

visible, and should be distributed throughout the mass; if this is not the case add more crystals from the stock bottle, and repeat the whole process.

This method ensures the formation of a saturated solution of zinc and mercurous sulphates in water.

To set up the Cell.

The cell may conveniently be set up in a small test tube of about 2 centimetres diameter, and 4 or 5 centimetres deep. Place the mercury in the bottom of this tube, filling it to a depth of say, .5 centimetres. Cut a cork about .5 centimetres thick to fit the tube; at one side of the cork bore a hole through which the zinc rod can pass tightly; at the other side bore another hole for the glass tube which covers the platinum wire; at the edge of the cork cut a nick through which the air can pass when the cork is pushed into the tube. Wash the cork thoroughly with warm water, and leave it to soak in water for some hours before use. Pass the zinc rod about 1 centimetre through the cork.

Contact is made with the mercury by means of a platinum wire about No. 22 gauge. This is protected from contact with the other materials of the cell by being sealed into a glass tube. The ends of the wire project from the ends of the tube; one end forms the terminal, the other end and a portion of the glass tube dip into the mercury.

Clean the glass tube and platinum wire carefully, then heat the exposed end of the platinum red hot, and insert it in the mercury in the test tube, taking care that the whole of the exposed platinum is covered.

Shake up the paste and introduce it without contact with the upper part of the walls of the test tube, filling the tube above the mercury to a depth of rather more than 1 centimetre.

Then insert the cork and zinc rod, passing the glass tube through the hole prepared for it. Push the cork gently down until its lower surface is nearly in contact with the liquid. The air will thus be nearly all expelled, and the cell should be left in this condition for at least twenty-four hours before sealing, which should be done as follows:—

Melt some marine glue until it is fluid enough to pour by its own weight, and pour it into the test-tube above the cork, using sufficient to cover completely the zinc and soldering. The glass tube containing the platinum wire should project some way above the top of the marine glue.

The cell may be sealed in a more permanent manner by coating the marine glue, when it is set, with a solution of sodium silicate, and leaving it to harden.

The cell thus set up may be mounted in any desirable manner. It is convenient to arrange the mounting so that the cell may be immersed in a water bath up to the level of, say, the upper surface of the cork. Its temperature can then be determined more accurately than is possible when the cell is in air.

In using the cell sudden variations of temperature should, as far as possible, be avoided.

The form of the vessel containing the cell may be varied. In the H Form, the zinc is replaced by an amalgam of 10 parts by weight of zinc to 90 of mercury. The other materials should be prepared as already described. Contact is made with the amalgam in one leg of the cell, and with

the mercury in the other by means of platinum wires sealed through the glass.

CIVIL SERVICE COMMISSION,

August 24, 1894.

The Civil Service Commissioners hereby give notice that an Open Competitive Examination for the situation of Assistant-Cashier in Her Majesty's Naval Yards will be held in London, Edinburgh, and Dublin, commencing on the 9th October 1894, under the Special Regulations published in the London Gazette of the 3rd of October 1893.

The number of situations to be filled will be the number vacant at the time of the Examination.

No person will be admitted to Examination from whom the Secretary of the Civil Service Commission has not received, on or before the 26th September, an application, in the Candidate's own handwriting, on a prescribed form, which may be obtained from the Secretary at once.

CIVIL SERVICE COMMISSION,

August 23, 1894.

The Civil Service Commissioners hereby give notice that at an Open Competitive Examination for Clerkships of the Second Division of the Civil Service, held on the 10th July 1894, and following days, notice of which Examination was given in the Edinburgh Gazette of the 11th May 1894, the under-mentioned Candidates obtained the first ninety-nine places:—

No. in Order of Merit.	Name.	Locality of Examination.
1	Ellis, Loveys Edward	London
2	Prentice, George James	Edinbou
3	Way, Edgar	Edinburgh
4	Matheson, John Alexander.	Bristol
5	Kerry, Arthur	London
6	Baker, George Edwin	London
7	Greenwood, Walter	Leeds
8	Best, William Stephen	London
9	Greenwood, Frederick	Leeds
10	Lee, Francis	London
11	Harrold, John Blake	London
12	Lawson, James Herbert	Glasgow
13	Goodrich, Edward William	London
14	Orr, Edward John	Dublin
15	Floud, Francis Lewis Castle	London
16	Shepherd, William Percy	London
17	Dunham, Daniel	London
18	Pimm, Harry Silvey	Bristol
19	Hackforth, Arthur	London
20	Hadden, William James	Dublin
21	Monnickendam, Reginald Henry	London
22	Sharland, Arthur	London
23	Mayo, Henry William	London
24	Neighbour, William Richard	London
25	M'Ardle, Christopher	Edinburgh
26	Kirk, Wilfred Hugh Miller	London