of the traders realized that the difficulties to be overcome required a pooling of their resources to make a strong organization and do away with conflict among themselves. With this object in view, in the winter of 1783-4, the foundation of the North-West Co. was laid in Montreal. In the spring of 1784 the company was organized at the Grand Portage.

MacKenzie, Explorer, Not Trader

At this time, Alexander MacKenzie, a young Scotchman of fine physique and daring heart, was a clerk in one of the Montreal firms largely interested in the North-West Co. He went to the Indian country as a clerk, although soon afterwards he became a partner in the company. In 1789 he was in charge of Fort Chipewyan, on Lake Athabaska.

From the end of the French régimé up to this time, the various explorations made were undoubtedly incidental to the fur trade. The early rivalry among the independent traders induced many of them to seek new fields. Later, when they combined to form the North-West Co., there was the desire to divert as much as possible of the trade from the Hudson Bay Co. So the fur trade offered a very powerful incentive to the penetration of new districts. However, the securing of a greater quantity of fur was always the one and only object in view.

In the case of MacKenzie, it was not so. He was actuated by a loftier vision. Beyond a doubt he realized, better in fact than his partners, that further explorations would benefit his company by opening up wider fields for trade. But he pushed his discoveries far beyond the point where they were of any immediate benefit to the fur trade. In both his major expeditions, he exhibited a determination which refused to be diverted, or to be deterred by the risks which lay before, until he finally reached the sea. That seemed to be the keynote of his purpose,—to reach the sea and know the bounds of the continent. He was an explorer first and a fur trader second. He was among those who saw the vision of the western sea, and the first to realize that vision in truth.

MacKenzie Reaches Pacific Ocean

In the spring of 1789, MacKenzie decided to go down the river from Lake Athabaska and try to reach the sea. In spite of the stories of fearful rapids from the Indians, and the assurance that they would be old and grey-haired men, if indeed they ever returned, he set forth with four voyageurs and a few Indians. They passed through Great Slave Lake and from there down without a single portage reached the Arctic Ocean. In three months from their time of starting, they were back at Fort Chipewyan.

Encouraged by this success, he essayed a still bolder feat. Setting out from Fort Chipewyan in the autumn of 1792, he wintered at a post up the Peace River near the mountains, and started westward from there as early as possible in the spring. He ascended the Peace River through the Rocky Mountains and turned up the south branch or Parsnip River, crossed to the Fraser River, followed it down to the Blackwater and from there struck overland across the Coast Range to the Bellakulla River. By this river he reached the Pacific Ocean July 22nd, 1793. There he missed, by only a few days, Capt. George Vancouver, who was exploring the Pacific coast. He returned on the route by which he had come and reached Fort Chipewyan before the winter set in. Soon after this MacKenzie went back to Montreal and did not return again to active work in the West.

(Concluded in the next issue)

The Private Bills Committee of the Alberta Legislature has amended the Act incorporating the "Association of Professional Engineers of Alberta" so that the examining body will be the senate of the University of Alberta. The clause defining professional engineering was also amended. The words "skilled and professional" were substituted for the word "intelligent" in the phrase "intelligent application of the principles of mathematics, physics," etc.

Letters to the Editor

MUNICIPALLY OWNED ASPHALT PLANTS

Sir,—In the issue of *The Canadian Engineer* for January 28th, 1920, on page 179 there is given a list of asphalt plants owned in the United States and Canada. I note that some of the cities in the eastern part of the United States, with which I am familiar, have been omitted. Trenton, N.J., Borough of Richmond (New York City), Borough of Bronx (New York City) and Camden, N.J., have been omitted; also the Borough of Queens (New York City) has two plants instead of one.

R. R. BARRETT,
Engineer, The Texas Company.

New York City, March 5th, 1920.

UNIONIZATION OF ENGINEERS

Sir,—I would like to add a few words to the discussion on the above subject as published in your issue of March 11th.

This question can never be settled on the present basis of discussion, since the opposing sides represent two distinct classes of engineers, and this division must be clearly recognized in order to reach any definite solution.

Prof. Gillespie argues from the standpoint of the engineer in an executive or consulting capacity. This class must obtain recognition through legislation and the Engineering Institute, and can have no place or voice in union affairs.

Mr. Snaith, on the other hand, argues from the standpoint of the younger members of the profession, the draftsmen, instrument men and junior engineers, who are not included in the scope of legislative enactment, and of whom the great majority are not yet eligible for corporate membership in the institute. For such, under the present conditions, unionism seems to hold promises of betterment which, seemingly, can be obtained in no other way, and if the employing engineers do not remedy existing conditions of their own accord, unionism will be forced on this class as the only method of obtaining their rights.

The unions are rapidly increasing their membership in this country, and in Chicago they are now recognized by a number of the leading employers and have a definite agreement and monthly wage scale, which is as follows (overtime extra):—

Apprentices: Class B, $100; class A, $130.

Technical engineers, architects and draftsmen: Class C (experienced tracers, rodmen, etc.), $150; class B (detailers, instrument men, etc.), $200; class A (designers, checkers, etc.), $240; assistant supervisory engineer or architect, $300; supervisory engineer or architect, $333.

This schedule sets the minimum for each grade, and men who are exceptionally proficient can readily obtain more than the amounts set by the scale.

It will be seen from the above that the difficulty of grading members is not as great as anticipated by Mr. Snaith, as a man's training will automatically classify him; the employers will refuse to keep a man in Class B who is not capable of handling the work; and on the other hand, the man would refuse to do work requiring qualifications of Class A for very long while engaged at the salary specified for Class B.

Mr. Proctor speaks of several engineers expecting to graduate this year who are willing to work for little more than their board and car-fare. I wish to say that if Mr. Proctor accepts the kind offer of these misguided mortals, he is certainly not working for the advancement of the profession. The thinking members of the profession cannot but condemn the practice of engaging graduates as tracers