

tannic acid, the other from the decoction of hemlock bark and the two were compared, the first, from the pure tannic acid, contained 27.72 per cent. of copper oxide and the other 27.58 per cent., within 99.5 per cent. of each other. By combustion they both yielded essentially the same formula. In both cases they were in black lustrous masses quite insoluble in cold but partly soluble in hot or boiling water, from which it is deposited on cooling. In alcohol, gallic acid solutions and in presence of alkalies they are very insoluble but quite soluble in diluted acids.

III. ON A CONVENIENT AND ACCURATE FORM OF WEIGHING FLASK TO DELIVER AS A BURETTE.

BY NELSON H. DARTON.

In many volumetric processes, the end reaction is so sharp that the small amount of solution required to produce it is too small to be perceptible in the reading of an ordinary burette. Readings to 0.05 cc. are as close as can be usually seen. Differences of temperature, which affect both the bulk of the solution and the capacity of the burette, are also sources of error which must be avoided if we wish to attain great precision.

In cases where extreme accuracy is required, the method of weighing, instead of measuring the amount of solution used, is to be preferred.

Two or three forms of apparatus for this purpose have been proposed, but they all are open to two objections. 1st. That the delivery tube is too large to deliver less than 0.05 cc., or if fine enough to deliver it, a sufficient amount cannot be delivered conveniently at the start to bring the solution upon which one is working near to the point of change, and 2d. that regulating the admission of the air to the apparatus distracts the operator's attention at the critical moment.

I have constructed and used an apparatus which is not open to the above objections. Two forms are used. The first for liquids which may suffer an alteration of standard by contact with organic substance, as cork or rubber, consists of a flask with a Gay-Lussac delivery tube with a fine delivery jet. The stopper is perforated for a glass tube, connecting by a short rubber tube with another tube drawn to a fine point to regulate the admission of air to the flask. A small pinch cock on the rubber tube completes the control of the air supply, and consequently of the delivery from the flask. With the

apparatus I use three or more of these tubes for regulating the air supply, which can be weighed with the flask and changed as required.

The second form of apparatus is essentially the same, except that the solution is delivered from the flask by a small siphon passing through the cork, the supply being regulated as before.

OBITUARY.

JOSEPH GOLDMARK.

From the small band of men by whom the project of an American Chemical Society was agitated, we have lost one who entered into it with enthusiasm and who, ever since the founding of the society, has rejoiced in its existence—Dr. Joseph Goldmark.

Although born and educated abroad and strongly attached to the land of his birth, the active part of Dr. Goldmark's life was passed in the city of New York, where he built up his large manufacturing business and where all his interests were centered.

He was born in the small town of Kreuz in Hungary.

At the age of seventeen he entered the University of Vienna, where he took his degree of Doctor of Medicine. At the same time he devoted himself to the study of chemistry with great zeal, working in the laboratory under Prof. Schroetter. Here he applied himself to the investigation of amorphous phosphorus, many of the remarkable properties of which he claims to have discovered. It was his intention to assert his claim to these discoveries in the scientific journals, and on the occasion of his last visit to Europe he was engaged in collecting material to establish his title to them.

In the revolution of 1848, which brought the first dawn of political liberty to Austria, Joseph Goldmark took part as a leader. In connection with such men as Fischhof, Violand, Fuster and others he will be remembered as the bold and enthusiastic advocate of reform.

In the stormy days of March, 1848 he was at the head of the Legion of Students who left their lecture hall, opposed the professors, and fifteen hundred strong took possession of the Chamber of Deputies and forced the "Staende" to petition the emperor for