are opened several times a day, citric acid is the best preservative; but its power seems to be restricted to a limited time, after which discoloration takes place rapidly." Beringer<sup>1</sup> objected as did Cook,<sup>2</sup> because it caused the color of the finished syrup to be darker. Thum<sup>3</sup> believed that the use of preservatives in either food or drugs should not be encouraged.

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(To be continued)

## COMBINED OPERATION FOR DETERMINATION OF WATER AND PHENOLS IN COMPOUND SOLUTION CRESOL, U. S. P.

## BY HUBERT H. OHAYER.

The directions for assaying Compound Solution Cresol given in the U. S. P. specify that 50 cc. of the solution, 150 cc. of kerosene, purified by shaking out with NaOH solution, and 3 Gm. NaHCO $_3$  be placed in a 500-cc. distilling flask and distilled to decomposition of the residue. In a laboratory where it is necessary to have a check on both the phenol and water content of the finished solution, the water assay can be quickly and easily com-

bined with that of the phenols in the following simple A manner.

The water and the kerosene-phenol solution are distilled from the flask at A through the condenser B and into the little trap C where the water remains and the lighter than water mixture flows over through the outlet tube into the separatory funnel D directed by the U.S. P. as the receiver for the phenol assay dis-



tillate. The trap is graduated in tenths of a cc. and has a capacity of 10 cc. It can be purchased easily and may or may not be fitted with a stop-cock at the bottom. The amount of water is read off, multiplied by two gives the percentage of water originally present in the Compound Solution. The contents of the trap may then be rinsed into the separatory funnel and the phenol assay proceeded with as directed in the U. S. P.

The author has purified kerosene by shaking it out with NaOH solution as directed and has then distilled it through this apparatus and found that not enough water is dissolved by the kerosene to affect the accuracy of the method.

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<sup>&</sup>lt;sup>1</sup> Beringer, Am. J. Pharm., 86, 358 (1914).

<sup>&</sup>lt;sup>2</sup> Cook, Proc. A. Ph. A., 56, 958 (1908).

<sup>&</sup>lt;sup>3</sup> Thum, Bull. A. Ph. A., 5, 646 (1910); Am. Drug., 57, 130; Proc. A. Ph. A., 58, 1265 (1910).