ment, and air drawn through by a fan is distributed by means of ducts to the various rooms. Following the course of air in Figure I the fresh air inlet will be found at the left. The air entering passes through the first coils called the tempering coils, which heat it to 56°. In the chamber just beyond the tempering coils the temperature is never more than 57° or less than 55° for a thermostat is placed there, which when the temperature gets to 57° opens the damper below the coils thus admitting only the heated air. In this chamber 200 or 300 very small nozzles deliver water in a fine invisible mist. There is then a series of baffle plates through which the air must pass to remove the water carried along mechanically for the velocity in this chamber is about 600 feet per minute. Beyond the baffle plates is another heating coil with a passage below and the air beyond this coil is kept at 65° by automatic regulation of the damper as explained before. A fan and distributing ducts completes this system, which is used only to furnish fresh air warmed to 65° and properly moistened. With this arrangement heat must be provided by radiators in each room.

In Figure I a detail is shown of the baffle plates to separate the water carried mechanically with the air. The object of these plates is partly to remove water and partly to remove dust and other impurities mixed with the air. The first four bends are rounded so that a film of water forms which makes a surface very efficient in taking from the air both moisture and dust. The last plates have a slight projection which prevent this film of water from being blown through, and water and dust runs down along these edges to a tank below where the water is filtered and returned again by a centrifugal pump to the sprays. There is no waste of water for what is not absorbed is kept in circulation and only enough is added to keep the suction tank constantly at the same level.

In schools it is customary to allow 200 cubic feet of air per hour for each pupil, and thus for a school with 100 pupils 200,000 cubic feet of air should be supplied per hour. In hospitals an allowance of 4,000 cubic feet of air per hour for each person is not too much, and on this basis the same amount of air would be required for fifty patients. If the thermometer outdoors registered zero, and a temperature of 65° were to be maintained indoors with a relative humidity of 65°, it is an easy matter to calculate the amount of moisture required to bring the air at the indoor temperature to the proper relative humidity. Referring to the table given we find that the indoor atmosphere will contain 553 grains of moisture per cubic foot and 4.4 grains are needed to give a relative humidity of 65 per cent at 65°. We will need therefore to