

is devoted to tables of tapers, logs, curve functions, etc. In addition to the usual notation, the taper tables have also been calculated for metric curves for use where the latter is used, such as in Mexico and South America.

Briefly, this transition curve is a series of compound curves based on 30-ft. chords and the main curve increasing in direct arithmetical progression. The tables presented in this work enable one to run in this series of compound curves with the ease of running in a simple curve and from a single setting of the transit. It is an extension and elaboration of the work of Mr. William Hood, chief engineer of the Southern Pacific, who devised a compound transition curve a number of years ago and developed several tables for it.

Tunneling. By Eugene Lauchli, C.E. Published by McGraw-Hill Book Co., New York. First edition, 1915. 238 pp.; 197 illustrations, including several folding plates; 6 x 9 ins.; cloth. Price, \$3.00 net.

The book deals with short and long tunnels of small and large prospecting driven through hard and soft materials. It has been written specially for practicing engineers and contractors, and deals in a logical way and in simple language with the underlying principles governing the solution of tunnel driving for various purposes. The author's simple and direct method of explanation is known to readers of *The Canadian Engineer* through two comprehensive articles on tunneling that appeared in these columns throughout the past year. The book is written in a similar style, is easily read and full of practical information on such subjects as drilling machinery and equipment, explosives, compressor and ventilating plants, haulage methods, timbering and lining, etc. Attention is to be called to the adequate manner in which the various subjects have been illustrated. The photographs have been taken from actual practice.

Tunneling methods and machinery have improved wonderfully in the past decade and many long and deeply overlaid tunnels have been driven, some under very adverse conditions. It is obvious that a practical book on tunneling will find many interested readers on this continent.

Experiences in Efficiency. By Benjamin A. Franklin. Published by Engineering Magazine Works Management Library. 166 pp.; 5 x 7 ins.; cloth. Price, \$1.00.

(Reviewed by R. O. Wynne-Roberts, C.E.)

This small book is a general survey of the work of efficiency engineers, and affords the reader subjects for meditation.

The first chapter deals with the study of workmen's tendencies, and it is appropriate that workmen should receive consideration. It must not be assumed, however, that workmen include only those who earn their livelihood by the use of their hands in manual labor; it should apply equally well to all who earn a livelihood. Workmen of all classes deserve consideration, and when this is paid to them they repay the confidence in many ways. But the author considers the workmen's tendencies from the point of view of waste and loss, and how to effect changes.

Quality of workmanship is ordinarily a standard of business, and if ignored it sooner or later brings ill-repute and disaster. The standard of quality must be maintained, and this book deals with the question in its many phases.

Waste prevention is an exceedingly important function in all business, and the author shows how savings were effected by paying bonuses. The introduction of gang piecework is not new. It is employed in large quarry work and has given general satisfaction. It means paying a gang of men according to results of their own labor used in a co-operative manner.

Problems of clerical labor, cost-keeping and reorganization are discussed.

Although the author does not deal with any particular problem in a specific manner so that the value may be realized of the schemes introduced at certain leather and paper-pasting factories, he gives some indication of the methods adopted to benefit by workmen's tendencies, gang piecework, etc.

The book is well written, interesting, and is worthy of a careful perusal.

PUBLICATIONS RECEIVED.

Board of Railway Commissioners, Canada. Ninth annual report. 559 pp.; 6 x 9 ins.

The Radium-Uranium Ratio in Carnotites. Technical paper 88, U.S. Bureau of Mines. 28 pp.; illustrated; 6 x 9 ins.

The Nakimu Caves Glacier, Dominion Park, B.C. A 28-page illustrated booklet issued by the Dominion Park Branch, Department of the Interior.

Glaciers of the Rockies and Selkirks. A handsomely illustrated and printed 29-page booklet prepared by Dr. A. P. Coleman under the direction of the Minister of the Interior.

National Transcontinental Railway. A booklet illustrating the stations on the line, their exact location and mileage from Moncton. Prepared by A. S. Cook, assistant to chief engineer.

American Wood Preservers' Association. Report of eleventh annual meeting, containing constitution and by-laws, list of members, committee reports, papers read, discussions, etc. 527 pp.; 6 x 9 ins.

Express Statistics, Canada, 1914. Report by A. W. Campbell, C.E., Deputy Minister, Department of Railways and Canals, Ottawa, containing statistics for year ending June 30th, 1914, relating to the nine express organizations operating in Canada.

A Study of Boiler Losses. By A. P. Kratz. Bulletin No. 78, Engineering Experiment Station, University of Illinois. It outlines the purpose of the test, method of conducting, discussion of results, summary and conclusions. 72 pp.; 6 x 9 ins.; illustrated.

Topographical Surveys Branch, Department of the Interior. Annual report for year ending March 31st, 1914, including reports of surveyors, schedules, statements and the report of the Surveyor-General. 245 pp.; 6 x 9 ins.; numerous maps, profiles and illustrations.

Corundum, Its Occurrence, Distribution, Exploitation and Uses. By Alfred Ernest Barlow. Issued as Memoir 57, Geological Survey, Department of Mines, Ottawa. 378 pp.; 6½ x 10 ins.; fully illustrated. (This is one of the last works of Dr. Barlow, who was lost in the "Empress of Ireland" disaster in May, 1914.)

Geological Series Nos. 23, 24 and 25. These are respectively "Physiography of the Beaverdell Map-Area and the Southern Part of the Interior Plateaus of British Columbia," "On *Eoceratops Canadensis*, gen. nov., With Remarks on Other Genera of Cretaceous Horned Dino-