Between June and November I obtained permission to take salmon eggs for scientific purposes, under section 60 of "The Salmon Fishery Act, 1865," from the following five Boards of Conservators:—Tyne, Tees, Severn, Usk, Dee; and during my inspections between June and November the following gentlemen kindly volunteered their services in the actual collecting of the salmon eggs:—Mr. Willis Bund, Vice-Chairman, Severn Board; Mr. A. D. Berrington, Chairman, Usk Board; Rev. H. Blunt, Chairman, Wye Board; Mr. N. Hodgson, Vice-Chairman, Dee Board; Mr. Mostyn Owen, late Secretary, Dee Board; Captain Bush, R.N., Secretary, Dee Board; Mr. J. Dodds, M.P., Secretary, Tees Board; Mr. Hotchkis, of the Wye Board.

I myself (with Mr. C. E. Fryer, Secretary to this office, with Mr. Searle, my private Secretary, and Mr. Edon, Curator of my Fish Museum) held myself in readiness to assist in any way in the collection of the eggs.

The official permits to take eggs for New Zealand, and, I must in fairness add, for the Thames at the same time, remained unused on my table; and I was surprised, as time went on, to find that the assistance of Mr. Walpole and myself, as Her Majesty's Inspectors of Salmon Conservators, had not been called in requisition.

My surprise was great on hearing that Mr. Youl had undertaken the responsible task of collecting the eggs, but of course I took no notice of this: Mr. Youl, I learn, from a letter in the *Times*, had employed skilled servants to carry out this operation. Mr. Peter Marshall, of Stormont Fields, ought certainly to know how to take eggs, as he has been so long engaged at Stormont Fields; Mr. Ramsbottom has also had experience in the matter.

A few months since I gave Sergeant Harbottle, of the Tyne district, full instructions as to the proper way to take salmon eggs in a seemingly easy but really difficult operation, for the simple reason that unless the fish are properly manipulated, a large number of the eggs will prove to be "blind" eggs—*i.e.*, the embryos will not be developed in them. I feel sure that the eggs taken by Sergeant Harbottle would have been properly impregnated.

Of course, Mr. Walpole and myself, and the members of the Boards of Conservators, are all most anxious that the experiment should succeed. Nevertheless it is a matter of regret to all of us that this great and important undertaking was not allowed to assume the features of an official and international Government transmission of the elements of a vast industry at the antipodes, instead of being intrusted to one individual, to whom access to all the above-mentioned resources would have been freely open on application, which, however, was never made.

I candidly acknowledge that there is no man in the world who, from his practical experience, knows better than Mr. Youl how to pack salmon eggs on board a ship which is bound to the antipodes; but at the same time, I cannot help observing that Mr. Youl has assumed to himself the knowledge of a matter *ultra vires* when he practically takes the command of collecting salmon eggs, which, indeed, is the most important operation in the whole affair.

Mr. Youl had probably good ground for having intrusted the taking of salmon eggs to his agents, but I make bold to assert that Mr. Youl's experience in the actual *breeding* of salmon has not been very great.

Under the above circumstances, and with an earnest desire that salmon should indeed be established in New Zealand, I now venture, at the request of Mr. Buller, to send to those who will have the conduct of the experiment in New Zealand a few hints as to how the ova should be treated when they arrive at Dunedin.

I do not know how the eggs have been packed; I trust, however, that the temperature will have been sufficiently low to prevent the ice melting. Special notice should be taken as to whether the boxes have been much knocked about by the melting of the ice; and the condition of the ova from the boxes should be particularly noted with reference to the position of the boxes in the hold of the ship. Practical experience has taught me that sudden change of temperature is fatal to salmon ova; when, therefore, the boxes are unpacked, their temperature should be noted, and they should be gently sunk into water just in the condition in which they arrive. This water should be as nearly as possible the same temperature as that of the boxes. I think it would be advisable, then, to open the lids of the boxes, and let the eggs have, so to speak, a "drink" of water for five or six hours before they are ultimately placed in the hatching-boxes, though I should recommend that all the eggs should not be treated in this way, but that various modes should be adopted, so as not to risk the success of the whole experiment by one mode of procedure. The question of temperature, however, is most important. If the boxes, for instance, have a temperature of 45°, they should not be suddenly plunged into a temperature of 50° or of 40°, but should be gradually "coaxed" to accommodate themselves to their new temperature.

A temperature of 38° or 40° is about the best for the water in the hatching troughs. The moss should be carefully removed by the fingers, and the eggs removed one by one, by a spoon or by a glass "catcher," made according to the drawing sent herewith (Diagram No. 1), it being well understood that the boxes with the ova are all this time well submerged in water. The boxes should be unpacked by the side of the hatching troughs, so that there be no more carrying.

I do not approve of the out-door system of hatching. Mr. Ponder and myself have hatched many thousands of salmon and trout for the Thames during the last nine years. We obtained boxes made of slate, which are 3 feet long, 7 inches broad, and 3¼ inches deep, and which are worked according to the drawing enclosed herewith (Diagram No. 2). Each box holds about 3,000 salmon ova. The water is conducted through an inch pipe, which should be made to run about half full in at one end of the first trough and out at the other into trough No. 2, and so on, keeping a continual current of water throughout all the troughs. A little fine gravel about the