Considering the number of manipulations and the error of buret reading, etc., the results can be considered satisfactory.

Addendum.

Just before sending this paper for publication we read the article by Peters, in the April number of THIS JOURNAL, on the same subject. The difficulties caused by varying amounts of salts, of acids, of water, of nitrates and nitrites, etc., are removed by this precipitation method. We, therefore, expect that this method will, in all copper determinations, reduce the thiosulfate titrations to a uniform basis. The study of the influence of acids, salts, volume, etc., such as is made by previous investigators, is in our scheme superfluous.

March 30, 1912.

NOTES.

On the Detection of Potassium as Cobaltonitrite.—In the last October number of THIS JOURNAL, **33**, 1566, Leon T. Bowser gives a new investigation of the potassium-sodium cobaltinitrite as an excellent means for the detection of very small amounts of potassium. Though the exactness of the author's statements hardly needs any confirmation, I will state, notwithstanding, that from my own many years' laboratory practice the precipitation of potassium by the de Koninck reagent is an excellent one and by far preferable to any other method. Only in one point I cannot agree with the author. The author says: "This salt .... has been known for fully half a century, but it is only in the last four years that its possibilities for determination of potassium have been revealed to the analytical chemist. For qualitative purposes it had enjoyed some degree of usefulness, but that it possessed some unusually valuable characteristics seemed to have previously escaped attention."

In fact L. L. de Koninck[1] employed the reaction in mention for detection of potassium in the year 1881 and since this time I myself have introduced this method in the laboratory under my management and in the guides I have written for laboratory use. In other laboratories, indeed, the reagent of de Koninck seems not to be employed in such a degree as it deserves. H. SALKOWSKI.

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Note on the Qualitative Detection of Alkali Bicarbonates.—In preparing sodium carbonate from sodium bicarbonate for the standardization of acids, it is desirable to have a means of ascertaining whether the bicarbonate is completely decomposed or not. As there appears to be no satisfactory test for bicarbonates in the presence of large quantities of normal carbonates given in the literature, the following was devised:

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[1] *Z. anal. Chem.*, **20**, 390 (1881).

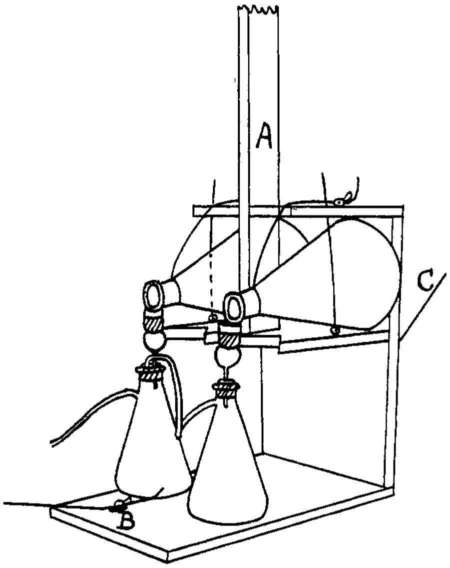
The test depends first on the fact that alkali bicarbonates, on the addition of calcium chloride, precipitate $CaCO_3$ with the liberation of carbon dioxide, and second, that $CaCO_3$ dissolves somewhat in water containing carbon dioxide with the formation of calcium acid carbonate. If the calcium acid carbonate thus formed is neutralized with ammonium hydroxide, the $CaCO_3$ is of course reprecipitated.

Dissolve the substance to be tested in water, that has been previously boiled to expel the carbon dioxide, and add $CaCl_2$ in excess. Allow this to stand four or five minutes and filter off the $CaCO_3$. Then add a few drops of NH_4OH, and if the substance contained a bicarbonate, a precipitate of $CaCO_3$ is again obtained. With a large amount of bicarbonate the precipitation will take place in about one-half a minute, while with a very small amount the time required may be eight to ten minutes. However, with no bicarbonate a perfect blank is obtained even after long standing.

This test will detect 0.1% of $NaHCO_3$ in a normal sodium carbonate. The presence of ammonium salts vitiates the results on account of the solubility of $CaCO_3$ in such solutions. R. T. HASLAM.

An Automatic Filter.—The apparatus as shown in the accompanying cut has been constructed by the writer in the Harvard Laboratory. It has been found to operate very satisfactorily in the filtration of the silver haloids through a Munroe-Gooch crucible.

The apparatus consists of a wooden framework to hold the bottles, which is suspended by a rigid arm (A) three feet long from a horizontal beam by a bolt in such a way as to allow the apparatus to swing with freedom. The suction flasks are held in position by straps to the bottom boards. The precipitation flasks are suspended by wires at the necks so that the lips of the flask sit well into the crucibles, and are kept in position at the sides by stout brass rods. The rods are so arranged that they easily unhook and are loose enough to admit of easy rotation of the precipitation flasks. The framework containing the bottles is held in position at either end by strong flexible wire, one piece (C) leading over



a pulley to a heavy weight, the other from the front (B) over a pulley to a drum which is attached to the works of a clock, the length of whose pendulum bob is easily adjusted to give a large variation of speed of drum. Clamps of the window sash style have at each point of attachment been used to hold the ends of the wires.

In operation the framework is first swung to the side nearest the clock so that the precipitation flasks are held in an upright position and a slight adjustment of the wire at B will start the liquid filtering. If the clock be then started and the pendulum regulated, the apparatus may be safely left, the final position of the flask being such as to drain it completely.

To wash the precipitate, the apparatus is swung to the middle position and the wash water added, the flask shaken and the liquid filtered off in the same manner as already described.

To transfer the precipitates, the crucibles and mouths of the precipitation flasks are lowered, the framework is hooked back so that the flasks incline sharply to the crucible. The precipitate may be then washed out easily and completely.

The apparatus is believed to have the following advantages: (1) less dust would fall into the analyses; (2) an especially tiresome delay of time avoided; (3) less possibility of the spilling or the overflowing of the crucible while filtering; and (4) two or more filtrations may be conducted simultaneously. C. C. WALLACE.

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THE OIL OF THE SOUTHERN CYPRESS.[1]

BY ALLAN F. ODELL.

Received March 20, 1912.

The cones of the southern cypress (Taxodium distichum, Rich.) contain considerable quantities of a volatil oil, to which the odor of the cypress is in part due. It is in the fall, when these cones are maturing, that the aroma of the tree is most prominent in the swamps.

The work upon the oil from the cones was undertaken with the view of obtaining in larger quantities the peculiar aldehyde compound which was found in the resin from the wood.[2]

The difficulties attendant upon the distillation of the resin, which was obtained by extraction, were so numerous that this method of getting the aldehyde was discarded as unprofitable. The yield, also, was so small that definit assurance of its purity could not be had.

The cones were gathered at various periods from September to December, and each lot distilled by steam separately. The cones collected

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[1] Read before the New Orleans Section, March 15, 1912.

[2] THIS JOURNAL, 33, 755.