

## HOT WATER HEATING SYSTEMS

By  
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The college has two central hot water heating systems. A smaller one, which serves the Library and the Academic Building, and a larger one, which serves Milner Hall, Legett Hall, Mitchell Hall, Electrical Engineering Building, Ross Hall, Y M C A Building, and Hart Hall.

In both systems, the water is heated at the Power Plant and pumped from there to the several buildings where it flows through the radiators, giving up a portion of its heat to the building.

The radiators in Hart Hall were designed so that they must contain water having an average temperature of 180 when the outdoor temperature is 25, if the temperature in the building is to be maintained at 70. When the outdoor temperature is higher than 25, the average water temperature in the radiator must be lower than 180, approximately, according to the following table: For outdoor temperature of 35, 45, 55, and 65, respectively, the average water temperature in the radiators should be 158, 136, 114, and 88.

The heating system for Hart Hall was designed so that when the outdoor temperature is 25, the water must be cooled 20 degrees while flowing through the radiators; i. e., the

water must enter the radiators at 190 and leave at 170. In that event, every pound of water flowing through the radiators will deliver 20 B. t. u. to the building. It is estimated that Hart Hall will need 1,200,000 B. t. u. per hour when the outdoor temperature is 25 and the indoor temperature is 70, consequently, during such a period a quantity of water which must be pumped from the Power Plant to Hart Hall and back is 60,000 pounds per hour, or 120 gallons per minute.

The pipe system in Hart Hall was designed so that a pressure head of 3 feet of water will be required to force the calculated quantity of water, 120 gallons per minute, through the Hart Hall heating system.

Calculations similar to those described above for Hart Hall were made for the other six buildings served by the central heating system and it was found that the total quantity of water to be pumped through the larger heating system is about 525 gallons per minute.

The pump which circulates the water through the heating system operates at a practically uniform speed regardless of the temperature of the water. Consequently, when the outdoor temperature is 55 and the building needs 400,000 instead of 1,200,000 B. t. u. per hour, the water will be cooled 6 2/3 instead of 20 degrees, while flowing through the radiators.

If, for that condition, the average temperature of the water in the radiator is to be 114, the water should enter the radiator at about 117 and leave at about 110.

In this manner the following table was prepared to guide the engineer in charge of the heating system in regulating the temperature of the water according to the varying outdoor temperatures and according to the desired indoor temperatures during the various portions of the 24-hour day.

For Outdoor Temperature	Water Entering Building
25°	190°
35	166
45	142
55	117
65	90

Water Leaving Building	Average in Building
170°	180°
150	158
130	136
110	114
86	88

This table is based on calculations which may not be sufficiently accurate. If the temperatures listed in the table are too high, the rooms will be too warm; if the temperatures are too low, the rooms will not be warm enough.

In order to prepare a table which is sufficiently accurate, it is necessary to have the co-operation of the students who should observe the temperatures in their rooms carefully and report to W. H. Badgett the exact times when their rooms were not properly heated; this report should, if possible, include the temperature of the room.

A portable recording thermometer will be available to study the changes in temperature within the buildings.

Continuous records of the outdoor temperature and of the water temperatures will be kept. The recording thermometer for outdoor temperatures is located on the rear porch of Ross Hall. A recording thermometer for the water temperatures in

## Fire Fighters Get First Call Of Year

Led by their gallant chief, Captain Jack Baggett, B Battery took off last Sunday afternoon for the first fire of the season, a shower house in Hollywood. Owing to a general lack of knowledge as to the whereabouts of the fire, considerable delay was experienced in getting under way. But this was more than offset by the dogged determination of the crew to quench the flames as quickly as possible upon their arrival.

Emerging from the station at a terrific rate of speed, the two trucks were neck-and-neck for the first block of the run, but the hose department, piloted by Baggett, soon forged into the lead. However, it was pressed closely by the heavier, more modern hook-and-ladder truck because of the skillful driving of assistant chief J. B. Clark. Breaths were held, eyes closed, and hearts stood still at the reckless abandon of the drivers in their unselfish efforts to save life and property.

Various opinion have been advanced by onlookers as to the origin of the conflagration, but the official report states that "three boards of the shower house were scorched because of being overheated by a stovepipe."

Education, whether within or without the home, must impart knowledge specifically useful to the individual according to his peculiar nature, if it is to accomplish results ethically valuable.—Howard Madison Parshey.

Hart Hall will be located under the stair case of Ramp F.

Thermometers have also been installed in Milner Hall, Legett Hall, and Mitchell Hall so that the temperatures of the water entering and leaving those buldings can be easily ascertained.

Knowing the outdoor temperature and the water temperatures, and having a report from the occupants of the halls regarding the character of the heating of the rooms, it will be possible to make such modifications of the table of prescribed temperatures as may be necessary to secure satisfactory heating of the dormitories at all times.

(To be Continued)

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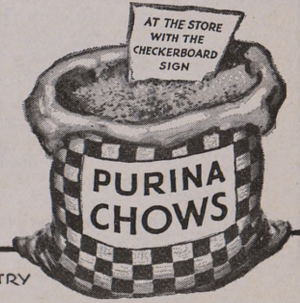


## AS THE YEARS ROLL BY—

SOMEWHERE in your neighborhood stands a tree . . . deeply rooted, tall, broad and kindly . . . the grand old tree of the countryside. As a slender sapling swaying in the breeze, this same tree once heard the sly pad-pad of Indian feet. Much later it saw the very first telephone excite the neighborhood. It was there to hear the first automobile chug-chug into the community.

In the days before this tree first saw the telephone or the automobile, there appeared in many neighborhoods a slender sapling of a thing. Like the tree it has grown big, broad, stout, entering every neighborhood. A close friend it has become on many, many farms . . . a friend because of the job it has done. This something is Purina Chows, feeds for your stock and chickens, feeds which come in Checkerboard Bags. Consider what has happened since Purina Chows appeared 36 years ago. Pullets laying dozens instead of half-dozen. Cows milking gallons instead of quarts. Steers putting on pounds instead of ounces. Pork to market in six months. Better feed has done its share. Purina Chows has told its story.

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