tinues upward through eliminators, a cooling surface and a heating surface before it leaves the unit. With steam or hot water connected to the heating element, tempered water to the sprays and refrigerated water to the cooling element, this unit gives controlled temperature, humidity, air cleaning, and air movement in both summer and winter. Air washing may be connected in summer, or in intermediate season to remove room odors. Excess water is run to waste. Acoustical treatment of the housing and outlet baffles permits installation where noise requirements are exacting.

A common type of suspended type unit for exposed location utilizing a propeller type fan and suitable for summer conditioning only is illustrated in Fig. 14. Such units are equipped with either a direct expansion coil or

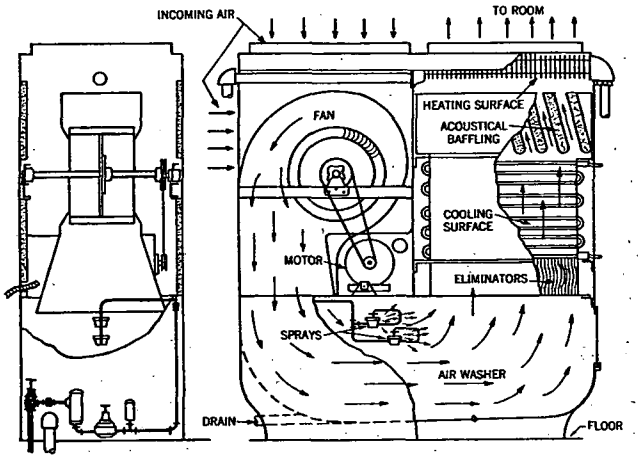

FIG. 13. CONDITIONING UNIT WITH TOP INLET AND OUTLET.

one for chilled water or brine circulation. The outer cabinet is sometimes constructed of a well polished wood, but more commonly is made of wood-grained steel or baked enamel and is insulated from the cool air chamber to prevent external condensation. The drip from the coil is collected in an insulated drip pan and carried to a drain. The inlet to the unit is provided with a lint screen to protect the cooling surface. Such units are normally used for recirculation only but may be connected for ventilation through short full-size ducts. Similar units are available with twin housed fans of the same general construction, although usually such fans draw the air instead of blow it through the coils.

A self-contained completely portable cooling air conditioning unit is illustrated in Fig. 15. For the operation of this unit, it is only necessary that it be located adjacent to a window or shaft to which air connections can be made and to plug in the motors to a convenient light socket. In this unit, the conditioned air enters on the side, passing through a grille, filter, and cooling coil and is delivered vertically to the room through a special motor and fan assembly. Refrigeration is furnished by a recipro-

cating compressor driven from a motor located in the base. This compressor utilizes an air cooled condenser. Air is drawn into the base by a fan mounted on the compressor motor, so arranged that the air passes through the refrigeration condenser and is again discharged out through the window connection. A novel feature of this design is that the condensate from the cooling coil is sprayed over the condenser surface and there vaporized, thus eliminating the need for drain connections. One advantage of this type of conditioning unit is that it may be removed from

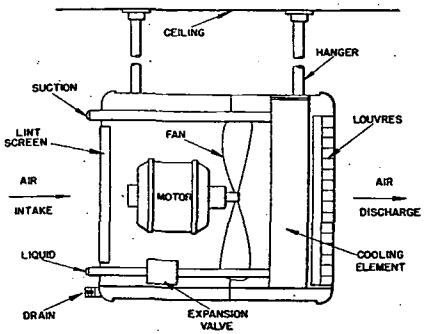

FIG. 14. SUSPENDED PROPELLER FAN TYPE COOLING AIR CONDITIONING UNIT

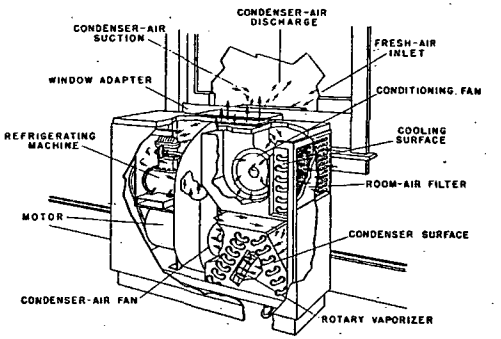

FIG. 15. PORTABLE SELF-CONTAINED CONDITIONING UNIT FOR COOLING

the occupied space during the winter season when cooling is not needed. The portable air-cooled units are now available in sizes up to and including ⅓ hp.

Another type of portable unit for occupied space locations differs from the former in that the compressor is water cooled and a connection to water and drain must be provided in addition to the electric connection. Water and drain lines are carried in a composite hose, especially built for this purpose and connections are usually made to a nearby washbowl. In order to reduce the starting load, one model has two separate motors brought on to the line at delayed intervals thereby decreasing the initial