

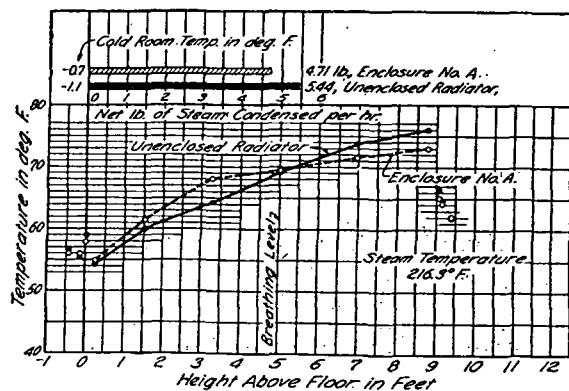


FIG. 1. ROOM TEMPERATURE GRADIENT AND STEAM CONDENSING RATE FOR RADIATOR WITH WELL DESIGNED ENCLOSURE

unit will condense per hour and thus to reduce the amount of heat given off by the unit. The results of recent investigations¹ indicate that only where the enclosure is made much higher than the heating unit, thereby producing a chimney effect, is the condensation rate equal to or greater than that of an identical radiator unenclosed.

The effects produced by an enclosure are dependent upon its design, so that the following results may be produced:

1. Better distribution of the heat below the breathing line level to produce greater heating comfort and lowered ceiling temperatures.
2. The lessened steam consumption may not materially change the radiator heating performance.
3. The enclosed radiator may inadequately heat the space.

¹Effect of Enclosures on Radiator Performance, by A. P. Kratz and M. K. Fahnestock (A.S.H.V.E. TRANSACTIONS, Vol. 33, 1927).

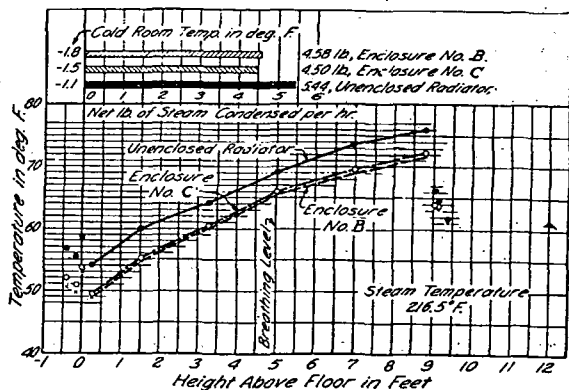


FIG. 2. ROOM TEMPERATURE GRADIENTS AND STEAM CONDENSING RATES FOR RADIATOR WITH IMPROPERLY DESIGNED ENCLOSURES

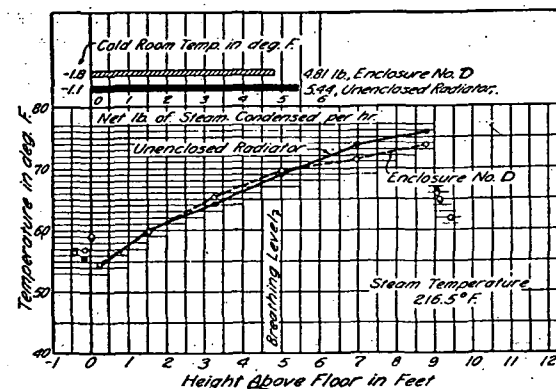


FIG. 3. ROOM TEMPERATURE GRADIENT AND STEAM CONDENSING RATE FOR RADIATOR WITH SHIELD

A comparison² between a bare heating unit and a heating unit fitted with a well designed enclosure, a poorly designed enclosure, a well designed shield, and a cloth cover, are shown by Figs. 1, 2, 3 and 4. Fig. 1 illustrates the relative heating effects of a bare heating unit and the same unit fitted with a well-designed enclosure. Comparison of the curves reveals that the enclosed heating unit used 13 per cent less steam than the bare unit, gave the same breathing line temperature, produced higher temperatures in the occupied zone, and gave reduced temperatures above the breathing level. This was a satisfactory heating performance. Fig. 2 shows the unsatisfactory effects produced by improperly designed enclosures. The effect of a well-designed shield placed above the heating unit is shown by Fig. 3. The performance obtained by the use of the

²Investigation of Heating Rooms with Direct Steam Radiators Equipped with Enclosures and Shields, by A. C. Willard, A. P. Kratz, M. K. Fahnestock and S. Konzo (A.S.H.V.E. TRANSACTIONS, Vol. 35, 1929).

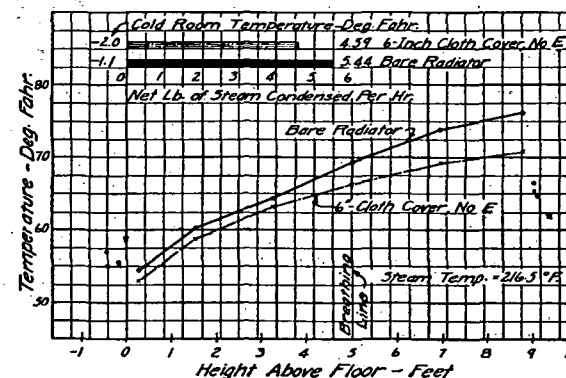


FIG. 4. ROOM TEMPERATURE GRADIENTS AND STEAM CONDENSING RATES FOR RADIATOR WITH A CLOTH COVER