

Registered August 2nd 06.

S.A. MUSIC TEACHERS' ASSOCIATION.

IMPORTANT DECISIONS OF THIS ASSOCIATION.

An extraordinary general meeting was held at the Lyric Club Rooms on Saturday evening. More than 60 teachers were present.

The following was moved by Mr. H. S. Furness:—"That members of this association shall not be permitted to examine in musical subjects for the Adelaide University or for any other examining body held responsible for the granting of certificates in music." In furthering the resolution Mr. Furness claimed that the majority of country teachers with whom he had come in contact were adverse to the employment of South Australian musicians as examiners in this State, and that the interests of the examination scheme emphatically demanded the engagement of outside examiners, who would be free from any possibility of bias. Mr. E. A. Daltry seconded. Dr. E. Harold Davies opposed the resolution for the following reasons:—

That the spirit of the resolution, which sought to exclude South Australian musicians from acting as examiners in this State, was contrary to the prevailing practice in every department of professional life. That if it were accepted in principle then for an equal reason it would be necessary that all judges, Magistrates, arbitrators, and adjudicators as well as examiners should be imported from elsewhere. That the honour and integrity of the examiner was a sufficient guarantee for the purity of his judgment; and that every man placed in a position of responsibility should properly be deemed worthy of trust until it were proved to the contrary. The arbitrary enforcement, therefore, of such a principle was not to be countenanced, though, as a concession to sentiment, it might be thought wise if for the examinations in the practice of music held by the Universities of Adelaide and Melbourne in this city, examiners from other States were engaged whenever practicable. The Secretary (Mr. E. E. Mitchell) supported Dr. Davies's objections, and the consequent voting was 19 for, 34 against. The motion was lost.

Dr. Davies moved—"That this association abandon its opposition to the University scheme of public examinations in music." He based his contentions upon three main grounds—firstly, the essential worth of the scheme submitted by the allied universities; secondly, that, in view of the concessions already granted by the University Council, the attitude of the Teachers' Association had not been a reasonable one; and, thirdly, that the best interests of the association itself were not to be found in sectarian policies. The speaker elaborated at some length upon these points, and after detailing the course of the representations which had been made by the Teachers' Association to the University Council, and the favourable response which in most cases these requests had elicited, he finally deprecated the maintenance of an attitude of antagonism. Dr. Davies strongly expressed the opinion that the Music Teachers' Association, in order to fulfil its true destiny, should be wide enough in scope to include every reputable teacher of music in this State; and that it would be desirable if the Director as well as the whole staff of the Elder Conservatorium were included in its list of members."

Mr. Mitchell seconded the resolution. He believed that no advantage was to be gained by a spirit of opposition. Personally he was, and always had been, heartily in favour of the examinations of our own University. He had taken pains in the public press and in his capacity as a member of the University Faculty of Music to acquaint the authorities with the prevailing views of outside teachers concerning desirable methods and conduct of the public examinations in music. Nothing, he judged, was to be gained by reiteration. Only loss of the association's dignity would result therefrom. He was not in favour of a harassing policy. If these examinations, by inherent value and freedom from objectionable features, proved worthy of support the members of the association would, he doubted not, give them that support. Mr. Furness had said that he (the speaker) had changed front with regard to the examinations. He denied that. He had always held the same view, which, on the point raised, was that not even one examiner (still less two) should be appointed possessing personal interest in the success of any of the candidates. He did not for a moment impugn the honour of the University professor of music or of any one else; but

he held strongly that it was undesirable that the Director of the Elder Conservatorium should examine if Conservatorium students entered for the public examinations in competition with the pupils of outside teachers. If after this year Conservatorium students were excluded he did not mind who were appointed. Provided the examiners possessed the esteem and confidence of the majority of the musical profession, he would be fully satisfied with only South Australian musicians. On the ballot being taken the voting was 36 for and 8 against Dr. Davies's resolution. The motion was carried.

Next Saturday evening Mr. William Silver will give a Chopin recital to members only. At the September ordinary general meeting the resignations of Messrs. C. J. Stevens and E. E. Mitchell, as President and Secretary respectively, will be dealt with, when Mr. Mitchell will reply to a statement which was read by Mr. Stevens on Saturday evening. Mr. Stevens also resigned his position as one of the association's representatives on the University Faculty of Music.

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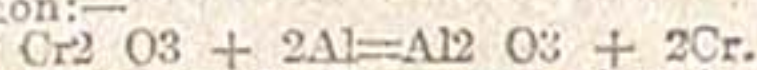
THERMIT WELDING.

AN INTERESTING PROCESS.

In view of the interest at present centred in the new tramways and all things connected with them, the following extracts from a paper on "Thermit Welding," delivered on Monday evening at a meeting of the University Scientific Society by Dr. R. M. Scott, may be found interesting.

The idea of the welding in connection with the electric tramways is to make good conductivity, and to give the rails the greatest current carrying capacity. The continuous rail, without fishplates, bolts, or bands is the ideal, as most of the troubles, mechanical or electrical, are due to poor joints. There are three distinct methods of welding:—(1) Cast; (2) electric and aluminium; or (3) thermit. Both the first named have numerous disadvantages, although the second one is sometimes used by big firms. The process, however, which gives the most satisfaction in every way is the thermit.

