ing care of the water of condensation. The best method of reducing the loss from this source is, of course, to lag the pipes well with some heat insulating material; this feature in the original layout was somewhat neglected resulting in a hot tunnel and large quantities of condensed steam in the main pipe, this condensation being drained from the pipe through traps to the power house. It was found necessary later to instal a vacuum pump in the power house to pump this condensation back and deliver it to the hot well, and with this addition the system works quite satisfactorily.

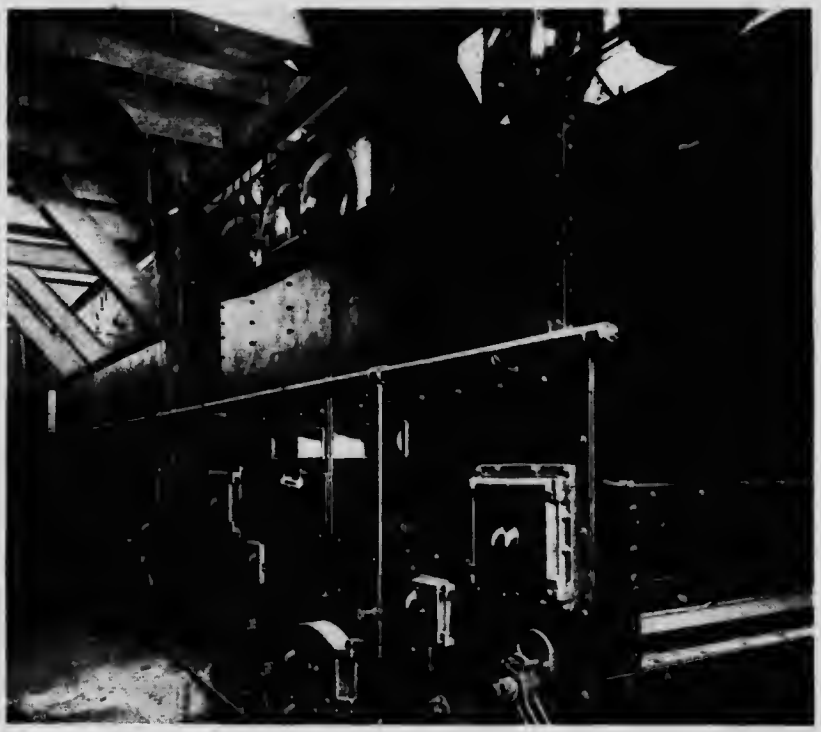

FIG. 9. BOILER ROOM SHOWING MURPHY FURNACE INSTALLATION.

Besides the main heating pipe, the tunnel contains a live steam main of 5 in. diameter, where it leaves the power house, also the main gravity return line of 8 in. diameter, and a 3 in. return line to the vacuum pump from the 20-in. main. The live steam is carried at 50 lbs. pressure and is used principally in the Main Building (1), Burwash Hall (20), Knox College (21), and the Household Science Building (14).

Besides these pipes all electric wires are carried on the walls of the tunnel.

Tunnel Construction

The main tunnel through which all steam pipes and electric wires are distributed to the various buildings, is of concrete and of 5 ft. x 6 ft., inside dimensions, where it leaves the power house. Its walls are vertical and 8 in. thick, while the roof slab slopes from 9 in. at the centre to 6 in. at the walls, and is reinforced where necessary.

The power house is indicated on Fig. 5 by a solid black circle.

Figure 14 shows a section of a piece of tunnel built recently by the Superintendent's Department to connect Knox College (21) with Convocation Hall (12). This shows a considerable improvement over the first tunnel built, in the arrangement of the piping and wiring. The main pipe rests on rollers which in turn are supported by substantial concrete piers securely bolted at the bottom of the tunnel; this point requires attention or the gradual movement of the pipe due to expansion, will work the piers loose in a short time.

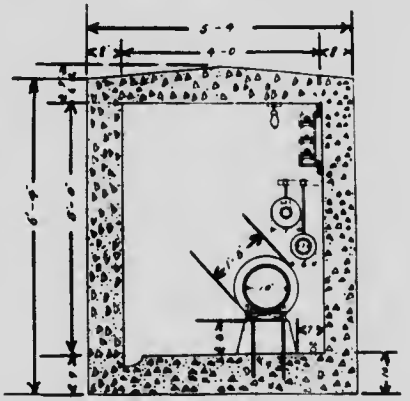

FIG. 14. SECTION OF TUNNEL CONNECTING KNOX COLLEGE WITH CONVOCATION HALL.