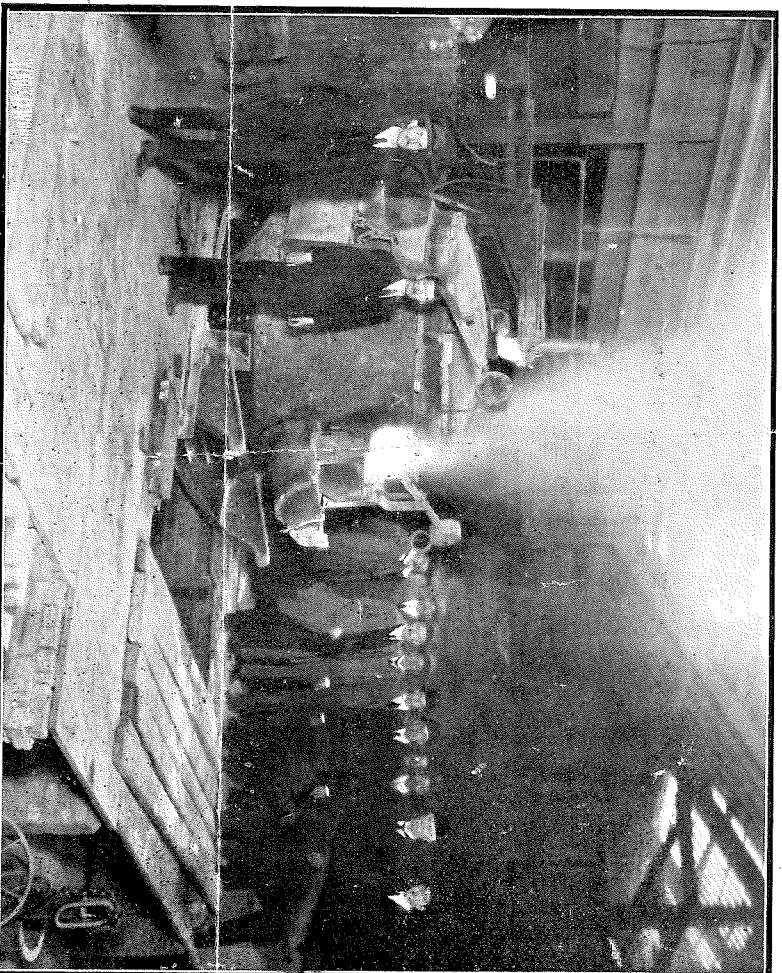


TARANAKI IRONSAND.

SMELTING IRONSAND. IN AN ELECTRIC FURNACE. THE DARLINGTON DEMONSTRATION.

About two years ago the firm of Thomas Sumner and Sons, Ltd., of Darlington, one of the oldest and best of North of England iron and steel firms, obtained from the New Zealand High Commissioner's office in London, for experimental purposes, a small quantity of Taranaki iron-sand, and they succeeded in smelting the sand in an electric furnace and in satisfying themselves that given cheap electric current the process could be made commercially as well as scientifically successful. With a view of following it up, therefore, a member of the firm, Mr. Percy Scott Leggatt, came out to New Zealand at the beginning of 1920 and thanks to the good offices of the Prime Minister got into touch with the directors of the New Zealand Iron Ore Smelting and Manufacturing Company, which holds a lease of the foreshore for about ten miles on either side of the breaker at New Plymouth. This company had already succeeded in producing good foundry iron from the iron-sand in an ordinary blast furnace, but the cost of fuel was too high for commercial success, so that liquidation seemed imminent.

The RIGHT HON. W. F. MASSEY, P.C., witnessing a demonstration of the smelting of Taranaki iron-sand in an electric furnace at Messrs. R. B. Sumner and Sons' Works at Darlington, England, Saturday, August 20, 1921.

