

the past and would continue in the path of industry and virtue. It had been Spokane mining men who had done a large part in the development of the Slocan in the early days. British Columbians had never forgotten that and the latter's sense of obligation had been so great that they had turned around and constructed Spokane, one of the great industrial centres of the State of Washington. "Let us continue hand in hand," advised Mr. Keen, "remembering that the important things are to find and recover the ore and then obtain for it the best possible price."

Remarks of the Secretary A.I.M. & M.E.

L. K. Armstrong, Secretary A.I.M. & M.E., expressed appreciation on behalf of himself and associates, the majority of the City of Spokane, on the hearty manner in which they had been received. He declared that Mr. Keen's observations regarding Spokane were founded on fact and the fact was appreciated, generally, by the citizens of that city. He had heard it stated, and be-

Joint Meeting A.I.M. & M.E. and C.M. Inst.

In the afternoon there was a joint meeting of the A.I.M. & M.E. and the C.M.I., Mr. Fowler occupying the chair. Three interesting papers were read as follows: "Mining Methods at the Granby Mines, Phoenix," by C. M. Campbell, E.M.; "Nodulizing Copper Concentrate," by Oscar Lachmund, E.M., Spokane, Wn.; and "Tunnelling Reminiscences," by Major Angus W. Davis. Summaries of the two former are subjoined while the reference suffices for the latter inasmuch as it was read before the recent annual meeting of the Western Branch of the C.M.I.

Mr. Campbell's Paper on Granby Phoenix Mines.

Mr. Campbell's paper was illustrated by lantern slides. He stated that the first of the camp's claims, the Knob Hill and Old Ironsides, were staked by Henry White and Matt Hotter in 1891. There followed a period of comparative inactivity, marked by intermittent development until in 1901 a consolidation of min-



International Mining Convention, Nelson, B.C., June 19-21st, 1919.
Delegates outside Convention Hall.

lieved it to be true, that that City would be but a village; were it not for the mines of the Kootenays and the Boundary of British Columbia. It was said that its extent and its business was about 80 per cent due, either directly or indirectly to the mining industry. The interests of the producers of the Province and of Spokane, therefore, were closely allied and he was sure that they would in the future work together in an ever larger degree than they had in the past. In closing he delivered a message of goodwill and regret at his inability to be present from Phillip M. Moore, former president of the American Institute of Mining Engineers, who had attended the last Convention in Nelson and recalled his experiences on that occasion with extreme pleasure.

L. O. Howard, of the College of Mines, Washington State College, spoke briefly, referring to his pleasure at being present and stating that he came, not to lecture, but to learn.

ing and smelting interests resulted in the formation of the Granby Consolidated Mining & Smelting Company. The first ore was shipped in July, 1900. Between then and June 14, 1919, about 14,000,000 tons were shipped. From 1910 to 1916 daily shipments averaged 3,000 tons; while in 1912 and 1913 the daily average output was 4,000 tons a day. Mr. Campbell went into the geological conditions of the district and enumerated some of the bigger problems which the company's staff had to overcome. He stated that the mining costs, were exceptionally low and that it was possible to win and to successfully treat very low-grade ore at a profit. Efforts were made constantly to reduce the costs with such satisfactory results that as conditions changed, and the methods in use failed to yield a profit on the class of ore being handled, there were new methods ready to further decrease operating expenditure to such an extent that mining could be maintained and divi-