

THE ENGINEERS' LIBRARY

Supplement to THE CANADIAN ENGINEER.

62 Church St., Toronto, Ont.

CONTENTS FOR AUGUST 25, 1910.

Editorial

New Books	V
Book Reviews	
Building Estimator	V
Canadian Annual Review	V
Estimating Data	VI
Practical Testing of Gas Meters.....	VI
Builders' Auxiliary	VII
Field Practice on Railway Location.....	VII
Publications Received	VIII
Catalogues	VIII

NEW BOOKS.

No successful engineer is unwilling to learn from the experiences of masters in the field which has for him an interest. No engineer is so sure of his fundamental theory that he is not pleased to review it when presented to him from an interesting point of view. It must be a knowledge of these facts that encourages authors to continue producing new books on familiar subjects.

This autumn will see new books on aviation, on the gyroscope and the dozen other matters that, although at the present moment are novelties and playthings, may in the future have an engineering and a commercial value, but, in addition to these publications on subjects that are comparatively new, we find many more books treating of subjects that have been written about time and again. Electricity, agriculture, prime mover, engineering, chemistry, cost and cost-keeping and the engineering subjects from A to Z.

Many good books are leaving the press this autumn, perhaps more useful books than is usual for the authors are grasping that principle of the art of teaching which is so important namely, that in presenting a subject, to present it successfully, you must base a new conception upon old and familiar ones.

Among the new books from The Canadian Engineer press this fall will be "Applied Statics," by T. R. Loudon, B.A.Sc., lecturer in Statics, Faculty of Applied Science, University of Toronto. A number of practical problems accompany the text, and Mr. Loudon has succeeded in presenting his subject in such a practical manner as to make it interesting. Uniform in size with this publication will be one entitled "Elementary Electrical Engineering," by Professor L. W. Gill, Professor of Electricity in Queen's University. Professor Gill's success as a college lecturer is well known, and his series of articles contributed to The Canadian Engineer has attracted so much attention that it has been decided to publish them in book form. It is expected that these two publications will be ready in about a month.

BOOK REVIEWS.

The Building Estimator.—By Wm. Arthur. Published by the David Williams Co., of 14 Park Place, New York, N.Y. Size, 4 x 6, pp. 500. Price, \$2.00.
This book is a practical guide to estimating the cost

of labor and material in building construction. Various practical examples of work are presented in detail, with the labor figured in hours and the quantity of material specified.

This will be a very convenient handbook for architects, contractors, engineers, superintendents and draughtsmen.

So many matters are taken up and dealt with fully that it is impossible to enumerate, but it might be pointed out that it contains figures and labor required for excavation work, piling, concrete work, brickwork, iron, steel and carpentry, tin and galvanized iron, plaster and mill work, painting and glazing.

In the detailed estimating, twenty-nine different sections are devoted to this number of the different branches of construction work. The following example, chosen at random, will indicate the method of presenting the information:—

Mortar for Average Rubble.

"One and three-quarter barrels Portland and one yard sand to 100 cubic feet of finished wall.

One and one-half barrels good lime and one yard sand to 100 cubic feet of finished wall.

Water.—For making rubble mortar the Omaha Waterworks charge 8 cents per cubic yard for water; for tempering only, 3 cents. The meter rate is 35 cents per 1,000 gallons, which is far cheaper—say, one-third the price. The Chicago rate is 6 cents for 128 cubic feet.

Labor.—A mason and laborer will lay three cubic yards of ordinary rubble in a four-hour day, and on some kinds of walls below ground, five to six. One laborer can attend two masons if everything is handy, but if wheeling is required, it takes about man to man. In the stone-cutting yard two men can attend ten cutters.

Example.—On a building recently erected 500 cubic yards of rubble cost about \$1,000 for labor. Most of the stones had to be handled with a derrick, and, although the walls were thick and straight, this cost probably 25 cents extra. On another building with 120 yards the walls were short and the cost ran to \$2.50, but extra time was required on the angles. Good time can be made with a derrick if all the stones are large, but if work is so far away from ground that large and small have to be handled this way it costs more. A fair price for 18 to 20 inches ordinary work is \$1.50. Thick, straight walls can be done for less. The labor is not exactly in proportion to the number of cubic yards, as a 16-inch wall requires two faces just as a 24-inch does; and the filling goes in faster than the outside work. Scaffolding has sometimes to be allowed if walls are high.

Cutting.—In eight hours one man will cut and square about 40 cubic feet of large limestone blocks for bridge and pier work and 25 of small blocks. Sandstone costs more to cut than limestone as it wears out the tools sooner. Unless very soft it is worth 10 per cent. more to square up. There is no sandstone in Bedford, Ind.; "Bedford" is a limestone."

The Canadian Annual Review, 1909.—By J. Castell Hopkins, F.S.S. Published by the Annual Review Publishing Co., 2 College Street, Toronto. Size, 6 x 9, pp. 700. Price, \$3.50.