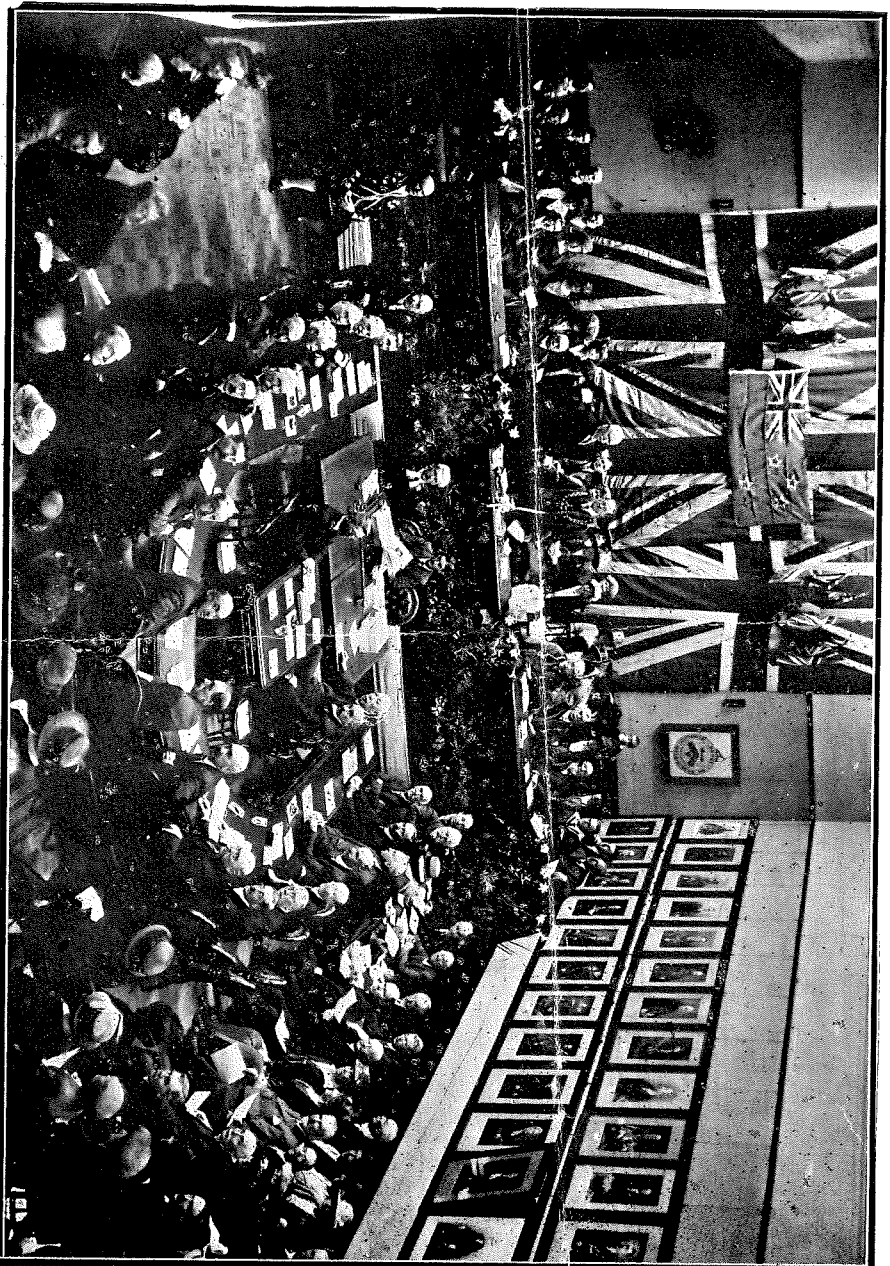
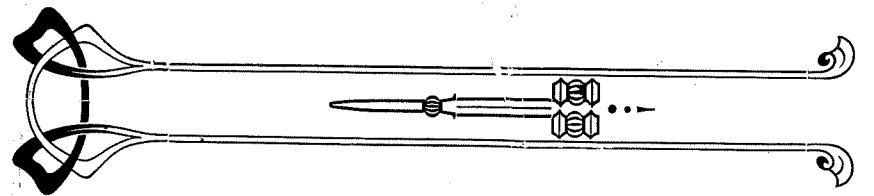


THE FURNACE READY FOR TAPPING.

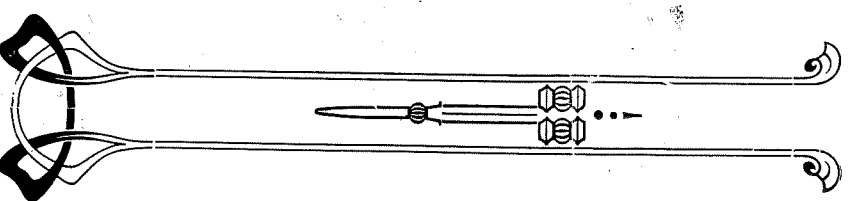
The advent of Mr. Leggatt, however, opened up a brighter prospect. He came to New Plymouth twice and went into the question very thoroughly, eventually submitting to the directors of the local company a proposal, subject to electric current being obtainable on suitable terms, to erect electric furnaces and operate them, Sumner and Sons providing the capital and the technical skill and sharing the product of the industry with the company on terms exceedingly favourable to the latter.

Following upon that, negotiations were set on foot with the Borough Council of New Plymouth for the supply of electric current, but the council ultimately intimated that it could not supply what was required, and there the matter rested for many months, until it was revived when the Borough Council, almost at a dead end with the development of its hydro-electric scheme, approached the Government for financial assistance and was not accepted the offer of Mr. Leggatt to finance the scheme on certain conditions. Correspondence was renewed with Mr. Leggatt, who undertook to finance the borough's hydro-electric scheme on condition that 3000 kilowatts of power was earmarked for him for iron-sand smelting purposes.

