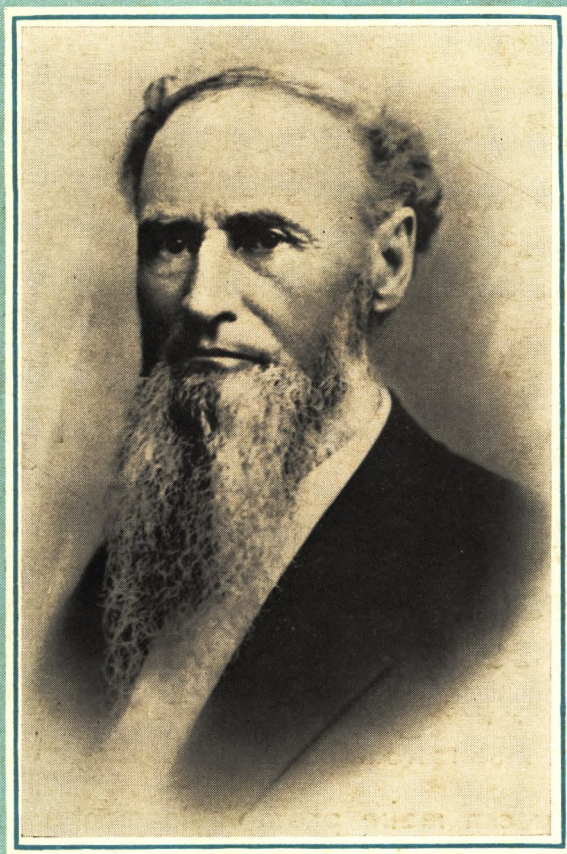


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NATIONAL DISTRICT HEATING ASSOCIATION

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BIRDSILL HOLLY

Birdsill Holly

Father of District Heating*

FOR more than half a century before Birdsill Holly began his district heating experiments in Lockport in the eighteen-seventies, engineers and others had dreamed of and predicted that some day it would be an actuality. In Europe many costly and unsuccessful attempts had been made to introduce it. But Mr. Holly was the first to be successful and he deserves to be honored as "The Father of District Heating".

Mr. Holly was born in 1820 in Auburn, N. Y. He lived for a number of years in Seneca Falls and there earned the reputation of being a noted hydraulic engineer and inventor. Among his early inventions were the rotary water pump and the Sybills steam fire engine—the best in its day.

His move to Lockport was to secure more space for his Holly Manufacturing Company, which was engaged in the manufacture of sewing machines, skeins, boxes, flat irons, sinks, and other articles of iron and brass. Thus he came as a manufacturer and at first he was not recognized as such an eminent engineer. Some laughed at his experiments. When he first demonstrated that water could be delivered to street hydrants thru a pipe line by pumping, the first row of skeptics are said to have been knocked down when the pump was started.

His success in pumping water thru buried pipe lines is said to have given him the idea that steam likewise could be carried in a well insulated underground line. He believed this would be useful not only in connection with the heating of buildings, but to put out fires by filling burning rooms with live steam and also to operate fire pumps on trucks stationed near fire cisterns. This last scheme was demonstrated in Lockport in 1879. Capitalists, bankers and engineers came from the great cities of the east to witness the experiments.

Mr. Holly, in starting his district heating experiments, first built a boiler in the cellar of his own home in Chestnut Street.

He ran a steam line up to a "distributor" in the attic. From there he extended the lines to pipe coil radiators in the various rooms and to the basement. There a loop served as a trap and condensate was returned to the boiler.

He dug a trench 3 or 3½ ft deep across his own and a neighbor's lawn and installed in it 500 ft of 1 in. insulated line starting at his boiler and ending at a radiator also in his home. By means of a short by-pass line he demonstrated that the radiator heated regardless of whether steam was delivered to it by the long buried line or by the short by-pass.

