MECHANICAL CLOCKS

Installation

★**1. General.**—When installing mechanical clocks the following precautions should be observed:—

(*a*) The wall or fixture should be perpendicular, solid, of even surface, and free from vibration.

(*b*) The position for the clock should not be directly over a radiator, nor located where the clock will be subjected to considerable dry heat or humid atmosphere.

(*c*) The clock should be suspended on a No. 8 wood screw; it should be verified that the screw is of adequate length (not less than $1\frac{1}{2}$ in.) to support the clock, and it should be driven securely leaving $\frac{3}{16}$ in. of screw shank protruding from the wall.

(*d*) For window clocks, the suspension ironwork should be accurately fitted, to ensure that the clock will be plumb when in position.

(*e*) A plumb line, joining the hours 12 and 6, should be employed to ensure that the clock is mounted vertically.

(*f*) The clock should be fastened in a vertical position, using the fixing plates or the internal fixing-screw holes provided.

(*g*) Before leaving the clock, the bezel and access doors should be properly closed and secured, and it should be confirmed that the clock is ticking correctly, i.e. the clock is "in beat."

2. Definition of a clock "in beat."—When a clock is "in beat" the pendulum will swing an equal distance on each side of a plumb line joining the hours 12 and 6, and this is characterized by an even and regular tick. If the clock is "out of beat" the ticks are uneven, and the difference in quality can readily be detected by ear.

3. Special adjustments.—To correct for *small* irregularities in mounting, the window clocks (Nos. 51 and 55) and Clock No. 53 are fitted with an adjustable pallet, illustrated in Fig. 1. When the clock is mounted plumb, the pendulum hangs vertically, and the tips C and D of the pallet are in a horizontal line and correctly placed relative to the escape wheel, which, with the pallet, is directly on the true centre line as shown in Figs. 1 and 2.

4. When the clock is off plumb, the body and mechanism have been rotated about the centre of the clock, with the result that the escape wheel and pallet are no longer on the true centre line, but displaced slightly to one side or the other, as shown for example in Fig. 3. In this position, the pendulum and pallet will still retain their vertical and horizontal positions respectively, but the escape wheel will now be nearer to one pallet tip than the other (tip D in Fig. 3). When the pendulum is swung, tip C, which is further away from the escape wheel, engages the teeth for a shorter duration than tip D, and an irregular action results. This can be corrected by means of the adjustable pallet screws B and B1. The two thumb screws should be slackened off, and the screw on the side of the pallet to be moved further away from the escape wheel should be advanced. Undue force must not be used. When a satisfactory adjustment has been obtained, as evidenced by a regular tick, both thumb screws should be left lightly but firmly in contact with the tongue A. It will be seen that the effect of the adjustment is to rotate the pallet off the horizontal, so that the tips C and D take up positions in correct relationship to the escape wheel (see Fig. 4 and compare with Fig. 2). The conditions illustrated in Figs. 3 and 4 have been exaggerated for clarity.

NOTE:—It should be noted particularly, that this adjustment is necessarily a refinement, and is limited in its action. It cannot correct for major inaccuracies in mounting the clock. Wherever possible, the mounting should be fitted so that recourse to the adjustable pallet is unnecessary.

★**5. Numbering of clocks.**—On all installations of more than one clock a local serial number should be allotted to the individual clocks, to simplify fault reporting. The serial number may be in the form of a separate label attached to each clock, or the number may be painted on the clock case.

(*Figs. 1 to 4 follow*)

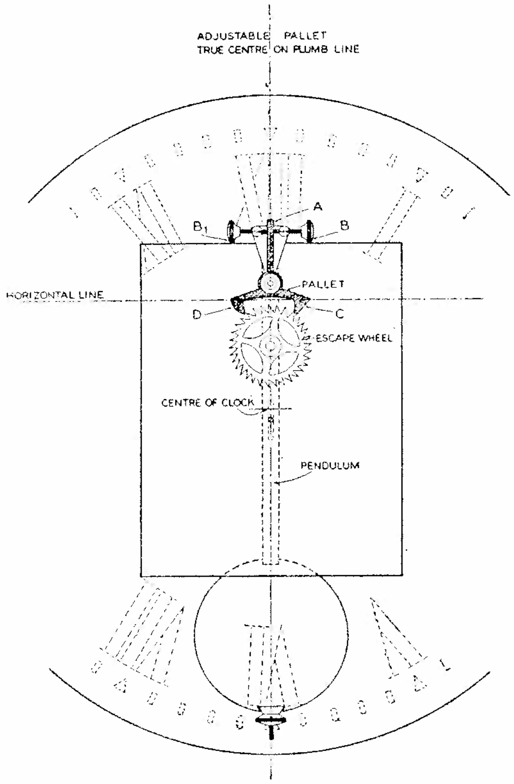

FIG. 1.—CLOCK PLUMB, AND "IN BEAT"

