

on "The Conservation of Natural Resources through the Electrification of Railways," by G. P. Cole, M.Sc., Mem. A.I.E.E., Canadian General Electric Company, Toronto.

Safety in Tunneling.—An 18-page pamphlet, written by D. W. Brunton and J. A. Davis for the United States Bureau of Mines, comprising instructions to the superintendent, the foreman, and the miner, and containing a list of publications by the Bureau on mine accidents and methods of mining.

Possible Causes of the Decline of Oil Wells, containing suggested methods of prolonging yield. Issued by the United States Bureau of Mines, Department of the Interior, as Technical Paper No. 51. Prepared by L. G. Huntley. Comprises 32 pages, and contains a list of publications on petroleum technology.

Laws Relating to Liability of Employers.—Second interim and final reports by the Hon. Sir William Meredith, C.J.O., Commissioner. A 58-page publication, including the draft of an act to provide for compensation to workmen for injuries sustained and industrial diseases contracted in the course of their employment.

Portions of the Atlin Mining District, B.C.—Mémor No. 37, Geological Survey Branch, Department of Mines, Canada. Compiled by D. D. Cairnes. This book deals with the general character and geology of the district, and directs special reference to lode mining. It has 128 pages, with numerous photographic reproductions and maps.

Production of Iron and Steel in Canada during 1912.—Compiled by John McLeish, B.A., Chief of the Division of Mineral Resources and Statistics, Mines Branch, Department of Mines, Canada. This 40-page bulletin deals with iron ore, pig iron, ferro-products, steel, bounties, exports and imports of iron and steel goods for the year.

Geology of the North American Cordillera.—Report of the Chief Astronomer, Department of the Interior. A detailed report on the geology of the mountains crossed by the international boundary at the 49th parallel. This publication constitutes Volume III., and comprises 10 chapters in 300 pages, fully illustrated with plates and figures.

Relation of Manufacturer to the Patent System.—An extensive article by W. M. Grosvenor, dealing with the close inter-relation between patents and the development of modern industry, and maintaining that the subject does not receive sufficient consideration on the part of economists in the United States, advising, in conclusion, the appointment of a Patent Commission.

Psychological Aspects of the Problem of Atmospheric Smoke Pollution.—By J. E. Wallace Wallin, Ph.D., of the Mellon Institute of Industrial Research and School of Specific Industries, University of Pittsburgh. A 46-page pamphlet, dealing with the pathology and the aesthetic aspects of smoke pollution. The third bulletin of the Institute on Smoke Investigation.

Provincial Board of Health of Ontario.—Thirty-first annual report, containing a résumé of the work of 1912, including reports of Provincial Medical Inspector; reports of Laboratories of the Board and official regulations. A 496-page book, illustrated, and including Bulletin No. 1, being a treatise on the design, regulation and action of slow sand filters, by F. A. Dallyn, B.A.Sc., C.E., Provincial Sanitary Engineer.

Pollution of Boundary Waters.—A preliminary report of the special committee of the International Joint Committee having supervision of the investigation relating to boundary waters' pollution. It contains a compilation of documents relating to petitions of the Erie and Ontario Sanitary Canal Company for permission to divert 6,000 second-feet from Lake

Erie for the purpose of remedying the existing pollution of Niagara River.

Mines Branch, Department of Mines.—A summary report dealing with the work of the Branch during 1912, containing general report of Dr. Eugene Haanel, director, a report on the field work, chemical laboratories, statistical division, assay office, fuel-testing station, ore-dressing and metallurgical laboratories, etc. It contains 174 pages, supplemented by maps of the Yukon Mining Districts.

Tungsten Ores of Canada.—A report by T. L. Walker, M.A., Ph.D., Mines Branch, Department of Mines, Ottawa. A treatise on the metal and its uses, general geological occurrence of tungsten ores, their concentration. The bulletin includes data concerning the world's production, and enumerates in detail the location of the various ore bodies throughout the Provinces of Canada. An appendix deals with a comprehensive bibliography of Canadian tungsten literature.

Chrome Iron Ore Deposits, in the Eastern Townships of Quebec.—A Report by Fritz Cirkel, M.E., Mines Branch, Department of Mines, Canada. A 140-page book containing full information respecting chrome iron ore mines throughout Canada generally, and including several chapters upon the uses and technology of chromium and its compounds. An appendix contains notes by Mr. W. Borchers on the metallurgy of chromium. The report is supplemented by numerous plates, photographs and drawings.

Hydro-Electric Power Developments.—Bulletin No. 4966A of the General Electric Company, describing numerous Hydro-Electric installations, such as those of the Great Western Power Company, Stanilaus, Great Falls, Mississippi, Pennsylvania, Connecticut River, Utah, and other similar developments. The publication is well illustrated with transmission line equipment, lightning arresters, transformers, generators, alternators, and plans, etc., of power sites. The Canadian General Electric, Limited, Toronto, are the distributors.

Canadian Trade Index.—A directory of the manufacturers of Canada, classified according to the articles made. The 1913-15 edition, compiled and published by the Canadian Manufacturers' Association, Inc., Toronto. The index includes within its scope all reputable manufacturing plants doing more than a local business. It includes a good deal of general information in concise form concerning the kindred character that all business houses may be presumed to require. This is a noteworthy addition to previous volumes of the work. 6½ x 10 inches; 288 + 170 pages, advertising; cloth. Price, \$3.00.

Diagram Giving Stresses in Beams.—By H. R. Thayer, assistant professor of structural design, Carnegie Institute of Technology, Pittsburg. Published by D. Van Nostrand Company, New York City. Size, 7½ x 11½ inches. Price, \$0.20 net. This is a compact diagram whereby sizes of I-beams, steel channels, wooden beams, composite girders, etc., can be obtained with ease and comparative accuracy. From it may be speedily deduced stresses in a beam caused by a given load or moment, stress modulus required for given loadings and stresses, design of beam for given stresses and loads or moments. It will be found a valuable time-saver in designing offices and remarkably comprehensive in its service.

CATALOGUES RECEIVED.

Apollo-Keystone Copper-Bearing Steel Sheets.—Published by the United States Steel Products Company, descriptive of this product, designed to resist rust. Full information respecting types, widths, etc.

The Concrete Roads of Wayne County.—A reprint of a paper presented by Ed. M. Hines, County Road Commis-