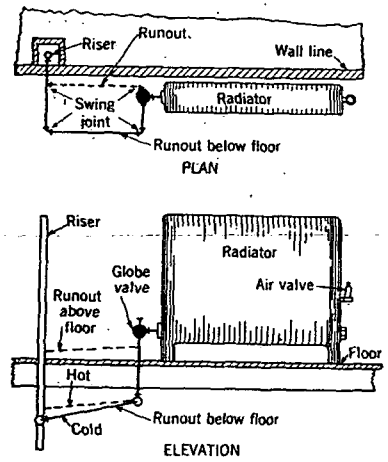

FIG. 9. TYPICAL ONE-PIPE RADIATOR CONNECTIONS (UP-FEED OR DOWN-FEED)

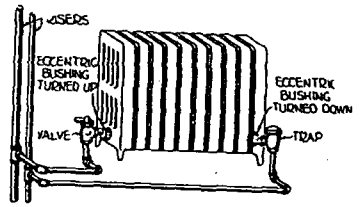

FIG. 10. CONNECTIONS TO STEAM-TYPE RADIATOR FOR TWO-PIPE GRAVITY SYSTEM, UP-FEED OR DOWN-FEED

Note.—Steam-type radiators should not be used on any except gravity one-pipe and gravity two-pipe systems.

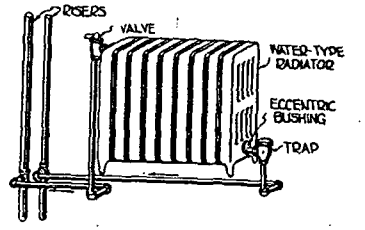

FIG. 11. TOP AND BOTTOM OPPOSITE END RADIATOR CONNECTIONS FROM UP OR DOWN-FEED RISERS

Note.—Suitable for up-feed or down-feed atmospheric, vapor, vacuum, sub-atmospheric and orifice systems.

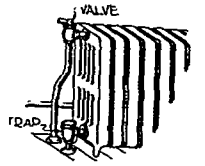

FIG. 12. TOP AND BOTTOM RADIATOR CONNECTIONS FROM UP- OR DOWN-FEED RISERS. (NOT TO EXCEED 8 TO 10 SECTIONS.)

Note.—Suitable for up-feed or down-feed atmospheric, vapor, vacuum, sub-atmospheric, and orifice systems. Opposite end connections always preferable.

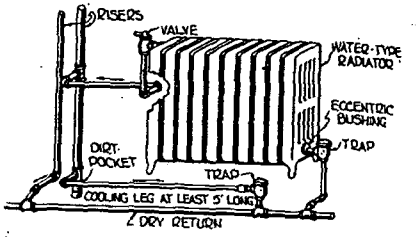

FIG. 13. TOP AND BOTTOM OPPOSITE END RADIATOR CONNECTIONS WITH HEEL OF DOWN-FEED RISER DRIPPED INTO DRY RETURN

Note.—Suitable for down-feed only. For atmospheric, vapor, vacuum, sub-atmospheric, and orifice systems.

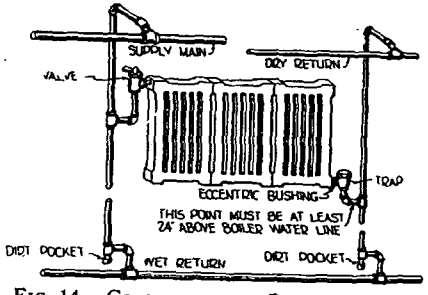

FIG. 14. CONNECTIONS TO RADIATOR HUNG ON WALL

Note.—For up-feed with radiators below level of steam main. For atmospheric and vapor systems. Not suitable for vacuum, sub-atmospheric, or orifice systems.

basement are located below the level of the steam main, the drop to the radiator is dripped into the wet return and an air line is used to vent the return radiator connection into an overhead return line, as illustrated in Fig. 14. When the radiator stands on the floor below the main, the drip on the steam branch down to the radiator may be omitted if an overhead valve, as shown in Fig. 15, is used. This method is also suitable for vacuum, sub-atmospheric, and orifice systems.

Convector Connections

Convectors often are installed without control valves, a damper being used to shut off the flow of air to retard the heat transfer from the convector even though it is still supplied with steam. The piping connections for a convector with the inlet and outlet at the same end are shown in Fig. 16. There is no valve on the steam side but there is a thermostatic trap on the return. The damper for control is shown immediately above the convector. This piping is suitable for atmospheric, vapor, vacuum, sub-atmospheric, and orifice systems of the up-feed type. A similar unit with connections on opposite ends and suitable for the same systems is shown in Fig. 17. This unit has no damper but requires a valve on the steam connection for control. When valves must be located so as to be accessible from the supply air grille, the arrangement usually takes the form indicated in Fig. 18. Convectors with damper control, installed in cabinets or under window sills, usually are connected as shown in Fig. 19. A convector located in the basement and supplying air to a room on the floor above may be piped as pictured in Fig. 20 for all systems except gravity one-pipe or two-pipe systems.

Vapor systems with heating units in the basement where the returns are wet would be treated as in Fig. 21. Similar heating units where a dry return is available would be connected as shown in Fig. 22. If the dry return were on a vacuum, atmospheric, sub-atmospheric or orifice system, the treatment would be identical.

Pipe Coil Connections

Pipe coils, unless coupled in a correct manner, often give trouble from short circuiting and poor circulation. The method of connecting shown in Fig. 23 is suitable for atmospheric, vapor, vacuum, sub-atmospheric, and orifice systems.

Indirect Air Heater Connections

Heating units for central fan systems have simple connections on the steam side. The steam main is carried into the fan room and has a single branch tapped off for each row of heating units. Each of these main branches is split into as many connections as need be made to each row, governed by the number of stacks and the width of the stacks. Each stack must have at least one steam connection, and wide stacks are more evenly heated with two steam connections, one at each end.

The piping shown in Fig. 24 is for small stacks and has the steam connected at only one end. On the return side all of the returns are collected together through check valves and are passed through blast traps which are connected to the vacuum return or to an atmospheric return. The air