

of lawyers, doctors and farmers. The probable opposition and non-support of such men cannot be charged so much to active enmity as to excusable ignorance and lack of interest, for which condition engineers themselves are mainly responsible.

Among other channels of publicity may be mentioned the active participation of engineers in town planning, housing and settlement problems, and in developing such problems into specific schemes for government ratification and administration. Conditions governing publicity in the broad sense demand that engineers must seek out and identify themselves with all beneficent movements and projects, particularly those which have a wide public appeal.

#### Unionism Not Proper Medium

Finally, there comes the question of unionism as a means of obtaining recognition through publicity. The various technical organizations of this country could assume the essential functions of a trade union if their constitutions were so amended as to permit them to adopt the principle of collective bargaining and to promulgate strikes. This method of obtaining recognition is without doubt repugnant to the majority of engineers, and, while some transitory benefit might be derived by junior engineers, the general effect would be a very material lowering of the status of the engineer in his own estimation, and in the estimation of the public from whom he derives sustenance. It is difficult to conceive of a town manager, a commissioner of works or a consulting engineer participating in a strike, or to imagine that the diverse, and at the same time interlocking, activities of engineers could be so grouped and segregated as to render them susceptible to the principle of collective bargaining. The proper sphere of activity for any man who wishes to use collective bargaining and the strike as an economic weapon is in a trade, and not in a profession. The value of creative engineering work and the work incidental to the solution of engineering problems in general must be appraised on an individualistic and not on a collective basis. Unionism does not therefore appear to be a proper medium of publicity for engineers to employ as a means of obtaining recognition.

The other factor involved in the problem of recognition is legislation. In its relation to the matter of recognition, legislation should be considered as a defensive weapon, as distinguished from publicity, an offensive weapon. In other words, publicity should be the sword, and legislation the shield, of the engineering profession.

#### Legislation For Public Welfare

The primary function of all legislation is the protection of the public. If this principle is rigidly applied to any engineering legislation that may be framed, it will be found that the engineer has received his full measure of protection, not as an engineer, but as a part of the body politic. All that engineers as a class are entitled to is some effective means of protecting their professional reputation and prestige. Legislation can certainly be framed to meet this end, and so framed as to be for, and not at the expense of, the public weal.

Anything beyond this must be defined as "class legislation," which, in the final analysis, does not protect, but stigmatizes, and would ultimately force the engineer into the position of having to protect his legislation instead of having his legislation protect him.

On the basis of the above premises, therefore, it should be possible to roughly outline the salient features which properly framed engineering legislation should embrace.

The more important features of such legislation are cited hereunder.

*Cognizance of Existing and Future Conditions.*—Under this head must be considered the comparative youth of engineering as a recognized profession, and the very great difficulty of so exactly defining the functions and activities of an engineer that such definition would hold in law. It would appear that the most practicable way of overcoming this difficulty would be to vest considerable discretionary power in any board or commission which might be delegated

to administer the law. This discretionary power would be exercised in respect of such matters as the recognition of engineers practising at the time the law comes into effect, the classification of engineers according to specialties, the formation of partnerships, the granting of exemptions, the fixing from time to time of standards of qualification, the revocation of privileges, and the enforcement of penalties.

*Malpractice.*—The public and the competent engineer should be protected from wilful or involuntary malpractice. It is just as important to have healthy and efficient engineering structures built by responsible and competent engineers as it is to have the health and efficiency of the individual citizen maintained by competent medical supervision. If the protection of the law is necessary in one case in the public interest, it is equally necessary in the other.

*Conservation of Man-Power.*—The necessity for conserving and developing national resources to the utmost is receiving world-wide recognition at the present time. The development and conservation of natural resources can reach a high stage of efficiency and economy only by giving primary consideration to the conservation and development of man-power. The man-power of the province of Ontario is developed in one direction by an elaborate system of public education, consisting of primary schools, high schools, collegiate institutes and a government-supported university. The province, therefore, expends a considerable sum of money on every engineer it graduates from the university, but under present conditions ceases thereafter to assume any responsibility for his professional advancement or to provide for any return on the investment made in his behalf. Obviously, this return could best be realized by applying the engineering man-power so created to the development of provincial industry and to the conservation and development of the natural resources of the province. Such procedure would be eminently in the public interest, and any enactment leading to its consummation would come well within the limits of permissible engineering legislation.

*Development of Home Trade.*—This phase of the situation is closely allied to the problem of conserving man-power.

The surest indication of a country's prosperity is a favorable trade balance, which in turn is measured by the volume and extent of its home trade. The condition of the home trade of any country is solely dependent upon the volume and diversity of the commodities it can produce for the needs of its own citizens. This condition applies as properly to the service of its engineers as to the products of its fields, and any measures taken to provide that engineering service be purchased within the province would be in the public interest in so far as the development of home trade is concerned.

*International and Interprovincial Comity.*—Under this head comes the important feature of so framing engineering legislation as to obviate any onerous restrictions on the practice of the profession by bona fide engineers entering the province temporarily, or with the intention of becoming permanent or naturalized citizens, and in general to place the engineering profession in the province beyond the fear of reprisals, or other demonstrations of ill-feeling, on the part of other countries or provinces. This feature is more or less in direct opposition to any drastic enactments which might be considered in relation to the conservation of man-power and the development of home trade. These three features must, therefore, be considered together in an effort to effect a reasonable compromise.

Assuming the above general specifications as a groundwork for the framing of a law which, while adequately establishing and protecting the status of the engineer, will at the same time be in the public interest, it remains to discuss the general form in which such legislation might be presented.

All existing and proposed legislation of this class involves the principle of registration, and the issue, in some form or other, of a license to practise. It is significant that all engineering legislation recently enacted vests the administrative control of registration and the issue of licenses in the government, and not in a council or board appointed by the engineers themselves. Herein lies the basic distinction