SEED STORAGE TEMPERATURE SIGNAL SYSTEM

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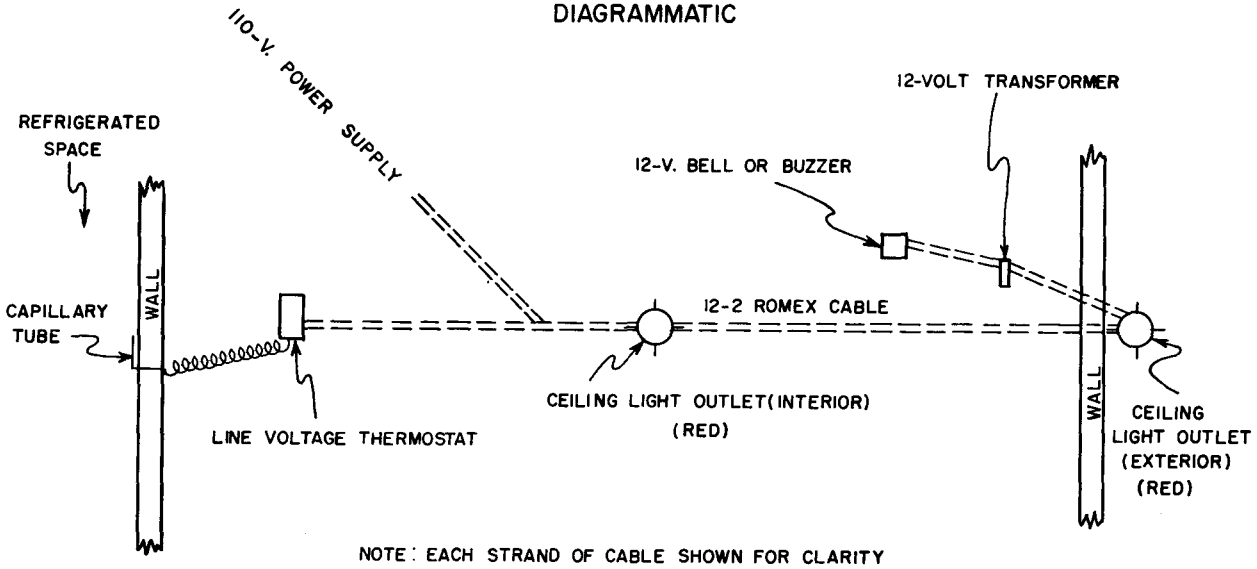
During construction of the refrigerator system at the Piedmont Nursery, Pickens, S.C., the contractor installed a small buzzer on the packing shed wall to indicate when the unit was in a defrost cycle. This device warned nursery personnel in the vicinity that there was a malfunction when the buzzer sounded longer than the defrost cycle period. If, as often happened, no one responded to the buzzer, a loss of refrigeration could last several hours without discovery. This occurred several times during 1957 and 1958 when sealed type compressor units were in use.

In 1961 this signal device was improved and expanded so that a ringing bell and red light inside the packing shed and a bright red light outside would be actuated during the defrost cycle or whenever the refrigerator temperature rose above 25^0 F. This arrangement permits anyone in the vicinity to hear the bell and anyone inside or within range outside to see one or the other red light. In addition, the nursery mechanic can see the red outside light from his residence.

SEED STORAGE SIGNAL SYSTEM
TEMPERATURE RISE

DIAGRAMMATIC



NOTE: EACH STRAND OF CABLE SHOWN FOR CLARITY

EQUIPMENT AND SUPPLIES

1 LINE VOLTAGE THERMOSTAT,"WHITE RODGERS" TEMP. CONTROL, TYPE 1629 # 10
CABLE, ELECTRIC, ROMEX 12-2
2 BOX, ELECTRIC OUTLET
2 RECEPTACLE, LIGHT
1 TRANSFORMER, 110-V-12-V
1 BELL, 12-V
1 JUNCTION BOX W/COVER

The system consists of a small capillary tube (inside the refrigerator room) and conducting tube filled with Freon attached to a White Rodgers #10 thermostat (type 1629), which was in turn coupled to the 110-volt power source, the light outlets, 12-volt transformer, and 12-volt bell by 12-2 electric "Romex" cable.

When the temperature in the refrigerator room rises to 25^0 F., the Freon conducts heat to the thermostat, closing the electric circuit and causing the bell to ring and the lights to burn. Because the bell is a 12-volt unit, a transformer is necessary to reduce the current to this voltage. To provide 110 volts for the lights and 12 volts for the bell, the voltage regulator must be placed between the last light in the circuit and the bell.

This simple, inexpensive, and easily installed system has proved invaluable in detecting faulty operation of the seed storage room equipment. It also has the incidental advantage of indicating to other interested persons that nursery personnel are concerned and aware of the importance of proper seed storage.