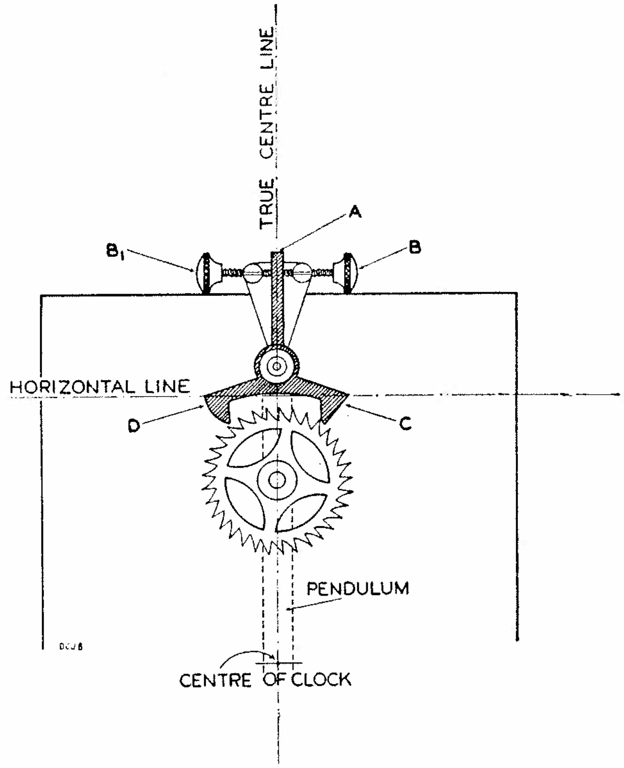

FIG. 2.—CLOCK PLUMB, AND "IN BEAT"

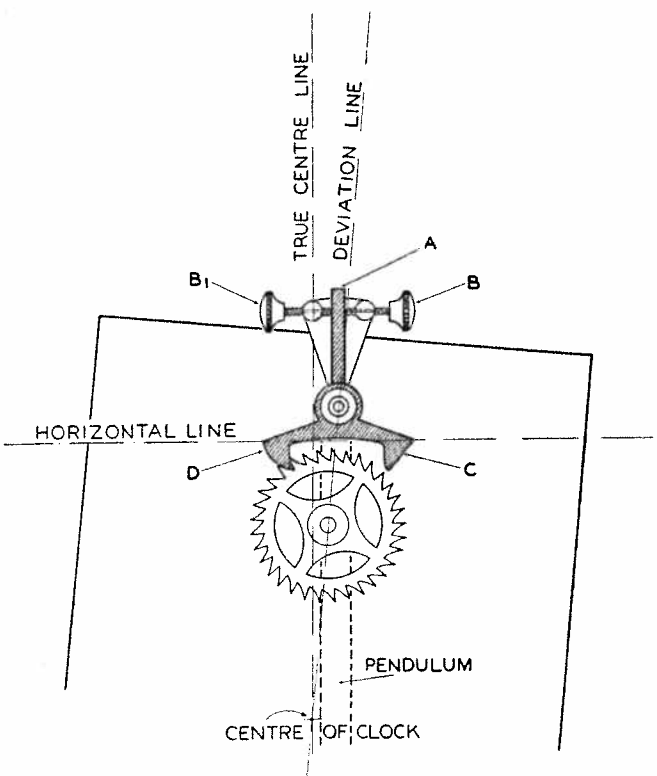

FIG. 3.—CLOCK OFF PLUMB, AND "OUT OF BEAT"

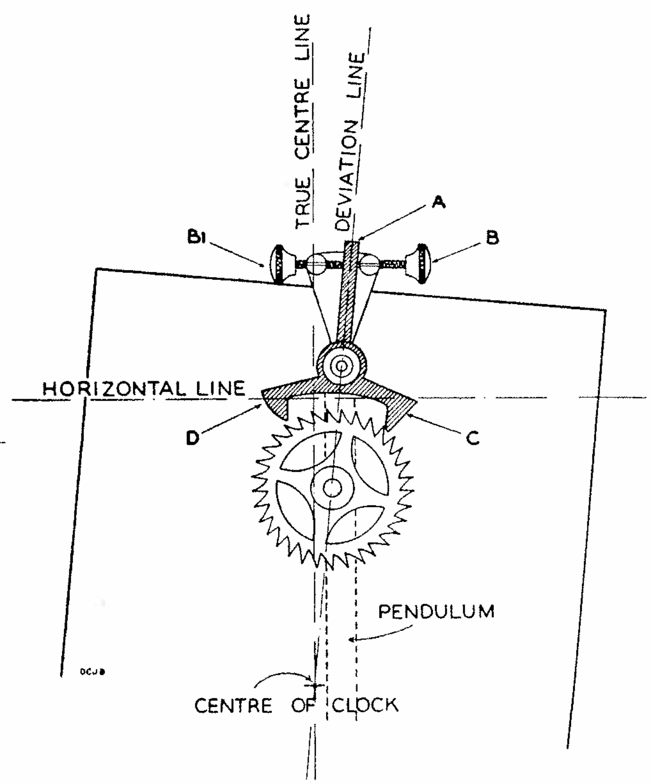

FIG. 4.—CLOCK OFF PLUMB, BUT CORRECTED AND "IN BEAT"

Reference:—None
(P2)

END

Wt. 8120 EI.53 3625 E.M.P.Co.Ltd. 5/58 Gp. 330.