• *Letter to the Editor*

Improved Form of Soxhlet Extractor

Sir: Although various types of fat extractors are available, the Soxhlet extractor is still widely used. In its original form, however, the Soxhlet extractor has the disadvantage of requiring the use of additional equipment for the stripping of the solvent after extraction.

For that reason, an improved form of Soxhlet extractor, here described, has been developed that does not require additional equipment.

The new feature has been made possible by inserting a 2 mm bore stopcock, B, in the siphon tube (Fig. 1). The stopcock is maintained in the "open" position during extraction to allow siphoning. When extraction is complete, extraction tube and condenser are disconnected at the end of a siphoning cycle, the sample thimble is removed by means of a 10-in. forceps, extraction tube and condenser are reconnected, the stopcock is turned to the "closed" position, as at D (Fig. 2) to prevent siphoning, and the stripped solvent is collected in the upper chamber of the extraction tube itself.

After stripping (complete when the condenser ceases dripping) the heater (Glas-Col-Soxhlet heating mantle, Glas-Col Apparatus Co., Terre Haute, Ind.) is turned off, condenser, extractor tube, and flask are disconnected, the recovered solvent is poured into the supply container, and the flask E (Fig. 2) is left in a tilted position in the still hot mantle (for rapid removal of solvent vapors still in the flask) and weighed when cool.

The discharge opening of the siphon tube is located between the closed bottom of the extraction tube and the opening of the upward vapor channel, and it nearly touches the opposite inside wall of the extraction tube, as at A (Fig. 1). This arrangement prevents the up-and-down oscillation of the solvent in the siphon tube during operation and a premature discharge.

The amount of heat required for the particular type of solvent used is controlled by the Thermolyne unit C (Thermolyne Corp., Dubuque, Iowa) shown in Fig. 1.

With this modified Soxhlet extractor tube less equipment is required and a considerable amount of time is saved due to less manipulation, especially when six samples are stripped at the same time.

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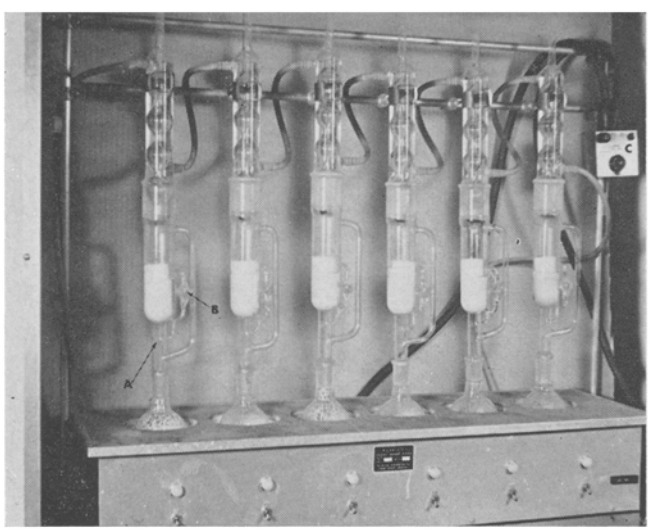

Fig. 1. Sample extraction. Siphon tube extends to opposite inner wall of extraction tube, at A. Discharge falls down along the wall into flask. Stopcocks are in the "open" position during extraction, as at B. Thermolyne heat control unit is at C.

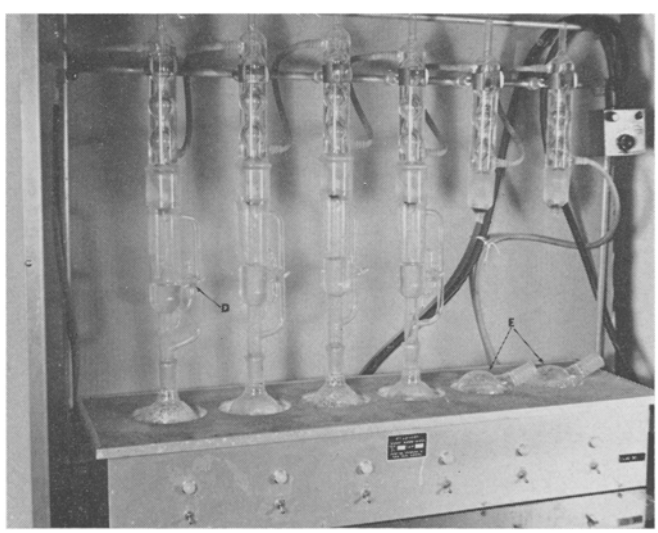

Fig. 2. Solvent Stripping. Stopcocks are in the "closed" position, as at D. Flasks E, which have been stripped, lie in a tilted position in already shut off hot mantles (for rapid removal of solvent vapor from flasks) until they are cool for weighing.