

sixty pages of reports from officials in charge of the several branches of the department.

**The South African Institute of Electrical Engineers.**—

Contains transactions of the Institute and copies of papers read by members, among them an interesting paper on "Water-power Plants," by W. Eldson-Dew. Issued by the Institute. The Corner House, P.O. Box 4563, Johannesburg.

**Technical Paper No. 44, United States Bureau of Mines.**

—A paper by H. H. Clark on Safety Electric Switches for Mines, based on study and investigation of causes of mine accidents, and dealing with the design of switches to prevent gas ignition upon operation under load.

**Transactions of the Institute of Marine Engineers.**—

Contains copy of papers on "Thermodynamics and Refrigeration." By G. James Wells, and lecture on "Refrigeration," by Robert Balfour. Issued by the Institute, 58 Romford Road, Stratford, Eng.

**Engineering Experiment Station.**—Bulletin No. 31.—

Illustrated. Contains papers on "The Theory of Loads on Pipes in Ditches," and "Tests of Cement and Clay Drain Tile and Sewer Pipe," by A. Marston and A. O. Andrews. Issued by the Iowa State College of Agriculture and Mechanic Arts, Anus, Iowa.

**Engineering Experiment Station.**—Bulletin No. 30.—

Illustrated with maps inset. Contain papers on "The Determination of Internal Temperature Range in Concrete Arch Bridges," by C. S. Nichols and C. B. McCullough. Issued by the Iowa State College of Agriculture and Mechanic Arts, Anus, Iowa.

**Engineering Experiment Station.**—Bulletin No. 31.—

Illustrated. Contains papers on "The Theory of Loads on Pipes in Ditches" and "Tests of Cement and Clay Drain Tile and Sewer Pipe." By A. Marston and A. O. Anderson. Issued by the Iowa State College of Agriculture and Mechanic Arts, Anus, Iowa.

**Progress of Stream Measurements.**—Report by F. H.

Peters, C.E., for the Department of the Interior. A 310-page book, with 62 plates and numerous maps and tables covering the work accomplished by the Department in the measurement of stream flow during the year 1911, by P. M. Sauder, C.E., chief hydrographer.

**Ohio State Board of Health.**—Monthly bulletin containing

articles relating to public health, the significance of occupational diseases, and a brief outline of the two new divisions of the State Board of Health recently created by legislative action. Prepared by E. F. Campbell, Ph.D., M.D., and issued by the Board, Columbus, Ohio.

**United States Bureau of Mines.**—Report No. 37.—

Containing a paper by Irving C. Allen on "Heavy Oil as Fuel for Internal Combustion Engines." A 36-page pamphlet presenting the result of an extended research for some means of more effectively burning heavy asphaltum oils as fuel for steam-raising and for engines of internal combustion type.

**Report of the Minister of Public Works.**—Report on the

Ottawa River storage and notes on a visit to the Panama Canal; also on geodetic levelling between Stephens, Minn., and Winnipeg Beach, Man., and between Trenton, Lake Ontario, Orillia and Lake Couchiching, Ont. Fully illustrated. Issued by the Department of Public Works, Ottawa.

**United States Bureau of Mines.**—Bulletin 62.—

Dealing with the Mine Rescue and First Aid Conference, held last September in Pittsburg, Pa., containing addresses and discussions and reports of sub-committees. The bulletin also contains resolutions adopted at the Conference and the proposed constitution for a permanent national mine rescue and first aid association.

**Progress of Stream Measurements.**—Report of F. H.

Peters, C.E., on stream measurements for the calendar year

of 1911. The report gives a brief outline of the methods of obtaining and compiling data, and gives in a tabulated form almost all of the records of stream-flow during 1911. Illustrated, and contains map showing the gauging stations in Alberta and Saskatchewan. Issued by the Department of the Interior, Ottawa.

**Super-heated Steam Engines.**—Economical and reliable

generation of power by over-type super-heated steam engines from a paper read by W. J. Marshall, A. M. I. Mech. E., before the British Association at Portsmouth. The descriptions and data relative to the construction and operation of the Garrett engine, manufactured by Messrs. Richard Garrett & Sons, Limited, Leiston, Suffolk, are most interesting and cover twelve pages of 10 x 12 concisely printed type.

**The Journal of the Royal Astronomical Society of Canada,**

May-June number, containing an interesting article by Prof. A. C. Chant on the extraordinary meteoric display observed on the evening of February 9th, 1913. The article deals very scientifically with the occurrence, and contains reports of observations from many localities throughout Canada. Another article of interest is by W. F. King, chief astronomer, Ottawa, bearing upon the new reflecting telescope for the Dominion Observatory.

**Some Facts about Treating Railway Ties.**—Parts I.

and II. of which were published in 1912, and were devoted to descriptions to various processes of wood preservation and improved methods of treating railway ties. Parts III., IV., V. and VI, dealing with the mechanical life of ties, a comparison of zinc chloride with creosote for preserving, a history of wood preservation in Europe and America, and a list of treating plants, together with their location, capacity, processes, etc., have just been published. The treatise is bound in three pamphlets, aggregating 200 pages, 6 by 9 inches, and costing \$1.50 per set.

## CATALOGUES RECEIVED.

**Mikado Locomotives.**—Illustrated bulletin issued by the American Locomotive Co., New York, U.S.A.

**Architecture.**—A catalogue of books relating to architecture. Issued by B. T. Batsford, 94 High Holborn, London.

**Channon's Review.**—Illustrated catalogue of the company's general machinery and supplies. Issued by the H. Channon Co., Chicago, Ill.

**Armstrong Drop Forged Steel Wrenches.**—A 32-page illustrated booklet covering wide range of wrenches with sizes and prices, of Armstrong Brothers Tool Co., Chicago.

**Direct Current Apparatus.**—Electrical catechism concerning the conventional questions asked by prospective buyers. Illustrated. Issued by the Fairbanks, Morse and Co., Chicago, Ill.

**Alternate Current Apparatus.**—Illustrated bulletin containing general information in regard to alternate current apparatus. Issued by the Fairbanks, Morse and Co., Chicago, Ill.

**Clyde Iron Works Co.**—An original style of catalogue concerning their output of hoisting machinery may be obtained on application to the Clyde Iron Works, Duluth, Minn., U.S.A.

**Concrete Machinery.**—170 page illustrated catalogue of the different types of concrete machinery manufactured by the company. Issued by the London Concrete Machinery Co., Ltd., London, Ont.