

The reading of the fat is most conveniently taken by means of a pair of dividers (Fig. 9), with fine, sharp points. The hinge of the dividers must be stiff enough that the dividers will not work too freely. The dividers are spread until the points are farther apart than the fat column is long, then one point is placed at the extreme lower end of the fat column, and the dividers slowly closed until the other point is at the extreme upper end of the fat column. One point of the dividers is now placed at the zero mark on the scale and the other point will indicate on the scale the correct reading. For instance, if the length of the fat column, as shown by the dividers, is three main divisions and four subdivisions, the reading is $3\frac{4}{10}$ per cent. This may also



Fig. 9.

be expressed as $3\frac{4}{10}$ per cent or 3.8 per cent. This would mean that in each one hundred pounds of such milk there are 3.8 pounds of milk fat.

CLEANING THE BOTTLES.

As soon as the readings of fat are taken the bottles should, while still hot, be emptied and rinsed with warm water. They should next be thoroughly washed with hot water to which has been added a little of some good washing compound, using the brush provided to clean out the neck. The bottles should be again rinsed with hot water to thoroughly remove the washing compound from the bottle. Even with such washing the bottles will in time become coated on the inside. To prevent this an occasional cleaning, using a very strong solution of washing compound, with some shot in the bottle, is advisable. Sulphuric acid, to which has been added as much bichromate of potash as the acid will dissolve, makes an excellent material for cleaning any dirty glassware, and the same solution may be used many times.

DARK-COLOURED OR BURNT READINGS.

If, when the test is completed, the fat column contains black specks or is too dark in colour, the test is not satisfactory and a duplicate test should be made.

Dark-coloured or burnt readings may be due to one or more of the following causes:—

- (a) the milk, the acid, or both, being at too high a temperature (over 70°);
- (b) too much or too strong acid;
- (c) allowing the acid to fall directly on the milk;
- (d) allowing the bottles to stand too long after adding the acid before mixing.

LIGHT-COLOURED OR CURDY READINGS.

If when the test is completed the fat column is too light in colour or shows curdy, the results of the test may be too high and a second test should be made.

Light-coloured or curdy readings are due to one or more of the following causes:—

- (a) the milk, the acid, or both, being at too low a temperature (under 60°);
- (b) too little or too weak acid;
- (c) not thoroughly mixing the milk and acid before whirling.