

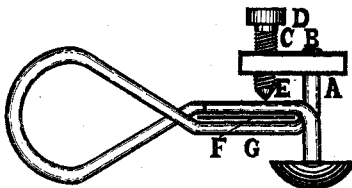
4. The ordinary thermodynamic formula for the electromotive force of a concentration cell with transport ignores the transport of water. If this be taken into account the transport number involved is the true and not the Hittorf number.

5. Emphasis is laid upon the fact that activity measurements give the activity of the unhydrated ion. An increase in the fraction of ions not hydrated gives the simplest explanation of the increase of activity coefficients in concentrated solutions.

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NOTES

A Screw Modification of the Mohr Pinch Clamp.—Although the use of a Mohr buret is often made imperative in volumetric work, no satisfactory pinch clamp has ever been devised to allow dropwise delivery of solutions from a buret of this type. The accompanying sketch shows the details of a pinch clamp designed to fill this need. It may easily be made from an ordinary Mohr clamp, and has an advantage over a screw clamp in that only one hand is required for its manipulation.



Into a brass plate 3 mm. thick, 1 cm. wide, and 2 cm. long 2 holes, B and C, are drilled and then tapped. The wire A leading up from the jaws of the clamp is threaded, screwed into the plate through B, and then brazed or soldered securely in the position shown in the figure. A large-headed brass screw D is then screwed through C until its pointed end E just touches the top of plate F when the clamp is pressed just hard enough to allow liquid to pass in drops through the rubber tube between plate F and wire G. Of course, by screwing D further it is possible to secure any other desired rate of flow.

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Gas Electrode.—A convenient form of hydrogen or other gas electrode and one which attains the equilibrium value very quickly, may be made as follows. A piece of round graphite rod A of any convenient size (3 mm. diameter was used) is drilled axially to within 6 mm. of the bottom. This is attached to a similar sized copper tube B, for leading in the gas, by a short length of rubber tubing C as shown in the figure. A spiral of light