

entire heating capacity of the ventilating system for this purpose. Systems of this type have, in addition to the control described in Fig. 9, a pilot thermostat located in the room to be heated or in the path of air with-

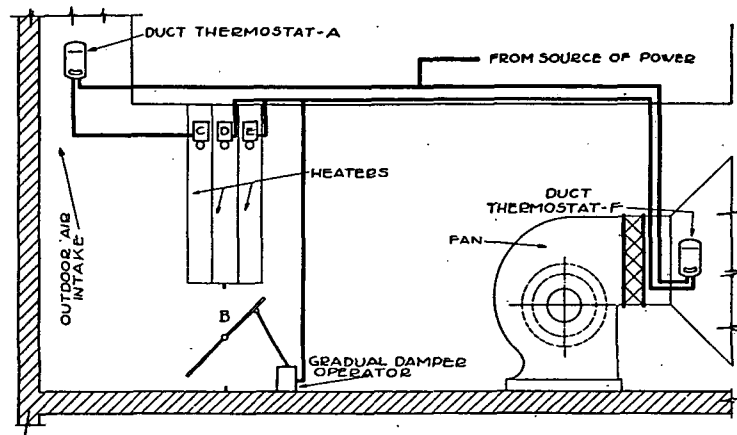


FIG. 9. CONTROL OF A SPLIT SYSTEM OF VENTILATION

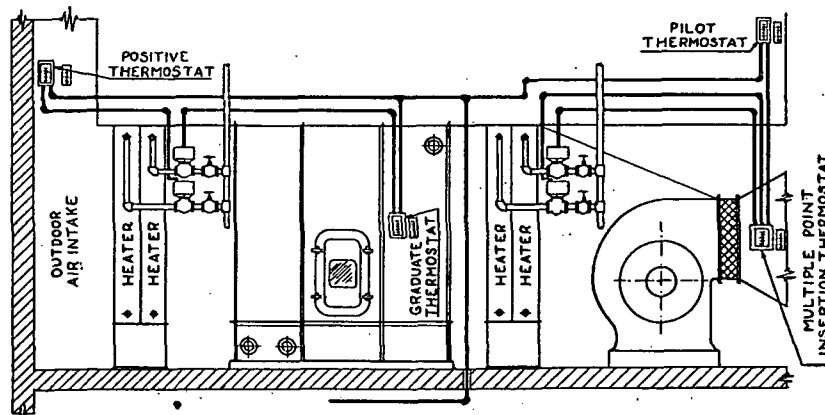


FIG. 10. USE OF PILOT THERMOSTAT ON VENTILATING SYSTEM WITH AIR WASHER

drawn from that room. This thermostat is set for the temperature required in the ventilated space and controls the supply of power to the thermostat *F* located in the fan discharge controlling the damper *B* and the heating units *D* and *E*.

When the temperature of the air in the room is below the setting of the pilot thermostat, the control is such that the by-pass damper *B* is closed and the valves on the heating coils are open. Thus the maximum heating capacity is available to bring the room temperature to the desired point.

When the room temperature reaches the setting of the pilot thermostat, the control of the air temperature is returned to the thermostat *F* in the fan discharge. The fan discharge thermostat, therefore, serves as a minimum temperature control and prevents introduction of air at temperatures which would produce drafts or faulty air distribution. Accurate control of room temperature is accomplished in this manner, but the system can not well be used where more than one room is supplied with air from a single fan.

In central fan systems, air washers are often used and in such cases, due to the effect of temperatures on humidity, additional control is required. Fig. 10 shows such an arrangement with control of the second tempering

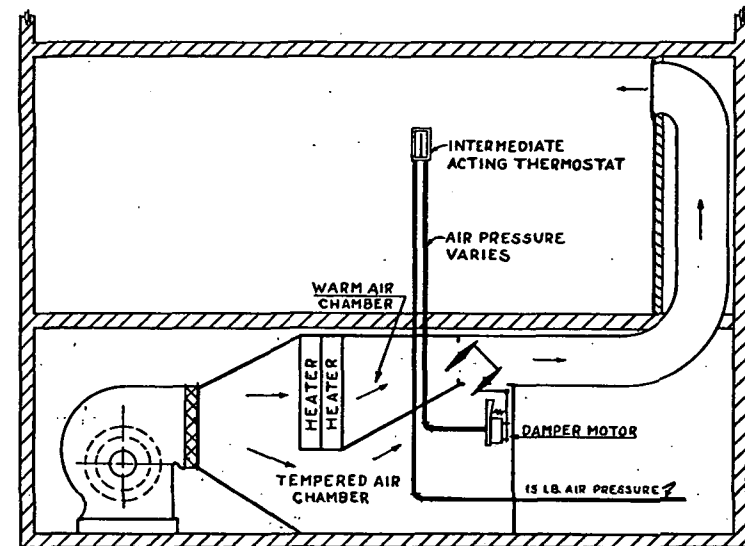


FIG. 11. CONTROL OF MIXING DAMPERS WITH INTERMEDIATE ACTING THERMOSTAT

heating unit from the air washer temperature and with the usual control of the first tempering heating unit from the outside temperature. This permits the air to be kept cool while passing through the washer so that too much moisture will not be absorbed. Fig. 10 also shows control of the re-heating units from a duct thermostat in the fan discharge and the application of a pilot thermostat to a system of this sort.

Combined Systems. There are various central fan systems which are used for both heating and ventilating. They are usually arranged with tempering heating units, automatically controlled to provide a minimum temperature for ventilating only, and additional heating units to supply the heating requirements. Fig. 11 shows a type of system which has the reheating units located in the fan room. Tempered air at about 70 F is supplied to the fan and may be further heated by the reheating units, or it may pass into the tempered air chamber. A room thermostat controls a