truth of this has been amply demonstrated in the case of hot-water heating. The customer paying a flat rate has no direct incentive to economize. He overheats his building and leaves windows open instead of shutting off radiators.

A few methods of measuring have been suggested or tried. Theoretically it is possible to design a meter which will record the actual heat used, since this is a function of the water flow multiplied by the temperature differential. The momentary values of this product must be integrated to obtain the total heat. Obviously the construction of such a meter would be complicated, and the cost would exceed commercial limits.

Another method uses a controller to maintain automatically a constant differential between the supply and return temperatures, and to meter the flow of water. There seem to be possibilities in this direction. However, solution of the metering problem alone would not suffice to place hot-water heating on a competitive basis with steam.

Existing hot-water systems, of which there are between 15 and 20 in the United States, use a rate based upon the amount of radiator surface actually installed, or upon the surface which is theoretically required.

1 Following hot-water installations reported as of 1930:
Atlantic City Electric Co., Atlantic City, N. J.;
Frankfort Heating Co., Frankfort, Ind.;
Indiana General Service Co., Elwood, Ind.;
Interstate Public Service Co., New Castle, Ind.;
Iowa Nebraska Light & Power Co., Red Oak, Iowa;
Iowa Railway & Light Corp., Boone, Iowa, and Perry, Iowa,
LaPorte Gas & Electric Co., LaPorte, Ind.;
Logansport Utilities Co., Logansport, Ind.;
Ohio Power Co., Fremont, Ohio;
Peru Heating Co., Peru, Ind.;
Public Service Company of Northern Illinois, Evanston, Ill., Waukegan, Ill., and Oak Park, Ill.;
The Crawfordsville Heating Co., Crawfordsville, Ind.;
The Ohio Utilities Co., Delaware, Ohio; and
Toledo Edison Co., Toledo, Ohio.