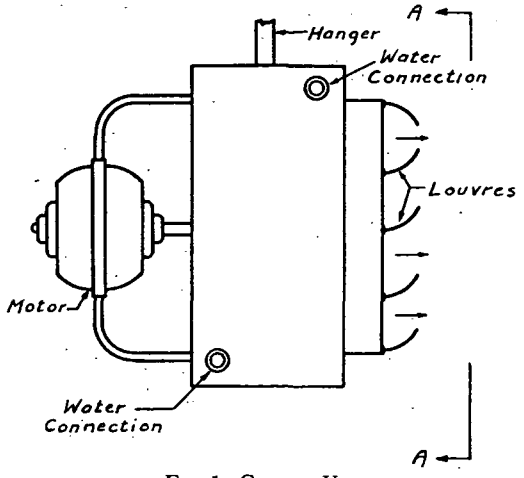


FIG. 1. CEILING UNIT

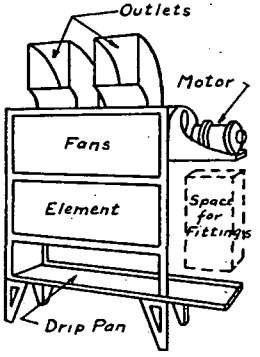


FIG. 4. INDUSTRIAL FLOOR TYPE

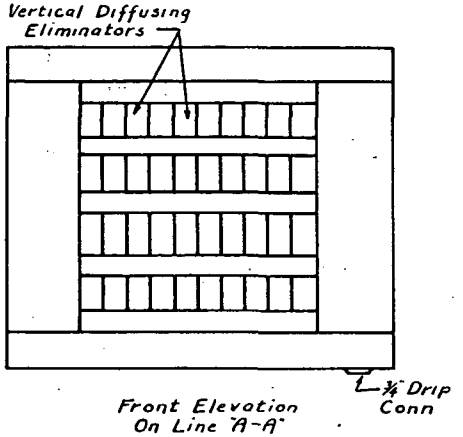


FIG. 2. ELEVATION THROUGH LINE AA

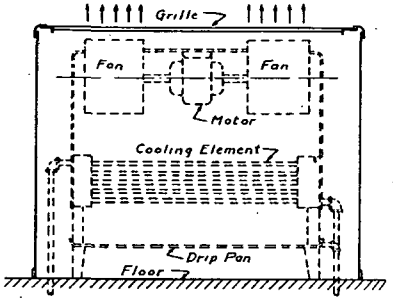


FIG. 5. CABINET TYPE COOLING UNIT

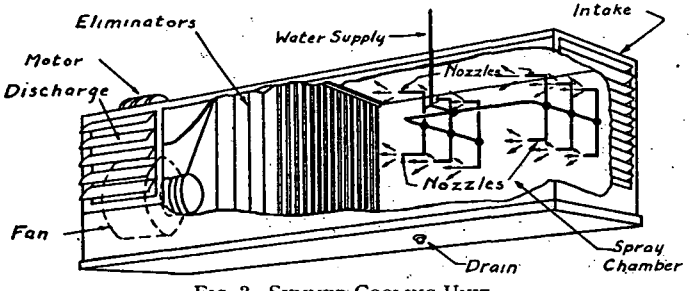


FIG. 3. SUMMER COOLING UNIT

designs are constantly appearing and the general tendency is toward better mechanical construction and more versatile application.

Fig. 1 shows one of the simplest units, where modification of a ceiling unit heater has been made so it can serve as an air conditioner. The assembly shows a motor, propeller fan, extended fin heating and cooling element, drip pan and a double louver arrangement, the vertical louvers being formed by condensate eliminators as illustrated in Fig. 2 which is an elevation of this unit on Line A-A. The whole is enclosed in a metal cabinet and is supported by a ceiling hanger. The horizontal louvers are adjustable so that the air may be directed downward, horizontally, or upward as may be desired. During the winter the unit may be used exactly the same as a unit heater when properly supplied with steam and return connections, while in the summer it may be used as a cooler and dehumidifier if correctly attached to a refrigeration plant or supplied with cooled water of sufficiently low degree. This ceiling type unit is particularly suited for industrial and business applications.

Fig. 3 illustrates a ceiling unit for summer use without any heating provision. This unit, in conjunction with the regular heating system will do a certain amount of humidifying in the winter. It consists of an air washer with the usual water sprays, eliminator plates and air circulating fan. It is hung on the ceiling of the room and takes its air supply from the room through the intake louvers indicated, passes the air through the water spray and eliminators, and then delivers the air back into the room through the discharge outlet provided with louvers of adjustable type. The refrigeration machine may be located at any convenient point and the cooled water circulated to and from the conditioner across the ceiling so that no floor space is lost. This style of unit is for industrial and large office installations and, where the appearance on the ceiling is found to be objectionable, the unit may be placed at some other location (possibly with the refrigeration machine) and the conditioned air may be piped from the unit to the room and back again to the unit through a short system of ducts.

Floor Units: The floor unit for industrial service shown in Fig. 4 has a galvanized iron casing enclosing the heating and cooling element with the fans mounted above and the air discharging from the top through galvanized 90 deg elbows which deliver the air in a horizontal or slightly upward direction. The operating motor for the fan is carried on a bracket at the side and at the bottom a drip pan is provided to catch any condensation that may form, while the space between the pan and the motor bracket may be utilized for the installation of traps and valves. This unit does not attempt to wash or filter the air but when supplied with steam it will heat the air and when supplied with cold water will cool and dehumidify.

A similar arrangement housed in an ornamental type cabinet is shown in Fig. 5. The cooling element, fans and motor, together with the drip pan and piping connections are all housed within a steel casing finished in wood grain. The element is suitable in this case for circulating either hot or refrigerated water but not a refrigerant. This, however, does not apply to all units of this type.

Another floor unit of ornamental type, Fig. 6, has fans below the elements and separate heating and cooling elements. The fan delivers