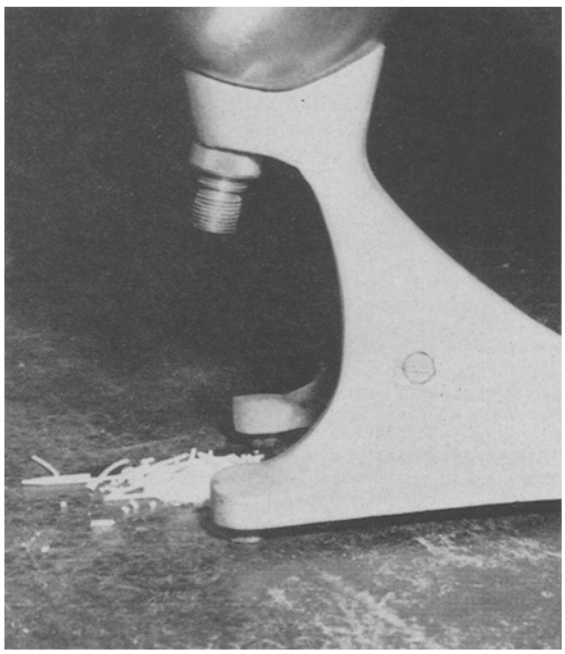

FIG. 7.

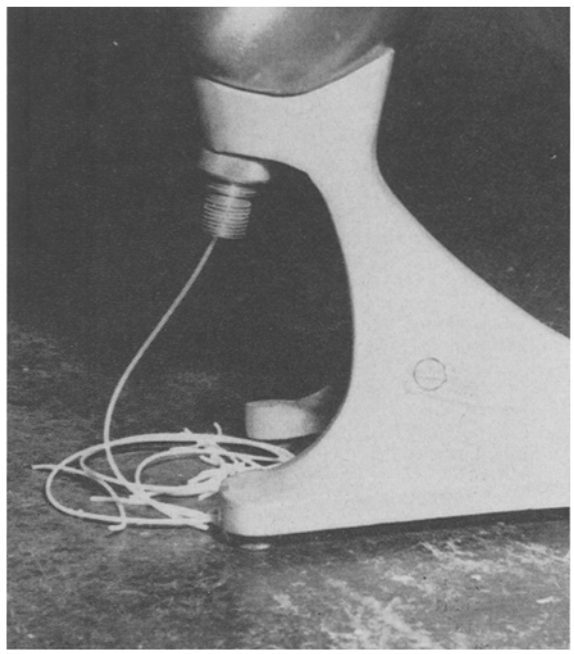

FIG. 8.

Figures 6 and 7 carry this shortness two additional steps.

Discussion

A standardization in the technique of the operator is as important using this method as it is in any analytical procedure. Flow pressure, for example, must be kept constant throughout the time interval of extrusion. Pressure substantially beyond those necessary to initiate and maintain flow at a reasonable rate are in the direction of putting more work into the system. The correlation here with plant experience is good. When more work is done on the plodder bar in the plant, a better bar surface results. Similarly when excessive pressures are used in the laboratory equipment, a smoother wire results.

Figure 8 demonstrates the change which can take place in those systems benefitted by higher back pressures. In this particular case the first half of the material was extruded at yield pressure plus 25 lbs. p.s.i. Under these conditions flexion tolerance and luster was poor, as illustrated by the broken lengths. The latter half of the extrusion was carried out at approximately double the former pressure with subsequent improvement in flexibility and surface luster.

The application of heat to the orifice head by one means or another has produced drastic changes in extrusion pressures and appearance. It is felt however that accurate and precise information regarding the specific changes due to heat are beyond the scope of so simplified a testing procedure even though trends are observable.

Attention should be called to the fact that the method is not empirical in nature. If however the operator will standardize his technique of operation, then any change in extrusion character due to formulative variations may be recognized as a contrast to the control.

We believe it worthy of mention that all of our pilot plant and plant scale plodder bars have proven the accuracy of changes predicted by this method.

The equipment requirement will consist of:

1. Any roller mill capable of milling a soap flake.
2. A press for compacting the milled flake into a solid form.
3. A Schaar hand-homogenizer or a home-made piston-plunger-orifice apparatus that will extrude soap.
4. A set of weights or spring scale so that yield and flow pressures can be determined.
5. A maximum of 100 g. of product to evaluate.

Summary

A simplified laboratory size scale technique has been outlined for use in the study of plodding characteristics and changes therein due to formulative variations. The quantity of product needed for evaluation being in the range of 50 to 100 g.

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Correction

The street address given for Rozier D. Oilar, author of the paper entitled "Several Rare and Uncatalogued Oils of Ecuador," which appeared in the April 1954 issue of the Journal of the American Oil Chemists' Society (*31*, 142-143), was not correct. It should read 1213 N. Grant street, West Lafayette, Ind.