SUGGESTIONS FOR THE YOUNG ENGINEER.

PROFESSOR IRA O. BAKER, of the School of Civil Engineering, University of Illinois, is quoted to have said that the chief reason why the engineer does not attain to the position in the public estimation which he might occupy is because of wrong ideals. The representative engineer magnifies the importance of technical matters; in college he is insistent upon acquiring a so-called practical education. He desires to specialize and to take only the subjects immediately connected with his chosen profession. As a consequence, he lacks breadth of view and is weak in knowledge of non-professional matters. Too often he has sought to perfect himself in technical details to the neglect of a knowledge of political procedure, of business methods, of labor conditions, or of social problems. Further, he is often seriously deficient in the ability to use correct language.

The suggestions which Prof. Baker offers to the young engineer who desires to prepare himself for a wider usefulness and a greater success, are these:

By continual care and practice, cultivate the ability to express yourself in writing and in oral speech in clear, concise, correct English. There is nothing more necessary to the young engineer who desires to attain more than a mediocre success.

Extend your horizon by reading and study of industrial and political history, political and social science, economics, labor problems, principles of banking, rate regulation, and other vital subjects.

Do not become a man of technical details nor a man of books to the exclusion of a knowledge of affairs. The successful engineer must buy materials; therefore he must have a knowledge of market conditions and of business methods. A successful engineer directs the labors of others; therefore he must know much of the motives that influence men, and must understand the point of view of organized labor, and should have at least some knowledge of the advantages and disadvantages of the different methods of payment. An engineer is frequently called upon to report upon projects; therefore he should be able to foresee all the industrial, commercial and financial conditions involved in the project, and should be able to accurately discriminate as to the relative importance of the various conflicting factors. The engineer writes specifications and makes contracts; therefore he should know something of the intricacies of the law.

LOW-TENSION TRANSMISSION LINES OF THE ONTARIO HYDRO-ELECTRIC POWER COMMISSION.

ON October 31st, 1914, the Hydro-Electric Power Commission of Ontario had completed or under construction 800 miles of low-tension transmission lines of voltages varying from 46,000 volts to 2,200 volts. This figure includes 16.43 miles of steel lattice pole line. The mileage of these lines is distributed among the various systems as follows: Niagara system, 609.68 miles; St. Lawrence system, 60.77 miles; Simcoe system, 80.15 miles; Wasdell's Falls system, 49.19 miles.

In the construction of these lines, 5,600 miles of wire weighing 3,450,000 lb., 33,000 wood poles and 383 steel towers were used. On the transmission line poles 685 miles of a single circuit telephone line has been erected for use in operating the system.

During the year 17 gangs were employed, two of which, under the direction of a forestry expert, were employed solely in trimming trees. These gangs constructed 243 miles of transmission line as well as distribution systems in 19 towns and villages and rural lines in 8 townships.

For the above lines about 200 crossing plans were prepared, and submitted to the telephone and railway companies for approval.

Low-tension distributing systems were constructed by the Commission in the towns and villages of Thamesford, Thorndale, Creemore, Cannington, Gamebridge, Brechin, Woodville, Sunderland, Elora, Fergus, Ayr, Drumbo, Plattsville, Princeton, Lucan, Embro, Woodbridge, Milton and Bolton, and rural lines in the townships of E. Flamboro, Waterloo, Norwich, Toronto, Etobicoke, York, Grantham and Brant.

The mileage of lines tabulated in the recent report of the Commission, according to the voltage and number of circuits, is as follows:—

	—Single Circuit Totals—			—Double Circuit Totals—			Single and Double Circuits Totals		
Voltage	Total, Oct. 31, 1913.	October 31, 1913, to Oct. 31, 1914.	Total, Oct. 31, 1914.	Total, Oct. 31, 1913.	October 31, 1913, to Oct. 31, 1914.	Total, Oct. 31, 1914.	Total, Oct. 31, 1913.	October 31, 1913, to Oct. 31, 1914.	Total, Oct. 31, 1914.
46,000	1.93	.....	1.93	15.50	....	15.50	17.43	.....	17.43
26,400	....	94.50	94.50	59.50	7.17	66.67	59.50	101.67	161.17
22,000	89.99	16.00	105.99	63.90	....	63.90	153.89	16.00	169.89
13,200	161.77	96.25	258.02	115.79	....	115.79	277.56	96.25	373.81
6,600	6.52	.....	6.52	5.79	....	5.79	12.31	.....	12.31
4,000	22.80	29.67	52.47	.....	....	.....	22.80	29.67	52.47
2,200	10.35	.75	11.10	1.61	....	1.61	11.96	.75	12.71
Totals ..	293.36	237.17	530.53	262.09	7.17	269.26	555.45	244.34	799.79

The new furnaces of the Granby Company at Hidden Creek, B.C, will be ready to be blown in by July 1st, permitting of continuous operation of at least three units. This will increase the treatment facilities to approximately the same as those at Grand Forks, making possible a blister copper output at the two plants of between 30,000,000 and 40,000,000 pounds of blister copper monthly.

British Columbia occupies a length of 900 miles in the Cordillera belt extending through North and South America. This belt in the United States and Mexico has yielded close upon $4,000,000 per lineal mile. The economic geology of British Columbia is similar, and it may reasonably be expected that a similar wealth in mineral values exists in that portion of the belt within the confines of the province.