

and G. M. Williams, summarized in *The Canadian Engineer* for September 2nd, 1915, page 331.

Structural Relations of Rocks North of Ottawa and St. Lawrence Valleys.—A consideration of the pre-Cambrian and Palaeozoic rocks in these localities, prepared by Messrs. E. M. Kindle and L. D. Burling. Issued as Bulletin 18, Geological Survey, Department of Mines.

The Salt Deposits of Canada and the Salt Industry.—A 150-page report prepared by L. H. Cole, B.Sc., of the mines branch, Department of Mines, Canada, dealing with salt and its associated minerals, theories of its origin, occurrences in various provinces, statistics of production, technology of manufacture, etc. It is fully illustrated, and comprises a very valuable treatment of the industry.

Occurrence of Explosive Gases in Coal Mines.—Bulletin 72 of the U.S. Bureau of Mines, prepared by N. H. Darton. 248 pp.; 6 x 9; illustrated with maps, diagrams and photos. The author deals with the gases to be found, conditions under which they are emitted, etc. The various gases are fully described as to their variation of composition, volume, permeability of rocks, explosiveness, etc.

A List of Canadian Mineral Occurrences.—By R. A. Johnston. Memoir 74, Geological Survey, Department of Mines, Canada. An alphabetical arrangement of the minerals with localities comprises Part I., while Part II. is devoted to the names of municipal and mining divisions and localities in which minerals occur, arranged alphabetically under provinces and territories. 275 pp.; 6 x 9 ins.

Rules and Regulations for Metal Mines.—This is an extensive report of 296 pages prepared for the U.S. Bureau of Mines and published as Bulletin No. 75. It reviews the investigations, makes a general report and follows with an extensive draft for a law covering metal mines. A discussion follows on certain matters of practice, and a digest is presented of state metal mine inspection laws.

Electric Service, Meters, Wiring and Motors.—A book of rules and information pertaining thereto, issued by the Commonwealth Edison Co., Chicago. A very handy publication for contractors, architects and engineers. It relates to systems of electrical distribution, services, wiring, motors, meters, lamps, inspection, etc., and is well supplied with wiring diagrams and illustrations of service apparatus.

Vitrified Brick Pavements for Country Roads.—A 38-page 6 x 9-in. booklet issued by the U.S. Office of Public Roads, containing information relating to brick roads. In order that the varying physical characteristics of brick may be understood the raw materials and processes of manufacture are first discussed. Then follow sections on construction, cost and maintenance. Two appendices deal with specifications and with methods of inspection and test.

Tarred Granite Macadam: Is It a Failure?—This is an authoritative exposition of the views of English road engineers and manufacturers as to the claims for this material. It is a book of 84 pages, 5 x 7 ins., and comprises reprints from articles which recently appeared in the *Sanitary Record and Municipal Engineering*, London, England. The publication is for sale by the *Sanitary Publishing Co., Limited*, Chancery Lane, London, W.C., the price being 40 cents.

Methods of Constructing Large Capacity Deep Wells.—A bulletin issued by the American Well Works, Aurora, Ill., containing some valuable information relating to deep wells for irrigation work. It outlines the properties

of an efficient well, the economical method of its construction and to deep well irrigation development work in various localities. The booklet describes the type of machine used, and of the various parts involved. 40 pp.; illustrated.

Precise Levelling, Vol. II. No. 1.—By F. B. Reid, D.L.S., supervisor of levelling, Geodetic Survey, Department of the Interior, Ottawa. One table describes all bench-marks established on routes between terminal points. Another gives the elevations, distances, differences, etc. Another shows the elevations at railway stations, crossings, intersections, bridges, etc. The lines dealt with are: Halifax, N.S., to Yarmouth, N.S.; Depot Harbor, Ont., to Renfrew, Ont.; Winnipeg, Man., to Kenora, Ont.; Saskatoon, Sask., to Wainwright, Alta.; Maple Creek, Sask., to Coutts, Alta.; Lethbridge, Alta., to Calgary, Alta.

CATALOGUES RECEIVED.

Steam Pumps.—Catalogue No. 9 of the Smart-Turner Machine Co., Limited, Hamilton, illustrating some recent designs of power and steam pumps. 30 pp.; 5 x 7 ins.

Aztec Asphalt.—An illustrated catalogue of original design, issued by the United States Asphalt Refining Co., New York, describing this type of asphalt, and listing and illustrating its use in many cities, counties and state highways in the United States.

Ore and Rock Crushing.—A 20-page illustrated catalogue issued by the Denver Quartz Mill and Crusher Co., Denver, Col., describing its various types and capacity mills involving some quite interesting features. In this type a convex roll revolves in a concave mortar with a special driving device.

Finding and Stopping Waste in Modern Boiler Room.—A handsomely prepared, illustrated catalogue of 68 pages, relating to prevention of waste by Cochrane meters, for measuring and recording boiler feed, condensate, blow-off, heating returns, cooling water, etc. Issued in Canada by Canadian Allis-Chalmers, Limited, Toronto.

Fiala Scout Sketching Case.—A 4-page leaflet issued by W. and L. E. Gurley, Troy, N.Y., descriptive of equipment for map sketching as practised by army engineers and by the Boy Scouts in their surveying course. It comprises drawing board 6 x 5 ins., to which sketching paper is applied and adjusted by rollers at each end. The equipment includes rulers, etc.

Fabroil Gears.—A 20-page bulletin issued by the Canadian General Electric Co., Toronto, describing the construction, weight, tooth-cutting, lubrication and operation of fabroil gears, of which the company is one of the makers. It also includes gear tables of standard and sleeve construction for various diametral pitches, with speed and capacity charts, tooth profiles, etc.

Transvaal gold production for six months ended June 30, 1915, totals 4,408,050 ozs. (value \$90,865,000). This compares with an output of 8,394,322 ozs. (value, \$173,523,885) for the entire calendar year.

Kensington, England, is arranging for an interesting roadmaking experiment. Some wooden paving, which was never intended for the heavy traffic it has of late years been called upon to bear, is wearing out, and the Borough Engineer is trying a scheme of pulling off the wood, laying down bituminous concrete instead, and putting down another wearing carpet of concrete on the top.