

READY FOR BUSINESS.

THE STEAM SUPPLY COMPANY.

Heat and Power on tap in Street Mains—A Plant Which is Commended by the Originator of the System—Steam by Metre Measurement.

The enterprise formed by a few leading citizens for establishing a steam-heating and power supply in this city first took shape about the middle of October last, at which time the necessary capital was raised and a contract for constructing the works entered into. These have been satisfactorily completed, and in parts of some of the principal streets of the city steam for heating buildings or operating machinery is as readily obtainable as a supply of gas or water. A few days ago steam was turned into the mile or so of double mains put down by the company and they were found to be perfect at every point. Several connections from buildings with the mains have since been made, and the company may be said to have fairly commenced practical operations.

From the boiler house in George street there extend two parallel lines of pipe, one of them used for conveying steam for heating purposes, and the other to conduct steam power. The mains as far as Center street are eight inches in diameter. From Center to Church street six inch pipes are laid. From Chapel street to the city hall only a heat pipe five inches in diameter is laid. Down Chapel street to State, and in State, between Grand and Crown streets, there are double six inch mains. Orange street is also double piped from Chapel street to Center. The mains are of wrought iron and are covered with a layer of brown paper bound on with wire, and are set into hollow logs previously treated with chemicals so as to increase the natural quality of the wood as a non-conductor of heat. These two non-conducting coverings reduce the loss of heat and power sustained by the steam in its course through the pipes to a minimum. In a test made with a similar supply system in Springfield the other day the loss sustained in the pressure of steam carried to an engine one mile and a half from the boiler-house was only seven pounds. Here it is expected that the ratio of loss will be even less.

The arrangements for the conservation of all the heat originally created are remarkably perfect and ingenious. There is in fact no waste whatever, except that caused by the condensation of the steam in the pipes. All the exhaust steam from that used for power is returned to the heat main by connecting pipes. At the corner of State and Elm streets and State and Crown streets the two mains are connected so that the pressure from the power pipe forces the exhaust steam and the hot water from condensation back through the heat main to the boiler house. There it flows into the tank from which the water is pumped into the boilers. The degree of benefit derived from this arrangement can be estimated from the fact that the exhaust steam keeps the water in the supply tank at a temperature of about 200 degrees.

"You see therefore," said H. P. Frost, one of the company, this morning, "that we tell our steam twice over and have it still, or at least a good part of it."

H. B. Dart, the superintendent, showed the reporter over the boiler house this morning with no little pride and satisfaction in the excellence of the equipments. Six massive boilers of eighty horse power each are set in a row in the basement. The pipes and connections are so arranged that water can be fed into any of them separately or into any number of the lot. The company have two sources of water supply—the city water and a well they have dug in the yard. The well is ten feet in diameter, has ten feet of water in it, and would yield by itself a sufficient supply for the boilers. All the water used for the boilers is first conducted into the tank where the exhaust steam soon raises its temperature to the boiling point. A hot water pump forces the water from the tank into the boilers.

The steam is conducted from all the boilers by a wrought iron ten inch pipe connecting inside the building with the two street mains. These mains are also connected with each other so that the relative pressure of steam may be adjusted to any point desired.

"Suppose," said Mr. Dart, as he turned the valve and set a hissing flow of steam from one main into the other, "that we have too much of a head of steam in the power pipe and not enough in the heating pipe. Such would be the case in extremely cold weather. I simply regulate matters by transferring the steam and in that way keep the relative pressure just what the circumstances call for."

Upon the power pipe the ordinary pressure will be from 60 to 75 pounds, and up on the heat pipe from 8 to 10 pounds.

The quantity of steam delivered to consumers is registered by a meter, the invention of which was a necessity as soon as the practicability of the Holley system of steam heating became demonstrated. The meter is an ingenious contrivance. The force of the steam passing through it causes to revolve a fan-like wheel, connected with a lower wheel set in water for the purpose of securing steadiness of motion. The upper wheel connects with a set of smaller wheels above, which register upon a system of dials the number of revolutions. The first dial show the units, transfers them as every ten is counted to the ten dial, which in turn conveys them through a successive scale of notation until the capacity for measurement is exhausted at a total of 1,000,000. "The method we proceed upon," explained Mr. Frost, "is this: The estimate of the quantity of heat or power furnished is by units. The consumption of 178 pounds of coal gives 1,000 units. For that number the price is 70 cents and the amount of heat they represent is sufficient to heat for one month a room containing ten cubic feet of space when the outside temperature is at zero. The meter affords an absolutely accurate test of measuring how much heat or power is supplied to the customer. The heat and power meters are the same, except that the latter, being required to withstand a higher pressure, is more strongly made."

"How is it as to the cost of the steam you furnish? Will it be greater or less than if produced by the consumers?"

"For heating purposes, less; for power, about the same or possibly a little more. Even if it were a trifle more in both cases there are advantages enough from using our supply to make up the difference. The manufacturer saves the cost of a boiler, the expense of a man to take care of it, and also avoids all risks of explosions, to say nothing of the bother of fuel, etc. And then for heating purposes there is the same saving on the cost and care of a boiler, and for another consideration the certainty of having steam at all times and in quantities to suit."

In a few days the incorporators of the New Haven Supply company will meet to elect officers. They have never fully organized, the construction contracts and other business having been in charge of a committee consisting of General S. E. Merwin, chairman; Frank Greeley, Governor Bigelow, D. H. Sperry, E. H. Sperry and H. P. Frost. The contracts were with the American District Steam company, John F. Gooding, who has supervised the laying of systems in several western cities, having the superintendence of the work. Mr. Holly, the originator of the system, was in this city last week and pronounced the plant the best he had ever seen. Connections for furnishing both power and heat have already been made by the company with the establishments of J. D. Dewell & Co., E. A. Arnold & Co., C. G. Kimberly & Co., Bowditch & Prudden in Orange street, the Electric Light Co., and John Kirschner. Connections for supplying heat have been made with the New Haven Bank, the Tontine hotel, George H. Ford's jewelry store, E. P. Merwin's residence, and Butler & Tyler's store. The company have applications from a large number of other parties, and expect that before next year their business will be large enough to call for the extension of their system.

When the idea of laying street steam

advanced a few years ago it was generally regarded as a scheme practicable at the best for only short distances. The steam could condense in the pipes to such an extent it was claimed as to cause a ruinous waste of heat. Actual trials, however, were attended with encouraging success, but no attempt to furnish power in the same manner was made until about a year ago, when the experiment was successfully made in Lynn, Mass. The system in this city is almost an exact reproduction of that in Lynn. Similar systems are now in operation in Springfield, Denver, Dubuque, Burlington, Auburn, Garden City and other places. An extensive system is now in process of construction in New York, where about twenty miles of pipe will be laid by May first.