

have been at the working face. A candidate for manager must have a certificate of competency as underground manager, or have had at least three years' practical experience and a degree as mining engineer from some approved college or university. A candidate for underground manager must have a certificate of competency as an overman. Those qualifying as first class stationary engineers must be at least 24 years of age and holders of second class certificates. In addition they must have served one year at mechanical work on machinery, or in charge of a hoisting or haulage engine or steam plant, or two years in charge of some other type of engine, or three years at mechanical work in a machine shop. Candidates for second class certificates must be certificated third class engineers with one year's experience, and have reached the age of 21 years, while anyone entering for the third class examination must be 18 years of age and have served six months as a licensed fireman, twelve as engineer, assistant engineer, pumpman, oiler or locomotive engineer, or eighteen months at mechanical work in a machine shop. A British subject, 21 years of age who has had at least three years' practical experience in a coal mine, holds a certificate of competency as a coal miner and has a practical knowledge of gas, explosives, ventilation and timbering, may present himself for examination as a mine examiner. All candidates must give satisfactory evidence of sobriety, experience and general good conduct.

British Columbia requires of a candidate for a mine manager's certificate that he be at least 25 years of age, and have either five years working experience or a degree showing a course in scientific coal mining at an approved university or college, together with four years' practical mining. Any person entering for examination for a certificate as overman must be at least 23 and have five years' experience, while candidates for shift boss, fire boss or shotlighter must have a similar age qualification and three years' practical mining; a certificate in first aid work is required of all applicants.

Both Nova Scotia and British Columbia provide for the holding of examinations for the granting of certificates as coal miners. In the former province the Commissioner of Public Works and Mines appoints for this purpose local boards of two persons having practical experience as coal miners in Nova Scotia, and one underground manager. In British Columbia the Inspector of mines for the district and one representative each of mine owners and miners from the Board of Examiners. Examinations must be held on at least one day in every sixty at each colliery designated by the Minister. Both provinces require one year's working experience of all candidates, and British Columbia adds the provision that they must be familiar with the English language.

The Alberta law requires that a candidate for manager's certificate shall have at least five years' practical experience either wholly or partly in Canada, or he must hold a diploma showing a course of two years or more in scientific or mining subjects at an approved college or university, together with three years' experience in a coal mine as above. He must also be at least 25 years of age. An applicant for a certificate of overman or examiner must be 23 years of age and have three years' working experience. All candidates must produce evidence of good conduct and sobriety, and also a certificate from a medical practitioner or a re-

cognized ambulance society showing him to be qualified to render first aid, and applicants for certificates of the second and third classes must satisfy the board that they are able to speak and write English. All three provinces direct that a register of all holders of certificates be kept. They also provide that in case complaint is made to the authorities that any holder of a certificate is guilty of incompetence, gross negligence or any offence against the mining law a public inquiry into his conduct may be held, and if the charge is sustained, the Minister may cancel or suspend the certificate of such employee. The British Columbia law permits the granting of a certificate without examination to the holder of a certificate granted in any British Dominion if the standard is equivalent to that required by the Act. Saskatchewan allows the same privilege to holders of satisfactory certificates from the United States, and Alberta extends it to persons from any country where the standard is equivalent to that demanded by the Act. Permission is also given for the granting of provisional certificates.

Inspection.

The mining laws of Nova Scotia, Ontario, Manitoba and the Yukon do not contain any reference to qualifications of inspectors. In Quebec these officers must be mining engineers who have practised their profession for at least five years and are possessed of sufficient knowledge of mineralogy and metallurgy for the satisfactory discharge of their duties. The Coal Mines Act of British Columbia and the Mines Act of Alberta and Saskatchewan require all inspectors to be holders of mine manager's certificates, while the the Metalliferous Mines Act in the first named province demands seven years' practical experience in mining. It also confers on the Provincial Mineralogist all the powers of an inspector. This law forbids an inspector to act as manager, agent or lessee of any mining or other corporation, or to make any report on a mine or mining property with the object of promoting its sale. The Alberta law stipulates that inspectors may not act as mining engineers or mine managers within the province while the Coal Mines Act of British Columbia and the Mines Act of Québec disqualify any person who has any interest directly or indirectly in any time in his district.

In all the Canadian provinces and in the Yukon the inspector may enter the mines in his district at all reasonable hours in the performance of his duties but may not unnecessarily impede the working of the mine. In Nova Scotia and British Columbia he must visit each mine and every part of it at least once a month, but the other provinces and the Yukon do not contain any reference to frequency of inspection. The Yukon and all the provinces except Quebec have sections relating to the powers and duties of inspectors. They may examine into and make inquiry respecting the state and condition of any mine or any part thereof, the ventilation, the sufficiency of any special rules, and all things affecting the safety of the persons employed therein. In coal mines in Nova Scotia and all mines of British Columbia and Alberta the inspector must, after each visit, cause a copy of his report to be posted in a conspicuous place at or near the mine. In the Yukon and all parts of the Dominion, except in Quebec and the coal mines of Nova Scotia, the inspector must give notice in writing to the owner or manager of the mine of anything which he finds to be dangerous or defective and direct that it be remedied within a specified time. The Ontario, Saskatchewan and Alberta Acts and the