

and every member of the branch. In many instances, also, special branch dues are imposed by the branches, so that the revenues of the Society are, in these cases, not tapped to the full extent necessary for the upkeep of the local institutions.

In the endeavor to broaden the professional scope of the Society it was found desirable to establish sections representative of the chief lines in which civil engineering practice divides itself. These we designate as "electrical," "mechanical," "mining," and "general," the latter standing for the work usually understood as comprised under "civil" when used in its narrow sense. Each section has its own chairman and vice-chairman, one or other of whom presides over the professional meetings of his section, which are held at the Montreal headquarters, and both of these officials are supposed to interest themselves in securing suitable papers. Some of the larger branches operate along similar lines and have their own officers of sections. To provide for articles or discussions covering technical work of interest to all sections, monthly Society meetings are held. It thus follows that each of the sections, meeting alternately at fortnightly intervals, has an opportunity of holding two meetings during the winter session.

The professional papers of the Society, which are issued in the form of advance proofs, are promptly distributed to the branches and to the membership at large, and thus become available for discussion by the branch members, as well as by those who assemble at the Montreal meetings.

There are, of course, many matters of interest to Canadian engineers, as, I suppose, to the engineers of all countries, on which opinion is largely divided, and some of these stand out, perhaps, with the most marked prominence in a country such as Canada, covering so large a territory and comprising as it does men of different lineage and divergent attitude of mind. Chiefest amongst such problems is the question of legislative protection, in connection with which we have, as elsewhere, those who do not desire any (however remote) a suggestion of legal control, and those who, on the other hand, would wish to see established the most exclusive protection in the practice of their profession.

It should here be explained that in Canada the Dominion Parliament has no authority over educational or professional affairs, and that, as a consequence, legislative control of professional practice must, if it is desired, be obtained separately in the several provinces. The exponents of the wide-open door are probably those engineers who occupy the important positions, either as consulting practitioners or as the official representatives of large corporations. Those, however, who would limit the practice of engineering by legislative enactment, whether they so express themselves or not, are unquestionably in the majority. This majority desires such protective legislation as is everywhere accorded to the legal and medical professions. In Canada we have what are known as the "Quebec Act" and the "Manitoba Act," both, of course, provincial, and designed to govern the practice of civil engineers. The former has a penalty clause, while the latter has no such governing condition, and is, consequently, inoperative. The Quebec Act, however, in practice permits all members of the Canadian Society of Civil Engineers, whether they become such under the provisions of the act or not, to practice their profession within the province, and hereby there is, fortunately, a safety valve introduced which makes for a smooth running.

That further legislative control of engineering practice in Canada is one of the problems which we shall have to face, and that in the very near future, is, to my mind, beyond peradventure. As an indication that this is a coming event, the Society has recently, under strong pressure, made provision in its by-laws for the establishment of provincial divisions, and already there are such organizations in operation in British Columbia and Alberta. A function of these bodies has clearly to do with controlling legislation, and the object of their establishment would seem to be to gain a vantage point of local knowledge and at the same time to secure the co-operation of the profession throughout the Dominion as represented by the Society. While there undoubtedly exists a considerable range of opinion as to the desirability of a certain form of legislative enactment, there is amongst Canadian engineers a united front as regards the necessity of insistence on advanced educational requirements. In this respect the Society demands an educational test of candidates seeking admission to the grade of associate membership, which is practically equal to the degree standards of an engineering course. It is a pleasure to record that the number of candidates for admission to corporate membership who have not had the advantage of university training is steadily decreasing. In other words, that the scientific training of those young men now entering the profession is, year by year, reaching a higher plane.

GOOD ROADS SYSTEM IN LATIN AMERICA.

Colombia is the latest South American country to work out a comprehensive road system intended to facilitate highway traffic and to connect interior points with railways, ports and commercial centres, says a consular report. Much interest in road construction has been shown recently in the neighboring countries of Venezuela and there is a certain similarity between the completeness of the Peruvian plan and that of the project passed by the Colombian Congress and promulgated in the *Diario Oficial* of December 22. No provision has been overlooked for the extension of roads over practically the whole of Colombia, as well as for the selection of the best routes, and for the maintenance of the roads when completed. Important measures have been adopted for the financing of this project and for the execution of the plan in all its details.

An annual appropriation of \$700,000 is to be included in the national budget for work on these most-needed roads and certain others, nearly one-third of the whole amount to be used for the great central highway of the north. Careful surveys of all proposed roads must be made and the most practicable routes selected, with the approval of the minister of public works, before construction is begun. The government may authorize local boards to construct and maintain roads for which plans and estimates have been made by authorized engineers, under the direction of a bureau of national roads, created by this law.

A manganese mine in Costa Rica began shipping in May, 1916, and is now putting out about 300 tons a month. Preparations are being made for installing an equipment with a capacity of 3,000 to 5,000 tons a month. The port of shipment will be about two miles south of Braxilito, considerably north of the Pacific port of Punta Arenas. The ore is given as averaging 55 per cent. metallic manganese (80 to 83 per cent. manganese dioxide).