Aluminium, as an element, is highly electro-positive, and is capable of reacting upon metallic oxides or sulphides, and bringing about their reduction. In 1895 Dr. Hans Goldschmidt completed the work begun by other chemists, and discovered a process of reducing metallic oxides and sulphides by the aid of aluminium. The metallic oxide and aluminium are powdered and mixed thoroughly together in the proportions required by the equation:—



Goldschmidt discovered that it was not necessary to heat the whole mass to the ignition point, and in 1897 further improved his invention by an ingenious mode of ignition, which is based upon the very principle of the process. The discovery was this—a small quantity of a mixture of aluminium powder and barium di-oxide is used to ignite the whole mass. The reaction of barium per-oxide with aluminium takes place at so low a temperature that a match is sufficient to cause ignition. On the other hand, the mixture in reacting liberates so much heat that the mass in contact with it is raised to its ignition point. The temperature of the reacting materials in the above mentioned equation was found to exceed 3,000 deg. C. (about 5,400 deg. F.). This temperature had never been reached before, except by the electric arc. This discovery was made merely with the idea of obtaining pure metals, but it was soon seen that this process was of far greater importance industrially. Metals might be welded by the aid of the heat thus obtained. Some idea may be gleaned of the magnitude of the temperature obtained from the fact that a ten-inch block of steel had a hole melted through it by pouring the molten iron on it from the crucible. Several methods were experimented with at first, but not until the thermit process was tried was any satisfactory welding obtained.

The "thermit," or mixture of aluminium and ferric oxide in the correct proportions is placed in specially prepared crucibles, able to withstand the tremendous heat. The crucibles consist of an iron shell with an inside lining made of suitable magnesia cement. They are of two kinds—one pot-shaped, termed "special crucibles," employed for butt welding, that is, welding of pipes, &c. where the heat of the reaction alone is used; the other of conical shape, with an outlet at the bottom, is called an "automatic crucible," and

is used for welding rails, shafting, &c., both the heat evolved and the thermit iron being employed to form the weld. The latter is the class employed in the welding going on along the tramway routes. The outlet at the base is a magnesia stone firmly inserted. The opening is about half an inch in diameter. The stone can only be used nine or ten times, after which it must be replaced, owing to the outlet becoming too large.

The joint to be welded is surrounded by a mould. These moulds are prepared by tamping a mixture of 50 parts of clean sand, 50 parts of fat loam (or clay), and one part of moulders' glue, into a sheet-iron case placed over a model of the joint, and then baked. It must be carefully dried and warmed again each time before it is used.

The two rails to be welded, having had their ends filed clean, are brought together and held firmly in alignment by means of large double clamps. The groove in the rail is filled up with clay for a few inches on each side of the joint, and the top part of the rail and clay are carefully smeared with a compound which prevents the molten iron from sticking. The mould is then clamped in position round the rail, and the crucible got ready. It is placed with the outlet about three or four inches above the top of the mould. A tapping pin is inserted through the outlet stone, the lower end of the pin resting upon the flat plate of the discharger. The crucible is then closed. First one or two thin asbestos washers are placed over the inner outlet. On top of these a small iron disc about the size of a penny is placed and forced down upon them, and on top of all is a thin layer of magnesia sand. The whole charge of thermit is then placed in the crucible with a small amount of ignition powder on top in a little heap. This powder is now lit with a match, and after the mass has had a few seconds to get properly started the operator drops in two packets and quickly covers up the crucible with its lid. One of these packets contains powdered manganese and the other ferric oxide. The former is used to increase the hardness and toughness of the iron, and it also increases the fluidity of the mass. The latter is employed to bring the weld back to ordinary temperature as quickly as possible. When the whole mass is in a fused condition the thermit iron is given a free passage and pours into the mould. When the mould has cooled again it may be removed, and a band of mild steel is left round the weld, the top of the rail being free from any deposit. The band is trimmed off with a hammer and chisel and the weld is complete. The strength of the weld formed by this process is about 80 per cent. of the strength of the rail itself.

The simplicity of the process gives it a great advantage over other methods of welding, and it is more widely used. Another application of the immense heat evolved has lately come into use. The drilling of armor plates for battleships was formerly a tedious and troublesome task, but by this process the armor is softened, and the drilling becomes a matter of no difficulty. These, however, are not the only uses to which this important discovery may be turned.

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UNIVERSITY SCIENTIFIC SOCIETY.

There was a large attendance at a meeting of the University Scientific Society, held at the University on Monday afternoon. Mr. L. F. Burgess presided, and papers were read by Mr. J. Jona and Dr. R. M. Scott. The former took as his subject "Vegetarianism," and delivered an interesting and instructive address. He adopted views opposed to this mode of life. He urged that if all were to become vegetarians human beings would eat all the vegetable matter, and other animals would starve. Mr. Scott spoke on that process, which is so much in the public eye just now, namely, "Thermit welding."