

- Economics of Road Construction.**—By H. P. Gillatte. New York: The Engineering News Publishing Co. Size 6 x 9¼. pp. 49. (Price \$1.00 net).
- Batter Tables.**—For 192 batters from 1/16", ¼", 3/16" to 12" per foot, giving altitude and hypotenuse in feet and decimals of feet, for any base measured in feet, inches and sixteenths. By C. G. Wrentmore, Assoc. Mem. Am. Soc. C. E. New York: Engineering News Publishing Co. Size 8½ x 10. pp. 200 (Price \$5.00 net).
- Modern Gas and Oil Engines.**—A practical treatise on. By Frederick Grover, A. M. Inst. C. E. Manchester: The Technical Publishing Co., 287 Deansgate. Size 5" x 7½". pp. 372. (Price 5s. net).
- The Theta-Phi Diagram.**—Practically applied to steam, gas, oil and air engines. By H. A. Golding, A.M.I.M.E. Manchester: The Technical Publishing Co., 287 Deansgate. Size 5" x 7½". pp. 126. (Price 3s. net).
- Modern Steam Turbines.**—Vol. 1. The Schultz Turbine. By Arthur R. Liddell. London: A. Owen & Co., 28 Regent St. Size 9¼" x 6¼", pp. 73.
- The A. B. C. of Patents.**—A synopsis of the patent, trademark, designs and copyright laws in Canada and the United States; with a short reference to patents in the principal foreign countries. By F. B. Fetherstonhaugh, M. E., Toronto. Fetherstonhaugh & Co., 25 King St. W. Size 5" x 7½", pp. 32. (Price 50c.) (Clients may procure this publication free of charge.)



NEW PUBLICATIONS.

- Hydro-Electric Power Commission.**—The third report of the Ontario Power Commission is now off the press. It deals with the Lake Huron and Georgian Bay District. Size, 7" x 10¼", pp. 29.
- The Sanitary Journal of the Ontario Board of Health.**—being parts I. and II. of the 25th annual report. The work includes reports on sewage systems, laboratory reports, reports on contagious diseases, etc. It also contains a special article on vaccination, and small-pox.



CATALOGUES AND CIRCULARS.

- Primary Batteries.**—Canadian General Electric Co., Toronto. It is said that Edison Primary Battery delivers the greatest amount of energy for the least cost. A booklet received is devoted exclusively to this type of battery. Size, 3½ x 6¼, pp. 16.
- Electrical Directory.**—The October issue of the Buyer's Reference is to hand. It contains a complete list of electrical dealers and contractors, giving their addresses and the special lines in which they deal. Published in January, April, July and October, by the Buyer's Reference Co., 123 Liberty St., New York. Size, 8½ x 9½, pp. 146.
- Presses, Dies and Special Machinery.**—E. W. Bliss Co., Borough of Brooklyn, N. Y., have sent us one of the finest catalogues we have received for some time. Nearly every kind of machine which they manufacture is described and illustrated in this catalogue, presses, shears, drop hammers, etc. It is printed on the best coated paper and bound in good cloth binding, with the title in gold. Size, 5½ x 7½, pp. 578.
- Air Compressors.**—Chicago Pneumatic Tool Co., Chicago, Ill. The many types of the Franklin Air Compressor are set forth by the best work of the engraver's and printer's art, in a high class catalogue recently published. The catalogue contains much data of value to users of compressed air. Size, 6 x 9, pp. 116.
- Motor Controllers.**—Canadian Westinghouse Co., Limited, Hamilton, Ont., have recognized the need of an automatic device to control the speed of electric motors, and as they are now in a position to supply same, they have issued circular No. 1136, which describes the device in full. Size, 7 x 10, pp. 10.
- Direct Current Motors.**—Canadian Westinghouse Co., Hamilton. Circular No. 1138 describes and illustrates direct current motors of large capacity. It also contains a list of circulars now in force. Size, 7 x 10, pp. 11.
- Steam Traps.**—The Joseph Dixon Crucible Co., Jersey City, N. J., publish a very interesting pamphlet on the subject of steam traps. It is an illustrated description of the several varieties, with valuable suggestions by W. H. Wakeman, expert steam engineer and author of well-known books on steam engineering. Size, 5¼ x 7¼, pp. 29.

