To avoid the necessity of computing the per cent of water from the loss in weight, scales have been constructed to give, when a definite weight of butter is used as a sample, the per cent of water directly from the beam used to balance the scale after the evaporation of the water from the sample. Different makes of scales are on the market which differ greatly in construction, but the principle of the moisture determination is the same.

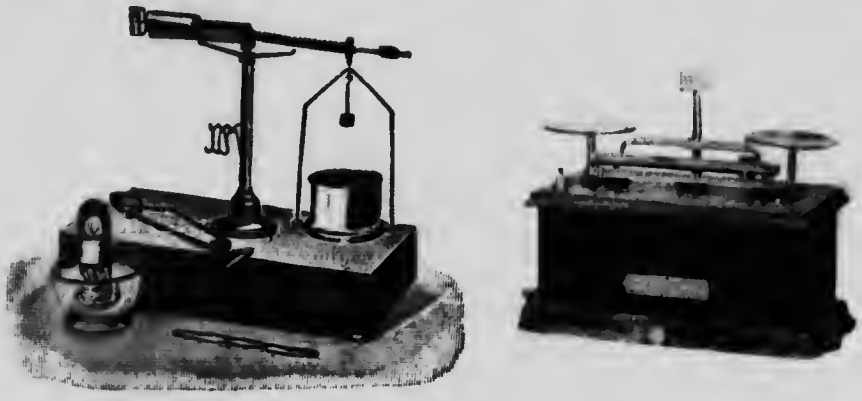

Fig. 5.

The apparatus (Fig. 5) used in making a moisture determination, consists of:

(*a*) The scales;
(*b*) A cup usually made of aluminum in which to heat the sample;
(*c*) Some device to hold the sample cup while heating;
(*d*) An alcohol lamp with which to heat the sample.

Sampling Butter for Testing.

In testing butter for moisture as in testing milk or cream for fat, a sample must be secured which represents as closely as possible the average quality of the quantity to be tested. In taking a sample from the churn, the surface of the mass should be cut away with a spade and a small piece of butter taken from the interior of the mass. Repeat this several times, taking samples from different parts of the churn. Sampling solid boxes, tubs or crocks is best done by means of a trier; taking three or more plugs from different parts of the package. In sampling pound blocks or prints, a good method is to cut out a quarter section of the print, cutting lengthwise of the print. The quarter section may be cut into two pieces, one of which is taken as a sample.

Preparing the Sample for Testing.

When the sample is secured, it should be placed in a clean dry glass jar and the jar surrounded with warm water to soften the butter. The butter should be stirred with a spoon until it is reduced to a creamy consistency and all lumps disappear. The butter should not be reduced to an oil, as the water and salt will settle to the bottom and it is then very difficult to get a representative sample from the jar for testing. If the sample becomes oily, it is difficult to get duplicate tests to agree.

Making the Test.

In making a test, the cup in which the sample is heated should be perfectly clean and wiped dry. It is then heated over the alcohol lamp to dry it thoroughly and placed on the pan of the scale. After the cup is cool, the scale is balanced by adjust-