Additional experiments were run. In the first of these he furnished heat to a neighbor thru 490 ft of line buried in Chestnut Street. The neighbor thus became the first district heating customer. Soon it was believed that customers within two miles of a steam plant could be successfully served.

There followed the organization in the spring of 1877 of the Holly Steam Combination Company, Ltd. for the purpose of heating a section of Lockport. The company had a capitalization of \$25,000, gathered together after considerable effort.

The City granted the Company a franchise. A small boiler house was built. Mr. Holly purchased a second-hand upright boiler, 7 ft in diameter and 10 ft high, from a shut-down factory in Buffalo and floated it to Lockport on a barge on the old Erie Canal. During the summer 2350 ft of 2 in. and 4 in. lines were run and 14 customers were connected. They began taking steam service in October 1877—just 66 years ago. Two years later over 14,000 ft of line was in place and two boilers were operating at 30 pounds pressure.

Mr. Holly was probably the first to advocate the atmospheric system of heating. To improve the operation of the system he designed a pressure regulator, a steam trap, an expansion joint (the Variator), a tin radiator, an iron pipe radiator and a conden-

Heating Economies in War Time---J. E. Seiter

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form of rationing may be necessary. All sorts of schemes are recommended for fuel rationing. With an industry such as yours, with so many variables in tenancy, types of structures, heat production and utilization of equipment, any rationing plan will be most difficult to administer equitably. Unless you have records to indicate your operation now, you may have difficulty in getting sufficient fuel later on. Your Association, I am sure, will take an active interest in the preparation of any rationing plan and I hope that you will find it possible to keep away from any flat reductions or formula basis of allotments. It would be most helpful for your Association to agree to maintain temperature levels at some desirable point with limited operating hours, rather than to have to struggle along with insufficient fuel.

BE PREPARED

Now is the time to make your prepara-

tions for any eventualities. In addition to temperature control there are many other ways to conserve heat. These are adequately covered in the pamphlet issued by your Association entitled "Principles of Economical Heating". Another very complete and helpful booklet entitled "Saving Fuel in Heating" by John F. Collins, Jr., is published by the Industrial Press, 148 Lafayette Street, New York, N. Y. A third publication, which is a compilation of articles on fuel conservation, is being published by the Keeney Publishing Company, 6 N. Michigan Avenue, Chicago, Illinois. All of these pamphlets can be secured for a few cents each and they contain information which should save you many dollars in your operations.

In surveying this heating problem, we must all keep in mind that heat is power and that power fabricates the armaments needed for victory.

Birdsill Holly

(Continued from page 12)

sate meter. To assist the teachers in the Washburn Street School to warm coffee, soup and food he designed a steam stove. He is said to have made in his lifetime over 150 inventions.

The equipment sold by the Holly Steam Combination Company, Ltd. was manufactured at first by local shops. The Company confined its activities to operating the system in Lockport and installing District Steam

about the country. The cost of having equipment manufactured by others soon made it advisable for the company to manufacture its own products. A shop was acquired and as the business grew, additional space or new buildings were added. The Company changed its name to The American District Steam Company. In 1894 Mr. Holly died a comparatively poor man in spite of the many inventions he had given to the world.

* Data for this article has been assembled from information in various issues of the ADSCO "Advocate" of the American District Steam Company. The picture of Mr. Holly appearing on the front cover was obtained thru the kindness of members of Mr. Holly's family, who loaned the original for reproduction and of Mr. W. A. Schulmeister and Mr. Charles E. Murphy of the American District Steam Company, which had the reproduction made for NDHA.

Executive Committee Meets

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WAR SERVICE COMMITTEE—

Chairman L. S. Phillips

A policy of waiting was adopted until such time as it can be determined definitely in what way services can best be rendered.

Note: There have been considerable changes

in the personnel of committees as reported in the July Bulletin. These changes will be verified and reported in the January Bulletin.

**NOW IS THE TIME TO MAKE A GOOD
START ON YOUR COMMITTEE WORK
FOR THIS YEAR**