6. Sufficient pint or half-pint milk bottles to furnish a composite sample jar for each patron.

7. Gummed labels bearing the patron's name, or number, should be pasted on the necks of the jars and coated with white shellac. This will prevent the labels being washed off.

8. The sample jars should have sound corks. Turned wooden corks are very satisfactory.

9. A supply of preservative in the form of tablets or powders, consisting of 7 parts of potassium bichromate to one part of corrosive sublimate.

10. Dividers or compasses to measure the fat column.

### NOTES.

1. The quantity of preservative required for each sample jar is about what will lie on a ten-cent piece. This should be placed in the composite jar before the addition of any cream.

2. The addition of each subsequent sample of cream should be followed by a rotary motion to thoroughly unite the fresh sample with the preservative.

3. Sample jars should be kept well corked, and preferably in a cool place.

A detailed outline of the Babcock test may be found in Bulletin 114 from the Ontario Agricultural College.

### OIL TESTS.

The value of cream for butter making may be approximately estimated by means of the oil test, which is simply a churning process. The outlines of this method of testing are generally known, and call for only a passing reference.

The readiness with which a separation of the oil is effected from the serum is governed very largely by the degree of acid developed in the samples before the commencement of the churning process. This being true, it necessarily follows that ripe or sour samples of cream will give a higher or more satisfactory test than samples of fresh, sweet cream ; thus, the oil test may be said to place a premium on sour cream.

As the Babcock test is rapidly displacing the oil test in cream-gathering creameries, it may be well to become familiar with the relation between the readings of the two tests.

Viewing this relation from the theory of the Oil Test, we have somewhat as follows : A standard creamery inch is one inch of cream (in a pail 12 inches in diameter) testing 100. One inch, therefore, contains $\left(\frac{12}{2}\right)^2$ x 3.1416 x 1 equal to 113 cubic inches. One pound of butter contains about 25 cubic inches of butter oil, which is 22 per cent. of 113. Therefore, any sample of cream which will yield 22 per cent of its volume in butter oil should read 100 and make a pound of butter per inch. A reading of 100 by the oil test would, therefore, theoretically, be equal to 22 per cent of fat.

As viewed from the fat or Babcock test, we have the following : The overrun in cream-gathering creameries will probably range from 15 to 18 per cent. Then 100 pounds fat would yield 116.5 pounds butter.

One pound butter would require 100-116.5 pounds fat.