

diffused backward. The lamp is carried by means of a hook attached to three vertical rods which partially protect the globe. Two sizes of this lamp are made—one weighing three pounds, fourteen ounces, giving 0.8 candle-power for eleven hours, the other weighing five pounds and giving one candle-power for fifteen hours. The dimensions of the smaller lamp are ten inches high and two and three-eighths inches square, and of the larger, ten inches high and three inches square. The lamp takes less than three and one-half watts per candle-power and lasts for 500 hours. It is charged at the rate of one ampere for twelve hours. After being fully charged it is partially discharged through a thirty-two-candle-power lamp, in order that the high initial voltage of the cells may not injure the small lamp. Five hundred and four of these lamps are in daily use at the mine mentioned above. About ninety-seven per cent. are kept in regular use, the others being put aside for minor defects. The cost of maintenance is said to be one cent per day. The lamp is considered absolutely safe in gaseous atmospheres, and is very reliable.

#### ASSOCIATED SILVER-LEAD MINES OF BRITISH COLUMBIA.

**T**HE Associated Silver-Lead Mines of British Columbia held its annual meeting at Sandon on August 16. From reports of the meeting published in Slocan newspapers it is gathered that there was a good attendance at the meeting, all the leading silver-lead shippers having been represented.

Officers and executive committee for the ensuing year were elected as follows:

President, Mr. Alfred C. Garde; vice-presidents, Messrs. James Cronin, W. S. Drewry, W. S. Jenkins, William Hunter and George Alexander; executive committee, Messrs. John L. Retallack, Geo. D. Potter, Norman Carmichael, Louis Pratt, W.E. Zwickey, H. Giegerich and N. J. Cavanaugh; treasurer, Mr. Oscar V. White; secretary, Mr. N. J. Cavanaugh.

The retiring president made an extended report on what the association had accomplished for the mining industry of the Kootenays, touching on the revival in the lead mining industry and, as a consequence, busy silver-lead mines and smelters in British Columbia. He spoke of the amicable arrangement and era of good feeling existing between the smelters and the mines; the appropriation made by the Dominion Government in aid of the zinc mining industry, and other matters of importance, all of which have been accomplished by representations made through the Associated Silver-Lead Mines.

#### THE AMERICAN INSTITUTE OF MINING ENGINEERS.

(By Wm. M. Brewer.)

**A**LTHOUGH this Institute was organized in 1871 and to-day has a total membership of nearly 3,500, yet the general public in British Columbia probably know but comparatively little with re-

gard to it, its objects and its influence over the mining industry, not only in the United States but throughout the entire continent of North and South America.

The fact that among its members, in addition to the mining engineers, geologists, metallurgists and mining operators of the United States, there is included a large proportion of the leading mining engineers, geologists, metallurgists and mining operators of Canada, Newfoundland, Mexico, Central and South America, Cuba, Great Britain and continental countries of Europe, Africa, India, Australasia, the Malay Peninsula, China, Japan and Russian Asia, really makes the organization international in its character and demonstrates the important bearing and influence the Institute exerts over the mining industry of the world.

The papers appearing in its transactions, which are published from time to time, are recognized as among the most valuable contributions given to the literature of the mining and metallurgical industries. Many of these papers are from pens of such distinguished men as Franz Posepny, Rositer W. Raymond, Clarence King, Richard P. Rothwell, Samuel F. Emmons, Charles R. Van Hise and others whose opinions with regard to mining, geology and metallurgy are recognized by all mining men as being some of the most valuable authorities of the present time.

The objects of this Institute are to promote the arts and sciences connected with the economical production of the useful minerals and metals, and the welfare of those employed in these industries, by means of meetings for social intercourse and the reading and discussion of professional papers, and through the medium of publications to circulate among its members and associates the information thus obtained. The phenomenal growth of the Institution demonstrates how thoroughly and persistently the objects for which it was organized have been carried out.

The annual excursions made by the members to various regions accessible from the headquarters in New York City, are considered by mining engineers, metallurgists, geologists and mining operators as being among the most instructive and pleasant meetings they have opportunities to attend, while it has become recognized that an excursion of this Institute is invariably followed by an increased activity in the regions visited in the mining industry and a general era of prosperity.

Probably nowhere has this been more apparent than in Old Mexico since the Institute held its memorable meeting in that country in 1901. Capital has been invested there in very large amounts to open up old mines, prospect for new ones, construct railways for lines of communication between mining districts and centres of population, and in a word as direct results of this meeting of the Institute, the mining and metallurgical industries in Old Mexico have taken on new life to such an extent that in many centres which furnish capital for mining operations it is useless to-day to attempt to present a proposition from any other section of the country.