

## The Heating and Ventilating of Stores

The commercial value of a comfortable atmosphere in large retail stores is being recognized by the owners of such establishments in the improved health and more energetic demeanor of employes, to say nothing of the greater attractiveness and comfort of a well-warmed and ventilated store to

is devoted to stores and the upper floors to offices.

In cases of this kind cast iron ra-

at the front and rear only, the side walls being protected by adjoining buildings.

Show windows are usually kept free from radiation on account of appearance, unless the nature of the goods

TABLE

Nominal Size of Fan	Diameter of Wheel	Revolutions per Minute	Cubic Feet of Air per Minute	H.P. of Motor
60	3 feet	390	4,500	2
70	3½ "	330	6,000	3
80	4 "	290	8,000	3
90	4½ "	260	11,000	4
100	5 "	230	12,500	4
110	5½ "	210	16,000	6
120	6 "	195	22,000	7
140	7 "	170	30,000	9
160	8 "	150	35,000	10
180	9 "	130	50,000	13
200	10 "	120	60,000	16

$$S = \frac{C \times T}{55 \times E}, \text{ in which}$$

S = square feet of surface in main coil,  
C = cubic feet of air warmed per hour,  
T = degrees rise in temperature,  
E = efficiency.

TABLE 2

(VELOCITY OF AIR THROUGH HEATER 800 FEET PER MINUTE)

ROWS OF PIPE DEEP	TEMPERATURE TO WHICH AIR WILL BE RAISED FROM ZERO		EFFICIENCY OF HEATING SURFACE IN HEAT UNITS PER SQ. F. PER HOUR	
	Steam Pressure in Heater		Steam Pressure in Heater	
	5 Lbs.	20 Lbs.	5 Lbs.	20 Lbs.
4	30°	35°	1,600	1,800
6	50°	55°	1,600	1,800
8	65°	70°	1,500	1,650
10	80°	90°	1,500	1,650
12	95°	105°	1,500	1,650
14	105°	120°	1,400	1,500
16	120°	130°	1,400	1,500
18	130°	140°	1,300	1,400
20	140°	150°	1,300	1,400

customers. The additional expense of such a system may be charged up to good advertising in most cases without considering the greater comfort of employes, if one wishes to look at it from that standpoint.

The common method of warming this type of building has been by the use of direct steam, and this system is still used to a great extent in stores of small and medium size, and especially in buildings where the first floor

radiators are placed along the outer walls, care being given to the matter of avoiding fixtures as well as to the best location for heating. In city blocks the exposed walls are usually

displayed is such as to require a comparatively high temperature.

Radiators, instead of being placed in the window spaces, are located against the building wall just inside

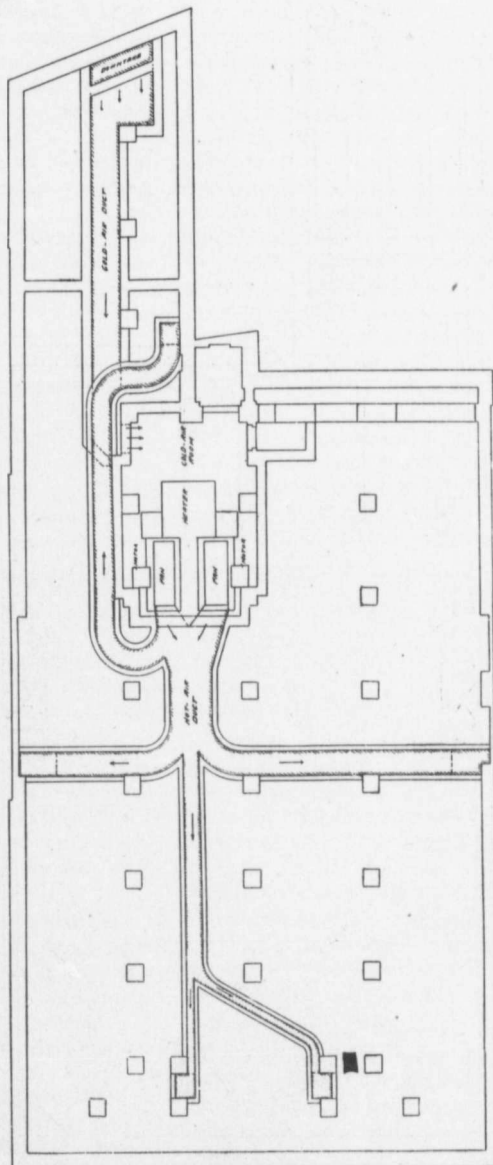


FIG. 1.—PLAN OF SUB-BASEMENT.