systems, machines, engines, plants, etc., and these are supplied with extensive tables of scales, dimensions, trials, tests, measures, powers, and capacities.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

August 4, 1908.

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 Abrasive finishing machine, Air compressor, Amusement apparatus, Animal trap, Armature bands, Automatic filter press, etc.

Table listing inventions with patent numbers, including items like Copper, electrodeposition of, S. O. Cowper-Coles, Cotton chopper, A. W. Smith, Current generator, induction, M. Fischer, etc.

Table listing inventions with patent numbers, including items like Iron foundry mixing furnace, Kennedy & Nau, Jar cover, fruit, S. J. Vasaly, Journal box, A. H. Lewis, Labeling machine, Knapp & Blackstone, etc.