

The balances and the weights used by merchants throughout the country are periodically inspected by a government officer.

14. Rules for the Use of the Balance. The balance should always be handled with care and the following rules be observed:—

1. Keep the balance dry and free from dust.
2. See that the balance is properly adjusted, so that it will, when unloaded, either rest in equilibrium with the pointer at the zero mark on the scale, or will swing equally on either side of zero.
3. Place the body, whose mass is to be ascertained in the left-hand scale-pan, and place the weights in the right-hand scale-pan. Until some experience in judging the mass of a body has been obtained, try all the weights in order, commencing with the largest and omitting none. When any weight causes the right-hand pan to descend remove it. Never select weights at random.

In the balance shown in the figure any addition under 10 grams is obtained by sliding the rider *r* along the beam. It gives $\frac{1}{10}$ gram directly, and $\frac{1}{10}$ of this may be obtained by estimation.

Before beginning, the balance should be tested. Push the rider *r* over to its zero mark and then if the pans do not balance (as indicated by the pointer *P*) turn the nut *n* until they do.

4. To determine the equilibrium do not wait until the balance comes to rest. When it swings equally on either side of zero, the mass in one pan equals that in the other.

5. Place the largest weight in the centre of the pan, and the others in the order of their denominations.

6. Keep the pans supported when weights are to be added or taken off.

7. Small weights should not be handled with the fingers. Use forceps.

8. Weigh in appropriate vessels substances liable to injure the pans. For counterpoise use shot and paper.

9. Never use the balance in a current of air.