

thereof, giving him not less than thirty days' notice of an opportunity for a hearing, upon proof that such certificate has been obtained by fraud or misrepresentation, or upon proof that the holder of such certificate or license has been guilty of malfeasance or gross incompetency in the exercise of his profession.

25. The department shall keep a record, which shall be open to public inspection at all reasonable times, of its proceedings relative to the issuance, refusal, renewal, suspension and revocation of certificates and licenses. This record shall also contain the name, number, place of business and residence, and date and number of the certificate or license, of every registrant and licensee with whom the board has dealt.

25. Each of the following acts constitutes a misdemeanor, punishable upon conviction by a fine of not less than \$                    nor more than \$                    :—

(a) The practice of structural engineering, or an attempt to practise structural engineering, without a certificate of registration as a registered structural engineer, or a license issued under the several provisions of this act; each day of so practising, or attempting to so practise, shall constitute a separate offence.

(b) The making of any wilfully false oath or affirmation whenever an oath or affirmation is required under the terms of this act.

(c) The affixing of a registered structural engineer's seal to any plans, specifications, estimates or drawings which have not been prepared by him or under his immediate personal supervision.

(d) The violation of the provisions of section 21 of this act.

All fines and penalties shall inure to the Department of Registration, and shall be recoverable with costs under the provisions of the law respecting summary convictions.

27. On and after a date six months subsequent to the date upon which this act comes into effect, neither the province, nor any county, township, municipality or village shall engage in the construction or maintenance of any public work of a structural engineering nature unless the plans, specifications and estimates have been prepared and the construction supervised by a registered structural engineer with qualifications appertaining to such work; provided that nothing in this section of the act shall apply to such public work if the estimated cost for the completion of the same does not exceed two thousand dollars.

28. Any person entitled to be registered under this act who shall neglect or omit to be so registered shall not be entitled to the benefits and protection thereof while such neglect or omission shall continue.

29. No provisions of this act having to do with penalties and restrictions shall be operative until one year after the passing of the same.

The American Association of Engineers has issued the following bulletin: "Attention is directed to Senate bill 2507, providing for a department of public health in the United States government. The bill authorizes a secretary of public health; a first assistant secretary, who shall be 'a man trained in medical science and eminent as an authority on public health and sanitation problems; a second assistant secretary, who shall be a man expert in the science of vital statistics and public health; and a third assistant secretary, who shall be a woman trained in the science of medicine or nursing and of public health.' Without entering into the discussion of the necessity and desirability of a department of public health, it seems necessary that such a department should be provided with an engineer trained and experienced in sanitary engineering. The problems of sanitary work are less medical than engineering. The American Association of Engineers, in pursuance of its policy to give attention to legislation affecting engineers, is conferring with prominent sanitary engineers of the country in regard to the bill's lack of provision for sanitary engineering services."

## ROADS OF BRITISH COLUMBIA\*

BRITISH COLUMBIA has approximately 14,600 miles of road open for traffic in the unorganized districts—namely, outside of incorporated municipalities. These roads have been constructed and are now maintained at the sole expense of the Crown. About 5,000 miles of the highways may be classified as main trunk roads, subject to a heavy mixed traffic of motor-trucks, touring-cars, ore-wagons, lumber-wagons, and the more ordinary traffic of farming communities. There are also about 5,000 miles of second-class road, which carry less volume of traffic, but which normally have to support the very heavy loads connected with mining, logging and other industries. The remaining roads are generally merely roads of access, subject to little traffic, and which, though costly to construct, especially in the mountainous or heavily timbered sections, are generally fairly cheap to maintain. In addition to the roads proper—that is, roads for ordinary wheeled vehicles—there are over 8,000 miles of trail, many of which in course of time will be widened out and improved, so as to form finally a part of the highway system.

### Sixty Miles of Bridges

In connection with the provincial highways there are nearly 60 miles of bridges, of which nearly 3 miles are steel structures, built either purely for highway purposes, or built as composite highway and railway bridges, in association with one of the several railway companies. At least 13 miles of British Columbia's bridges are timbered truss spans, the remainder being timber trestles.

The provincial government has also installed and maintained 48 ferries, of which the majority provide a free service. There are also 3 subsidized steamboat services plying periodically on the interior lakes.

Within organized areas the provincial government has given material assistance to the various rural municipalities in connection with the construction of the trunk roads, and particularly in connection with the laying of improved surfaces. The formulation of a definite policy for dealing with work of this nature is under consideration by the administration.

Within the five years preceding 1919, the provincial government, by contribution or direct expenditure, has applied a sum of at least \$600,000 towards such work, which, among other existing benefits, is represented by about 40 miles of paved surface within municipal areas.

The province of British Columbia embraces an area of 388,263 sq. miles, or, in other words, is practically as large as France, Spain, Portugal and the Netherlands. Of this area, less than ½ of 1% is organized into municipalities; while of the total population (approximately 400,000) only 14% is resident in the unorganized areas.

### Extensive Banks of Gravel

Generally speaking, the rocks found in British Columbia are unsuitable for the construction of water-bound broken-stone roads, but as a compensation there are in the majority of sections extensive banks of gravel which provide suitable material for water-bound gravel roads, or, by selection, excellent material for concrete or other hard surface. The cost of special surfacing, except on the most heavily travelled ways in the neighborhood of towns, is, of course, prohibitive, but careful experiments are being made of surface treatment of ordinary gravel roads, and in many other directions, with the object of determining upon a form of construction suitable to each locality, and which, taking the first cost, maintenance charges and quality of surface into account, will be very greatly superior to the class of road which has so far been built in the outlying districts.

The public works department, which is responsible for the highways of the province, is thoroughly alive to the necessity of further extending the highway system for the benefit, not merely of the province, but of Canada as a whole. The necessity of intercommunication by road with

\*From Handbook of British Columbia, published (1919) by the Legislative Assembly, Victoria, B.C.