

Australia, who has made a most successful demonstration of his invention at the School of Mines of Bendigo, Australia.

His process consists in submitting the mixed sulphide to a preliminary treatment. This preliminary treatment may consist either of roasting at a temperature of 300 to 400° Centigrade with or without a chemical reagent, or of digestion in an aqueous solution of a chemical reagent with or without heat. In either case the ore is prepared by fine grinding.

It is claimed that by either treatment some classes of the constituents are sulphatized, or more or less changed or deadened so as not to float or granulate when later subjected to a flotation or granulation process.

By the Horwood process it is possible to divide a mixed concentrate of lead and zinc into a clean zinc concentrate on one hand and a lead concentrate on the other. The roasting converts, to a large extent, the lead sulphide into a lead sulphate which, owing to a change in the bright metallic surfaces of the lead, is no longer floatable, while the roasting has no appreciable effect on the zinc sulphide, the result being that when the mixed ore is again submitted to a flotation process the zinc alone floats, the lead being left as a separate product.

Mr. Horwood also claims that recent tests have demonstrated that through the preliminary digesting of certain sulphatized ores in a solution of copper salts, such as blue-stone, with or without the addition of common salt, silver becomes unfloatable and accompanies lead in a subsequent flotation process.

CANADIAN SOCIETY OF CIVIL ENGINEERS.

Verbatim Report of the 24th Annual Meeting, Held at Ottawa, January 25th to 27th, 1910.

(Continued From Last Week).

LT.-Col. Anderson: As one of the original council who drew up the rules of the society at its organization, I think that in some way we have drifted from the original intention, which was that the full membership should pay \$10 a year and non-residents at headquarters should have remitted \$2 of that \$10, and as soon as a branch was formed that \$2 should be collected from them to be used for the good of the branch. That was certainly the original intention of the committee, but in practice it has worked out that non-resident members pay \$8 and out that \$2 has been remitted, so that they get off for \$6 to the parent society and \$2 to the branch. There seems to be no hardship in increasing the fees of non-resident members where there are branches to \$10 and the \$2 to be remitted for the use of the branch. That would put them on the same footing as headquarters members and I think it would give, with the branches we have now, an additional income of probably \$1,000. I disagree, to a certain extent, with my old friend, Mr. Kennedy, with regard to the advisability of increasing the fees. Probably part of the success of the society has been due to the fact that we have been able to run it without a very heavy tax on the members. As long as we can keep the fees at \$10 and cover the expense and possibly put by a little nest egg, it is desirable that there should be no change.

Mr. Jamieson: One other point might be considered. It is well to make the fee as light on the actual student as we can, but I think the privilege of remaining a student member is abused. Considerable revenue might be derived by looking after that more closely. In my own office I have had two cases in the past where members remained "students" although they were receiving salaries of \$125 and \$150 a month. They were not contributing really the cost of giving them the transactions. While it may be well to be as lenient as possible for a time after graduation I think that time should be reduced.

The President: The council in the last year has considered that question.

Mr. Coutlee: I had considerable to do, Mr. Chairman, with the formation of the Ottawa branch, and the formation of that branch has prevented a good deal of the trouble that Mr. Jamieson refers to. We drummed up those who were remaining students over time and they have become associates

or members. We might consider the formation of a grade between student and associate member; call them "juniors," or something like that. The question of an increased revenue has become rather pressing because the quarters in Montreal are entirely too small. I remember two important papers read when there was not sitting room in the lecture hall for those who attended. The secretary tells me that the hall holds 230. The incoming council may have to consider the obtaining of new quarters. I submit that in connection with the getting of new quarters, a readjustment of the annual fees might be looked into.

Dr. Galbraith: A few days ago Mr. Thompson, one of our members from New York, handed me a slip showing that the membership of the American Society of Civil Engineers was somewhere over 5,000; ours over 2,000; and the income of the American Society, \$130,000; ours, \$13,000. That is, with nearly one-half the membership we have only one-tenth the income. That is largely due to the fact that Mr. Jamieson has mentioned; we have eleven hundred student members, or members paying as students. The time that a man may remain a student member is, I think, nine years. I think some regulation might be made to divide that class in two. It would hardly do to say graduates and under-graduates, because all our student members do not go to the Engineering schools, but I think if the time were shortened to say four years and another grade created, it would be well and, in fact, necessary, for there are many men who have outlasted their four years and yet would not come up to our definition of associate member, and I am sure we do not wish to lower that.

Mr. Walsh: Is there an age limit for students?

The Secretary: There is only an age limit for members and associate members. There is a time limit in regard to a student remaining in that class.

Mr. Leoford: If I understand well our council of 1909 has studied the question and they came to the conclusion that the fees actually are not sufficient; why then should we hesitate about paying \$2 or \$3 more or less. When our treasurer, no doubt, voicing the opinion of the council, said we should pay more, why should we appoint committees and deliberate on the question for years. There is no necessity for members spending their time considering whether a dollar, more or less, should be given. Money paid to the society is not wasted; it is just as good as if paid into a bank. (Applause.)

The President: It has been moved and seconded then that this matter be referred to the incoming council. (Carried.)

We come now to the reports of the scrutineers. First as to the by-laws.

The Secretary: This is the report of the committee on by-laws. "We hereby certify that there have been 207 votes cast for amendments to by-laws, 169 ayes and 38 nos." That gives more than the necessary two-third majority. The report is signed.

The President: I declare the amendments to by-laws carried.

The Secretary: By-Laws 35 and 36 require a recommendation by the council added to that of the nominating committee. The proposed sub-division of territory is as follows:—

District No. 1, Montreal, number of resident members, 240.

District No. 2, Newfoundland, Nova Scotia, Prince Edward Island, New Brunswick and the United States, 180.

District No. 3, Quebec, outside of headquarters, and including members resident outside Canada, Newfoundland and the United States, the former 121, and the latter 59, in all, 180.

District No. 4, Ottawa and Ontario, east of and including Lindsay; Ottawa Branch, 124; Ontario, 56; total, 180.

District No. 5, Toronto and Ontario, west of Lindsay and south of Georgian Bay and Lake Simcoe, the former portion 100, and the latter 80; total, 180.

District No. 6, Winnipeg, with 72 members, the other parts of Manitoba 14, and Ontario north of Georgian Bay and west of Lindsay 74; total, 160.

District No. 7, west of Manitoba and east of the mountains, 75. The British Columbia Branch, 105; total, 180.

These numbers, of course, are all approximate.

The President: Your council recommend that the members of the nominating committee be as follows:—District No. 1, Mr. E. Marceau; District No. 2, Mr. R. McColl; District No. 3, Mr. St. G. Boswell; District No. 4, Mr. M. Donald-