

If a powerful corporation or municipality should employ an engineer who has not fulfilled the statutory requirements, it might lead to a strenuous and costly litigation. We would be prosecuting the action in the interest of the profession, whilst the corporation or municipality would have equal reasons for their shareholders or rate-payers, but not the same conception of ideals to assuage the antipathy to the restriction. Aside from this possibility, the corporation or municipality might perhaps employ the engineer under another title. To circumvent this eventuality, it would be necessary to have a clear definition of what is an engineer. F. H. Peters, Calgary, in his article in *The Canadian Engineer*, February 14th, 1918, expressed the same thing when he stated that if the profession is to have a proper standing it must be one that is defined by the law of the land.

The opinion of a committee of the San Francisco Society of Civil Engineers is that "the licensing question is sure to face us sooner or later, and if we have no satisfactory definition (of engineer) and a classification of our own, we shall have one thrust upon us by those who frame the new statutes."

The State of Florida in May, 1917, passed an act for the examination and registration of "professional engineers" which defines the title "professional engineering" to mean any branch of the profession other than that of military engineer, and a comprehensive list of works is given. So far as we understand, it does not apply to subordinate engineers. This act was based to some extent upon a draft which was prepared by an American society of engineers.

Employment

Employment is, of course, an ever-present question for us all. But our national engineering societies have taken no active part in helping engineers in this direction. The payment of annual dues, and receiving in return the proceedings of the organization and attending the meetings when possible, is no doubt the prevailing idea among many, of the functions and value of the Institute.

Employment has been considered "a matter with which the Institution of Civil Engineers is not officially identified," although assistance is given when possible. A committee was appointed in July, 1916, by the American Society of Civil Engineers, which reported in 1917 that "there is in existence a general feeling that our society should in the future give systematic study to the practical matter of employment."

It would be desirable that this question of organizing some form of co-operative employment clearance and of exchanging reports between the branches should be carefully investigated.

"The future of the profession," according to Fraser S. Keith, "lies largely in how far it is willing to assist the individual member." This is one method.

Compensation

The question of compensation is one which is of importance to all members, especially under the prevailing and prospective conditions.

It is instructive to note that according to a petition sent to the U.S. Railway Wages Commission by the Engineering Council for increased pay for assistant engineers, it was stated that assistant railway engineers are paid less than twelve classes of non-technical men. The *Engineering News-Record*, of New York, in its March 7th, 1918, issue published the following schedule of monthly pay:—

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| Road passenger engineers and motormen | \$176 |
| Road freight enginemen and motormen | 153 |
| Road passenger conductors | 152 |

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| Train dispatchers and directors | \$131 |
| Road freight conductors | 131 |
| Yard enginemen and motormen | 128 |
| Yard conductors | 113 |
| Road passenger firemen and helpers | 106 |
| Gang and other foremen | 97 |
| Yard brakemen | 95 |
| Road freight firemen and helpers | 94 |
| Assistant engineers and draftsmen | 93 |
| M. W. and S. foremen | 92 |

The American Association of Engineers also reported to the U.S. Railway Wages Commission on the question of salaries of technical men employed on railroads. The association stated that the average monthly rates were: Draughtsmen, \$90; inspectors, \$90; instrumentmen, \$100; assistant and resident engineers, \$125; division engineers, \$150. In the circular it is mentioned that the chief engineer of the L.C. & C. Railway in 1839 stated that "two assistants of division to be selected by the resident engineer, their salaries \$1,500 per annum each." The pay consequently has been stationary, whereas all else have mounted up seriously.

It is anticipated by some that if legislative powers were obtained to license or register engineers, compensation would be automatically improved. This may be realized, although it is not clear how the laws of supply and demand will be changed materially. We have services to sell and their value depends to a large extent upon the prevailing demand for them and the available supply. Services, like commodities, are valued according to circumstances.

We believe that if engineers must be licensed before they can be employed in any capacity, the number of men available would probably for a time be less, and their general abilities would be greater. In other words, the inefficient ones would be weeded out. Still, laws cannot be passed without some regard being paid to those already employed as engineers and to newcomers from other countries who are qualified to act. Consequently if licensing would tend to create a dearth of engineers, and as a consequence cause the pay to increase, the conditions would soon become known and the field would be attractive to others. We cannot help expressing the opinion that the principal way of improving the compensation of engineers is to unite as a body to raise the status and to promote the prestige and influence of the branch.

Compensation can usually be demanded by capable men notwithstanding competition, but it is necessary to make ourselves known by our capacity and attainments. This can be done by reading papers before the Institute, by contributing to the discussions, by participating in public affairs, by forcing ourselves to the attention of the public and by showing character and judgment. "A proper recognition is essential so that adequate compensation may follow," says Dr. Waddell.

Dr. C. R. Mann was appointed by five United States national engineering societies and the Carnegie Foundation to investigate the question of the education of engineers, and after seven years' study and exhaustive interchange of views, he found that out of 1,500 answers to inquiries, 87% of the engineers placed more value on character, judgment, efficiency and understanding of men, than on knowledge and fundamentals and technique of practice. This verifies the old and self-evident thesis, that man is greater than his knowledge. In this connection Dr. Mann maintains that "the engineering profession can render no greater service to education than by constantly reminding the schools that the development of character, judgment and human sympathy is the ultimate end and aim of education."