In the meantime the Mines Department had sent to Messrs. Sumner and Sons' works at Darlington some 20 tons of iron-sand from Moturoa for further experimental purposes, arriving here in July last.



The RIGHT HON. W. F. MASSEY, P.C., receiving the freedom of the City of Darlington, England, August 20, 1921. (Photo Sydney H. Wood.)



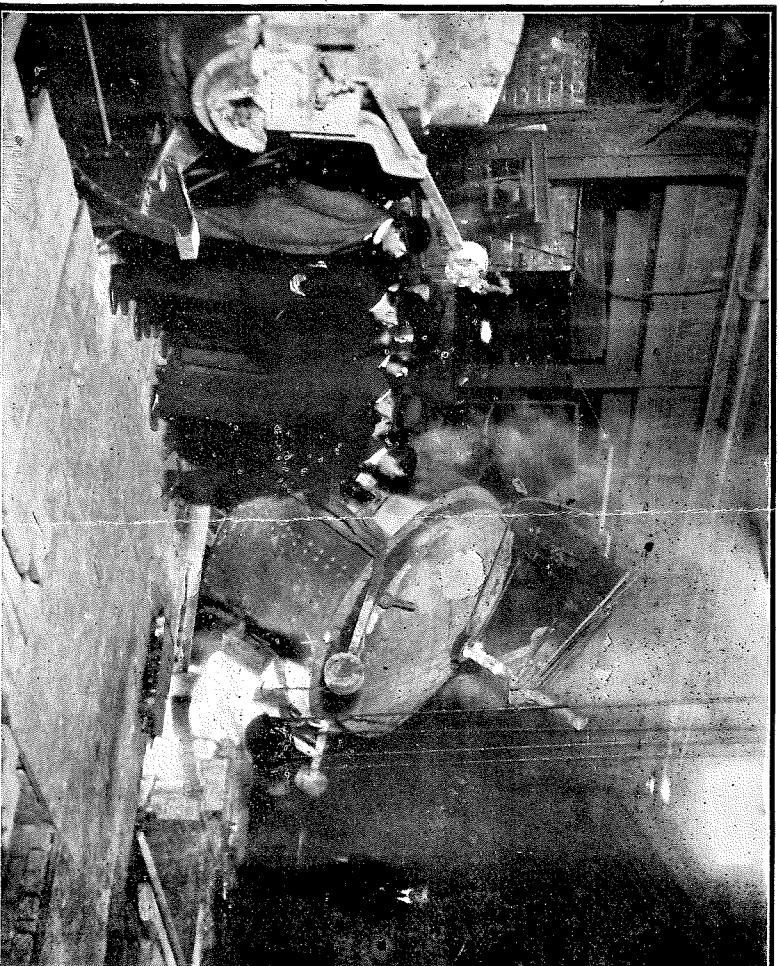
Arrangements were then made for a smelting demonstration to take place in the presence of Mr. Massey and others, including Mr. F. W. Harbord, a recognised leading authority on metallurgy, and Mr. Evan Parry, recently chief hydro-electric engineer in New Zealand. The demonstration was made on August 20, a few days before Mr. Massey left England on his return journey to New Zealand, and a correspondent has furnished us with a report of the proceedings, which is published in another part of this issue. Photographs were also sent us, which we reproduce, one showing the furnace just before the metal was run off, and the other the furnace tipped and the metal pouring out.

A third photograph shows Mr. Massey receiving the freedom of the city of Darlington on the occasion of his visit.

THE NEXT STEP.

TO PROVIDE THE POWER.

The report of Mr. Harbord is not yet available, but it may be assumed with confidence that Messrs. Sumner and Sons are



THE FURNACE TAPPED AND THE METAL FLOWING OUT.

prepared to proceed with the erection of a furnace at Moturoa as soon as they are assured of the necessary electric power. Whence this is to be derived is still undecided. The Borough Council's consulting engineers have reported that they believe the scheme now in hand can be sufficiently enlarged to enable the council to supply the requisite power, but until a survey is made they cannot speak positively. The council therefore has decided to submit to the ratepayers a proposal to borrow £9000 for the purposes of having a thorough survey made and of enlarging a tunnel and forday sufficiently to handle the additional water which it is hoped may be brought in to the scheme. This rests with the ratepayers now, who will be asked to vote on the question on Wednesday next.

Failing this, there are other possible sources of power which can be placed at the disposal of Messrs. Sumner and Sons, and in view of the immense importance of establishing an iron and steel industry here it is to be hoped that nothing will be left undone locally that can be done to encourage Messrs. Sumner and Sons to proceed with the undertaking.