

The XXth Century Heating & Ventilating Co.

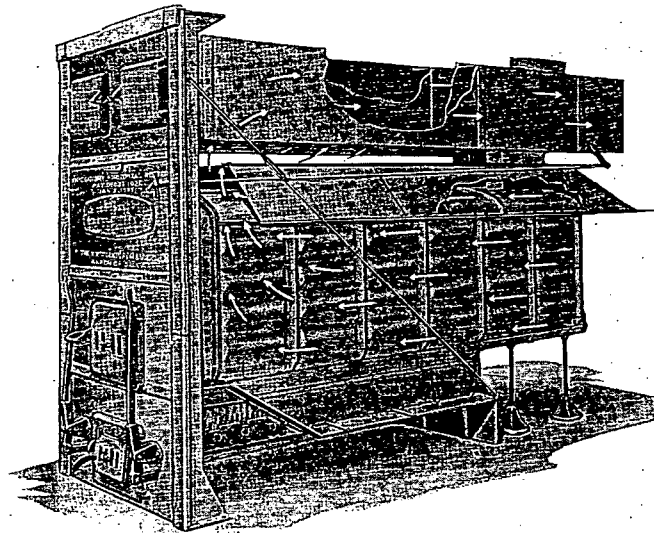
General Office and Factory

Akron, Ohio

Manufacturers of Warm Air Furnaces, Steam and Hot Water Boilers

The Horizontal Flow Heater is a new design in warm air furnace construction especially effective when used with fan system for heating schools, churches and large public buildings.

Manufactured in five sizes for ordinary service but can be installed in battery with as many units as may be required for special cases.



The Horizontal Flow Heater
Pat. Dec. 13, 1921—Jan. 23, 1923

We will furnish estimates on your requirements upon receipt of plans and specifications.

We also manufacture a full line of both hard and soft coal furnaces for residence heating.

Catalogs and descriptive matter will be gladly furnished upon application.

AEROFIN CORPORATION

750 Frelinghuysen Avenue

Newark, N.J.

L. C. SOULE, Sec'y and Chief Engineer

Manufacturers of

AEROFIN

Fan System Heating and Cooling Surface

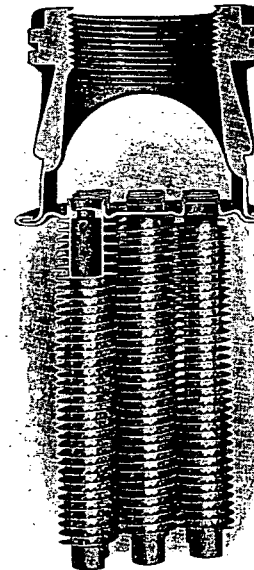
AEROFIN is a new, but proved, surface for the heating or cooling of air and is the final development of investigation and experimentation extending over a period of eight years. Actual commercial installations of AEROFIN have been in operation for more than two years. AEROFIN is therefore a proved product approved by leading engineers everywhere.

AEROFIN (except the galvanized casing) is constructed entirely of brass and copper. The heat-transmitting surface itself consists of straight, seamless copper tubes about which is wound a helical extended surface, in the form of a crimped brass ribbon. Only the inner edge of the ribbon is crimped, the crimping reducing the internal diameter of the helix to the outside diameter of the tube. Thus the linear contact between the tube and the extended surface is equal to the total length of the outer edge of the ribbon. The ribbon is mechanically soldered to the tube as it is wound in place and the ample metallic union so effected, together with the rapidity of heat conduction through copper and brass (more than twice the rate through cast iron) make the extended surface fully as effective as prime surface. It is therefore feasible to make the extended surface 80 per cent of the total heating surface, thereby effecting remarkable lightness in weight, and great compactness.

The completed tubes with their extended surface are mechanically forced into pressed brass tube plates. The holes in the tube plate are made slightly smaller than the tubes, insuring a tight force-fit, and each tube is expanded into the plates. About each hole in the tube plate there is formed a deep recess and "collar," making the tube joint flexible and allowing for expansion and contraction without danger of developing leaks. In addition, the whole tube plate is flexible. Severest tests, units being subjected to 20 lb. pressure and 20 in. vacuum in quick alternation, have proved that AEROFIN will withstand the hardest service, such as on-and-off automatic control.

The tube plate is roll-seamed to the pressed brass header and the entire core—tubes, tube plate, and headers—is solder-bathed. AEROFIN is guaranteed for steam or liquid pressures up to 50 lb. and for any vacuum.

Inside the end of each tube at the supply end there is pressed an orifice ring which restricts the entrance to the tube and sets up a slight differential between the steam (or water) pressure in the supply header and that in the tubes. This accomplishes absolutely uniform distribution of the heating medium throughout every tube, without any short-circuiting, and not only insures the maximum possible heat transmission from



Section thru Header, Tapping Hub, Tube Plate and Tubes, showing construction of Aerofin. See text.