- Cooling Towers.**—The De La Vergne Machine Co., New York, N. Y., has just issued a folder describing the Klein Water Cooling Tower. Size, 6 x 9, pp. 4.
- Automatic Vises.**—The Pittsburgh Automatic Vise and Tool Co., Pittsburgh, Pa. Automatic double and single swivel vises, as manufactured by this company are set forth in an artistically arranged catalogue. Size, 6½ x 4, pp. 28.
- Sawmill Carriages.**—The Wm. Hamilton Manufacturing Co., Peterborough, Ont. An illustrated catalogue descriptive of sawmill carriages, and their equipments, also husk frames and fittings, which is being distributed by this company, has been sent to us. The catalogue is well designed, and printed, and should be in the hands of everyone interested in this class of machinery. Size, 6 x 8¾, pp. 40.
- Nernst Lamps.**—Nernst Lamp Co., Pittsburgh, Pa., have just published, through the Westinghouse Company's Publishing Department, a pamphlet describing the new Pennsylvania Terminal, New York City. It outlines briefly the architecture of the building, and its lighting system. Size 4½" x 6", pp. 16.
- Air-Brake Equipments.**—Westinghouse Traction Brake Co., Pittsburgh, Pa. Bulletin T 2001, gives publicity to straight Air Brake equipment, schedules S. M. -1, S. M. -2, and S. M. -3. These air brakes are adapted to electric railroading. Size 8½" x 11", pp. 12.
- Steel-Concrete Chimneys.**—Weber Steel-Concrete Chimney Company, Chicago, (Toronto office, 116 Home Life Building), have sent in an illustrated pamphlet showing some of the tall chimneys they have erected. Size, 4" x 9", pp. 47.
- Consolidated Type Freight Locomotives.**—A pamphlet just published by the American Locomotive Company illustrates and describes Consolidation locomotives weighing more than 175,000 pounds. It is a sequel to the pamphlet issued in October presenting designs of this type weighing less than 175,000 pounds. In the pamphlet 28 Consolidation locomotives built for various railroads and ranging in weight from 175,000 pounds to 250,000 pounds are illustrated, and the principal dimensions of each design given. This is the fourth of the series of pamphlets which is being issued by the American Locomotive Company to include all the standard types of locomotives. The series now covers the Atlantic, Pacific and Consolidation types. Copies of these pamphlets may be had upon request.



CORRESPONDENCE.

"One man's word is no man's word,
Justice needs that both be heard."

956 Nicola Street,
Vancouver, B. C., Oct. 31, 1906.

The Editor "The Canadian Engineer."

Dear Sir,—The enclosed circular received to-day, but have not filled in same, because I am a subscriber and believe I have several months yet to run before renewing. If not, kindly put my name down for another year, and oblige.

Yours truly,
ARTHUR E. HEPBURN.

P. S.—I may add that I enjoy thoroughly your journal and would not miss being a subscriber for treble the amount.
A. E. H.



ON PUMP SLIPPAGE.

By W. Perry, Hydraulic Engineer, Montreal.

It is well-known that if a pump is in thorough order, it should discharge within 2% of its standard capacity. Less than that would be rather too tight a fit, and may, if run dry for a few minutes without catching its water, develop slight friction, expand the piston or plunger, and allow the metal to cut. If, however, a pump is put together in a thoroughly practical manner there will be no trouble. I have had them run on a slippage of 1¼% on an 18, 10, 12 Underwriter steam pump; but I find from many tests of steam pumping plants, that the engineers in charge knew nothing of any such thing as slippage: i.e., water passing from one side of the piston or plunger to the other, taking it for granted that what the eye does not see is not likely to give trouble. I find by personal interviews with pump men about this slippage question, that they have not given this very important matter the consideration in the practical operation of pumping machinery that it demands. If engineers in the different pumping stations and factories would give this subject serious attention, a considerable economy of power fuel would be realized. I had occasion to test a waterworks plant in a small town near Montreal with the fol-