

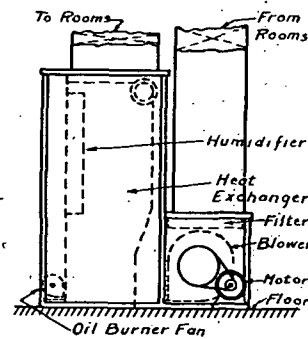
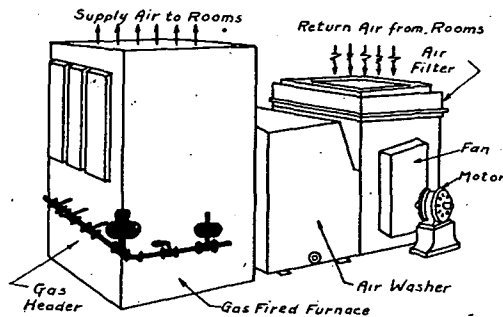
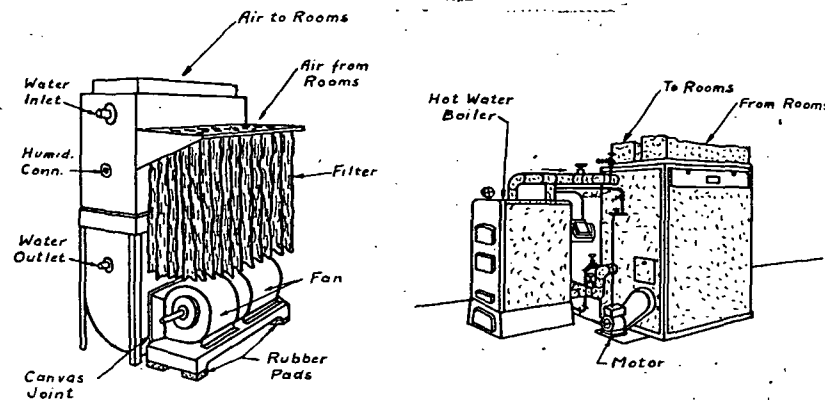
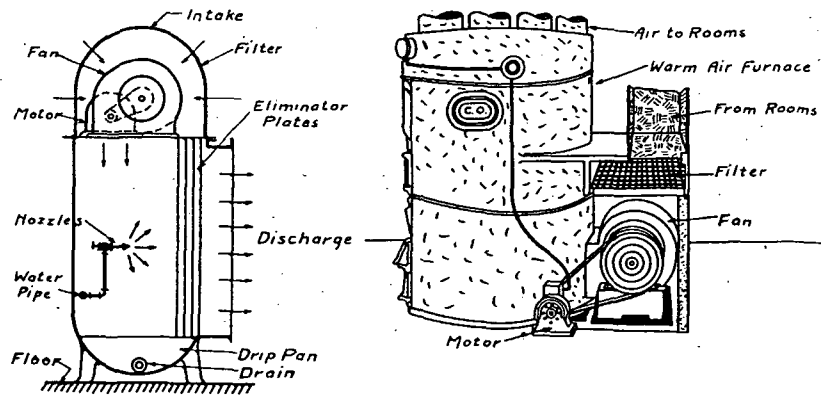


FIG. 13. (top) CROSS SECTION OF FURNACE UNIT
FIG. 15. (center) HEATING AND COOLING UNIT WITH CLOTH FILTER
FIG. 17. (bottom) GAS FIRED FURNACE UNIT

FIG. 14. (top) FURNACE ACCESSORY UNIT
FIG. 16. (center) UNIT WITH HOT WATER BOILER
FIG. 18. (bottom) OIL FIRED UNIT

A radical departure in arrangement is shown in Fig. 10 where both the air inlet and exit are at the top of the unit. The fan is located in the top portion at one side and discharges the air toward the bottom where it turns and passes horizontally through an air washer equipped with atomizing sprays and then turns so as to pass vertically upward through eliminators, cooling surface and heating surface before leaving the unit. With steam or hot water connected to the heating surface, tempered water to the sprays and refrigerated water to the cooling element this unit gives controlled temperature, humidity, air cleaning and air movement in the summer and winter. Air washing is continued in the summer to remove room odors. Acoustical treatment of the housing and the outlet baffles permits installations where the noise requirements are exacting.

Ice Units: In commercial type units using ice there is little difference between the outward appearance and that of the mechanical units. The ice using units are enclosed in the same metal housings, are operated by similar fan arrangements and employ an ice container as cooling surface. Fig. 11 illustrates one type of portable machine. The capacity is limited and, ordinarily, it must not be expected that a single ice-cooled unit will give the same cooling effect as a single room unit of mechanical design. In hotels or hospitals where the unit may be desired in different rooms from day to day and where elevator service is available so that the units may be taken into the utility rooms for emptying and re-charging there seems to be a real field of application.

Portable Units: A portable type of mechanical unit is now available which is suitable for cooling and dehumidifying only, this unit being equipped with rubber tired wheels, so that it may be shifted with ease from room to room and with a rubber hose 15 ft long for connecting to a nearby water faucet and with an electric extension cord and plug.

Accessory Units: Under this classification may be included every type of unit which has been developed as an accessory to an existing or proposed system of warm air distribution primarily designed for heating service. Some of these accessory units for warm air furnace systems simply provide a fan and air filter, while others include humidifying and cooling apparatus. The performance of this equipment is influenced by the following factors and conservative manufacturers claim only a moderate degree of added comfort:

1. The outside temperature and humidity conditions.
2. The heating system to which the device is attached.
3. The location of the outlets on the heating system.
4. The conditions surrounding the house or apartment such as construction, exposure to sun.

The introduction of cooler night air into sleeping quarters or living rooms will give greater comfort on summer nights and for some time during the following day. The added humidity during the winter will do much to improve indoor conditions but where specified conditions must be obtained and held, a special type of installation must be used. (See Chapter 2).

Fig. 12 illustrates an accessory unit for a warm air furnace installation this unit consisting of a large semi-cylindrical screen on the top of fine copper mesh through which the air is drawn by a fan blowing down into a