Experiment No. 17

1. **Aim :-**

To verify a 5 kg cast iron weiger.

2. **Appearatus cosed :→**

1) A 5 kg working standard balance
2) A 5 kg working standard weiger
3) Fractional weight box.
4) 5 kg. C.I. weiger
5) Dummy material.

3. **Theary :-**

Just for verification of C.I. weight Borda's method was used. This verification of C.I. weiger also involves the principle of moment.

The sum of clockwise equals to some of anticlockwise moment. Here the only difference lied in the fact that in case of verification we have to introduce tolerance given for 5 kg C-I. weiger.

4. **Procedeure :-**

At first, we equipoise the balance at zero load. Then the dummy load on the left pan was equipoised by the 5 kg standard weiger. The tolerance of 5 kg C.I. weight that was ±50 mg. The dummy load

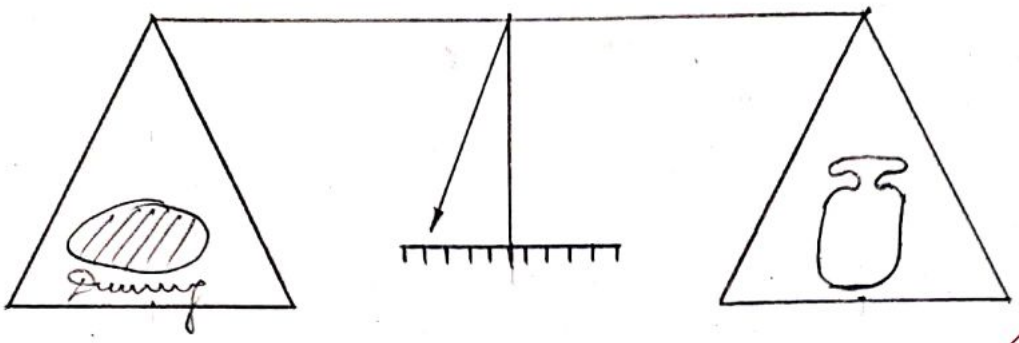

fig. 1

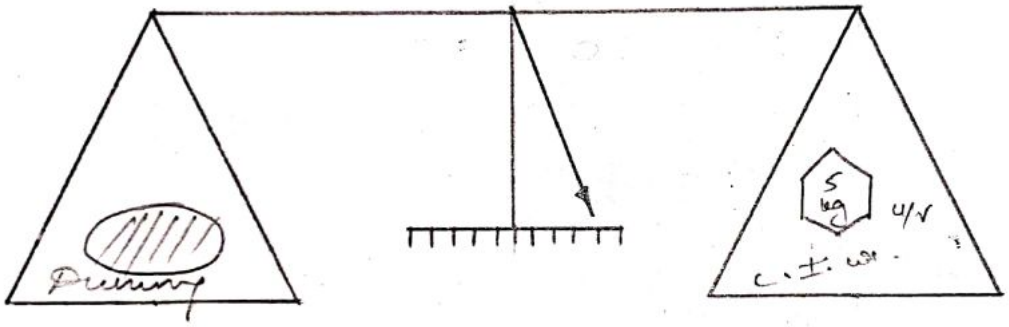

fig. 2

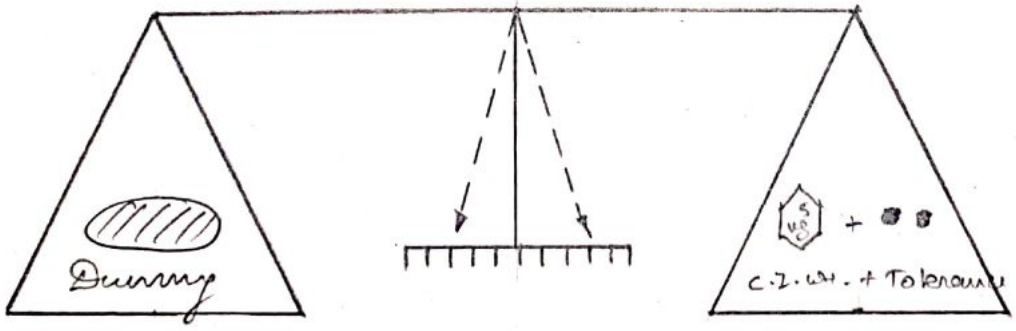

fig. 3

Table.

Verification of 5 kg. C-I- weight

Sr. no.	Load on Pan		Position of Pointer	Remarks
	Left	Right		
1	0	0	Pointer deflects equal to both the sides	equipoised
2	Dummy	weight of 5 kg + 750 mg tolerance	Pointer deflects more towards dummy.	Dummy was lighter. adjusted.
3	Dummy	C-I- weight of 5 kg U/V	Pointer deflects more towards C.I. weight	C-I- weight is lighter then adding tolerance of 750 mg & balance equipoised
4	Dummy	C-I. wt. of 5kg + 750 mg tolerance	Pointer deflect same division both the sides	C.I. wt. under verification is verified for stamping.

placed on the left pan was then compared with 5 kg C.I. weight on the right pan, take as a C.I. weight to be verified. observation after putting the 5 kg C.I. weight on right pan (1) accepted if pointer was moving equal division of the both side of inner scale (2) If deflections of pointer were more towards C.I. weight i.e. the C.I. weight was lighter. we put the tolerance weight then it was equipoised, we would have accepted. (3) The C.I. weight now appeared heavier (with tolerance), then 5 kg standard weight + tolerance ≤ 5 kg C.I. weight + tolerance hence it was accepted (4) If dimensions deflections were more towards the dummy weight that is the C.I. weight was heavier than the weight was rejected or accepted after adjustment.

5. Result :-

The given cast iron 5 kg weight was accepted for the stamping under the standards of weights & measures (General) rules 1987.

6 Precautions :

1) The experiment was performed with due

care and attention

2) The balance was properly cleaned before use.

3) The experiment was performed in sufficient light.

4) After each step working standard balance was brought in rest position.