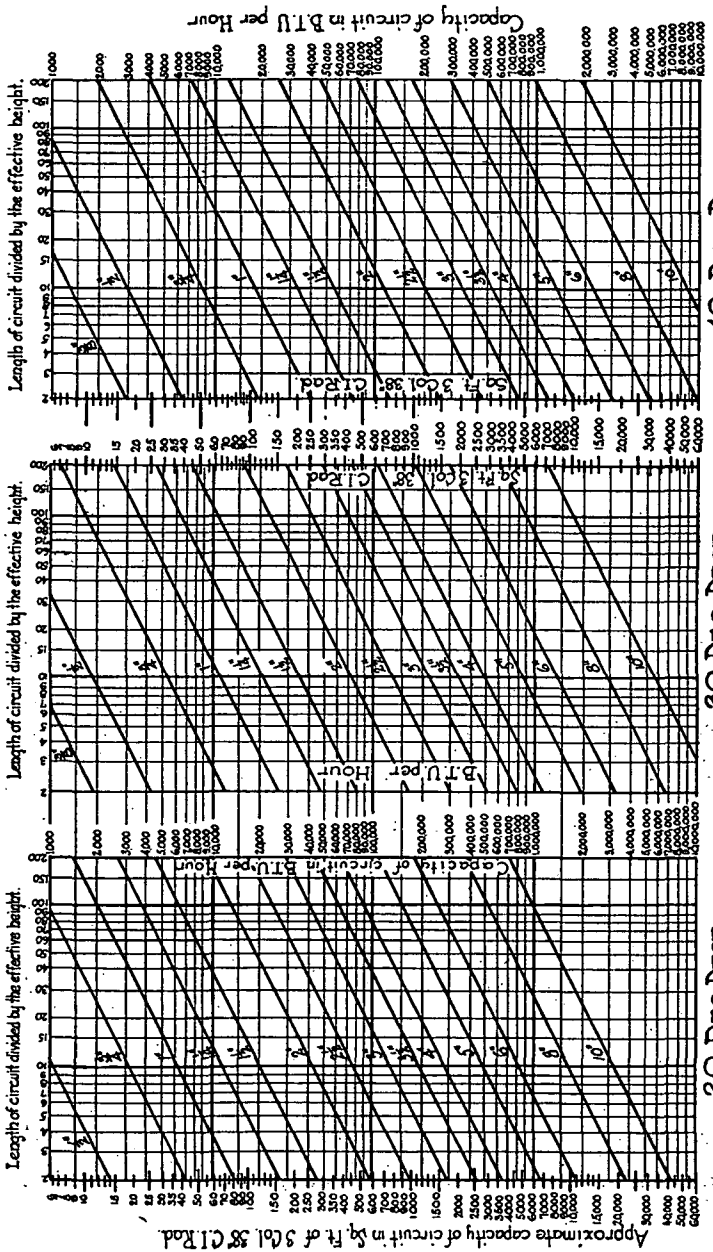

FIG. 36. PIPE SIZES REQUIRED FOR VARIOUS TEMPERATURE DROPS

EQUALIZING RISER TEMPERATURE DROPS

No matter how carefully riser or circuit sizes may be calculated, the limitations imposed by the necessity of using standard sizes of pipe and fittings will affect the results sought for in a heating system. This may be instanced by using the diagram in Fig. 37 as a means of illustration.

Suppose the radiator in the circuit *C* to be 90 sq. ft. instead of 100 sq. ft. Reference to the charts indicates that a ¾ in. pipe would supply 80 sq. ft. and maintain a temperature drop of 40 deg. and that the next size, 1 in., would supply 170 sq. ft. with the same temperature drop and that, if the radiator were 90 sq. ft., the drop would be less than 40 deg.

If then, the 40 deg. drop were maintained at the radiators in circuits *B* and *D*, some interference would be experienced in the return from these

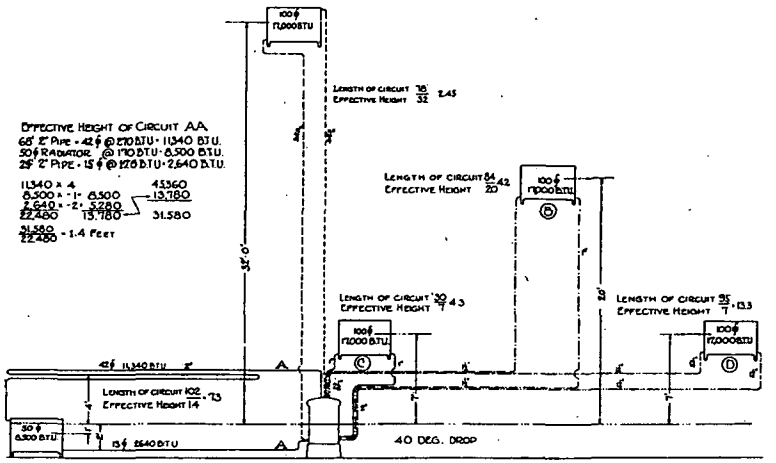

FIG. 37. DIAGRAM SHOWING EFFECTIVE CIRCUIT HEIGHTS WITH RADIATORS ABOVE AND AT BOILER LEVEL AND METHOD OF CALCULATING CAPACITY OF CIRCUITS FROM CHARTS IN FIG. 36.

radiators. The choice would then lie between using a ¾ in. connection to radiator *C* and having the drop more than 40 deg., or using a 1 in. pipe and retarding the flow by some means so as to secure the equal drop.

Several methods may be suggested to secure this. The radiator valve and union ell may be made ¾ in. to add a little friction, a special fitting may be inserted in the tee on the main to divert the flow to some extent, or the riser may be trapped to increase the frictional resistance. This resistance may be varied to some extent by varying the depth of the trap.

Again, there may be some advantage in making the temperature drops at various branch circuits unequal. It would seem that ideal conditions would be obtained if the greater drop were at the return connection