

powers at present; Alberta appears to be anxious to obtain similar powers; British Columbia endeavored to have the legislature define the term, "engineer." This question has for some time been discussed in the United States. Indeed, some States have granted statutory authority to limit certain engineering practices, and engineering societies in others are committed to this policy.

The Calgary Branch suggests that legislation would follow out the spirit and intent of the Manitoba and Quebec Acts concerning engineers, and that it should be Dominion-wide and not provincial in its scope. If the British North America Act, however, does not make this feasible, then the acts passed by the various provinces should be made reciprocal. The experiences of the medical, legal and educational professions in this regard should afford us an excellent lesson as to the absurdity of making each province a water-tight compartment in these matters.

The Calgary Branch further suggests that the "gaining and maintaining of the necessary legal status to allow of practice, would necessitate the gaining and maintaining of registration as a member of the Engineering Institute of Canada. And in this connection there is suggested the one radical and new idea, that registration with the Institute could be gained only on the issuance of a certificate granted by a Board of Engineers which would be controlled by the science faculties of all the recognized universities in Canada, and not by the council of the Institute. And similarly, the grading of the registered members would be controlled by the Board of Engineers."

It must be presumed that engineers equipped with satisfactory credentials coming to Canada would be granted the necessary certificate by the Board of Engineers.

Some prominent engineers believe that licensing of engineers would be retrograde; others again believe that "proper standard requirements fixed by law which the engineer must attain to practice independently, must produce beneficial effects." (Engineering News Record, of New York, January 10th, 1918.)

"As far as the exclusion of undesirables from the practice of engineering is concerned, licensing would be a good move, but no state has any moral right to prevent non-resident engineers of ability from doing work within its boundaries without first passing an examination and paying a fee for a license." This is the view held by Dr. Waddell.

"Any land surveyor, locomotive driver or chauffeur, even," says Prof. William H. Burr, may call himself an engineer and the public as a whole will award him what he claims, while the members of the profession either do nothing or mildly criticize the procedure. There seems to be insufficient professional spirit to assert a proper dignity and secure such discriminating legislation as shall convey to the title its honest meaning or defend its use. Various attempts have been made to secure legislation which through a proper procedure of licensing would give to engineering the professional standing due to it, but the members of the profession have not yet attained to a sufficiently broad and intelligent view of the matter to extend their vision beyond certain personal considerations and demand such measures as may protect and dignify the profession as a whole. The public is generally ready to accept at their own valuation any body of intelligent and honorable men, but if a body of even such men lack sufficient self-respect to assume and occupy worthily a professional plane and conduct their work in a suitable and professional manner, the public may hold them, even, cheap; and certainly will fail to accord the recognition

properly desired and claimed by prominent and true members of the profession."

Under the present conditions it is difficult to discern how the Engineering Institute of Canada can obtain legislative limitations or to persuade parliament that the practice and title of engineers should be limited to those who are qualified, when the Institute only represents a portion of the engineers in Canada. The situation would change materially if the other sections of engineers were to join forces or, better still, to become members of the branches.

It is known to all that there are many engineers engaged in two or more branches of business. In fact, the different phases of engineering are so intertwined that it is difficult to demarcate their respective limits. The chemist and metallurgical engineer, the electrical engineer and the chemist, the analyst, biologist and sewage engineer are all closely associated. The mining engineer designs and constructs a variety of work, such as drainage, roads, railways, structures, bridges, water supply, heat, light and power, and so on; in short, as Dr. Raymond remarked, the mining engineer "has all the problems that torment the civil, mechanical and electrical engineers, together with a torturing lot of his own that they don't have."

These multitudes of inter-relations of the profession and the variety of functions which the engineers have to fulfil, afford the best arguments for union and for legal standing. The public is not adequately safeguarded; the absence of statutory definition and limitations place the public under a grievous disability. It knows that doctors and lawyers cannot practice without due qualifications, and yet when it requires an engineer to carry out works of vital importance, which in the aggregate involve vast expenditures and also involve the health, comfort, prosperity and life of the community concerned, the public has no statutory assurance that the person to be employed is duly qualified.

It must be remembered, however, that in some respects engineers are not situated similarly to doctors and lawyers. Comparatively few doctors and lawyers are officials or employes of others, but the majority of engineers are. The questionnaire revealed this situation very emphatically. Out of the forty-eight replies, twelve are from private practitioners and thirty-six are from those who are employed by the governments, public bodies, railways and private firms.

Licensing of engineers, under these conditions, may be of importance to those who are practitioners, but only to a lesser degree to those who are otherwise employed. If licensing is to be enforced in a comprehensive manner, then it may be deemed by the public to resolve itself into a professional union, as trade unions are to craftsmen. Trade unions are vitally concerned with the question of the status, rights and responsibilities of its members and jealously watch that no infringement of its non-statutory rules take place, not only by these men but also by the employers. Should serious infringements occur and the union fails to have it rectified, it declares a strike. In this way many who are not concerned in the conflict are often seriously affected and sometimes the guilty parties suffer the least. Statutory limitation of engineers, however, would be safeguarded by penalties to be imposed by the court, and to obtain decisions, it would be necessary for the Institute to undertake legal proceedings, because the complainant may not be able, for obvious reasons, to assume the responsibility. This matter would necessarily have to be taken up by the branch, division or federal council, as obtains with the medical, legal and other professions, for its own protection.