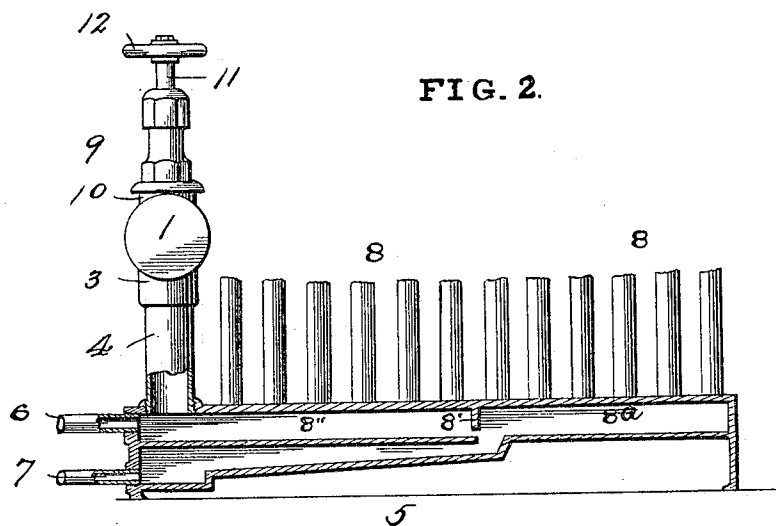
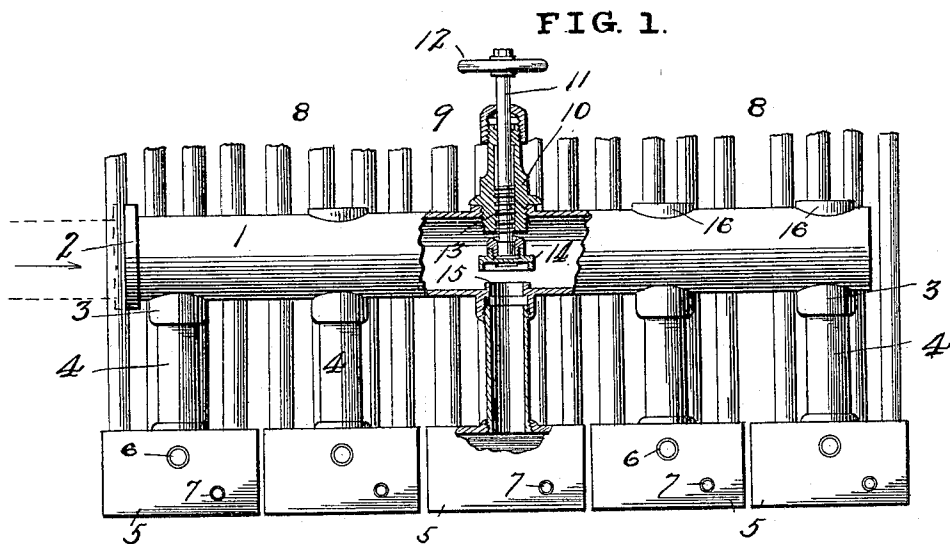


No. 819,911.

PATENTED MAY 8, 1906.

J. D. McEACHREN.
STEAM HEATER.

APPLICATION FILED JUNE 7, 1904.



John D McEachren

INVENTOR

WITNESSES:

Chas. H. Davis.

W. E. Moore

BY  MOORE

Attorney

UNITED STATES PATENT OFFICE.

JOHN D. McEACHREN, OF GALT, CANADA.

STEAM-HEATER.

No. 819,911.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed June 7, 1904. Serial No. 211,500.

To all whom it may concern:

Be it known that I, JOHN D. McEACHREN, a subject of the King of England, residing at Galt, in the Province of Ontario and Dominion of Canada, have invented new and useful Improvements in Steam-Heaters, of which the following is a specification.

My invention relates to improvements in headers for heating systems, and particularly to improvements in headers or manifolds for admitting steam, hot water, or other fluids to coils or radiators of heating systems.

The object of the invention is the provision of a heating system made up of sections or heaters which may be grouped together and inclosed in some kind of a fireproof covering, a fan or other propeller being used either to exhaust or force air through said sections, where it is heated and convey the heated air to more or less distant places where it is desirable to use heated air for heating, drying, ventilating, &c.; but such sections are also frequently used for cooling air, in which case they are filled with cold water, salt brine, ammonia, &c., and the cooled air being conveyed by fan or natural draft to the desired points after being passed through the sections.

The invention consists in certain novel features, combinations, and arrangements of parts and constructions as herein embodied, particularly pointed out in the claim, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a header and an end elevation of the sections of a heater assembled and connected together by this header, parts being broken away to show the interior. Fig. 2 is an end elevation of the header and longitudinal cross-section of such heater-sections as illustrated in Fig. 1.

In the drawings, 1 indicates a header which is a casting of any desired length having the flange 2 at one end, to which the entrance or supply pipe may be secured. Said header is also provided with sleeves, as 3, having screw-threads therein to which are attached or screwed the pipes 4, which connect said header with the heater-sections 5, as clearly illustrated at the central broken-away portion of Fig. 1. Each section 5 is provided with openings 6 and 7, opening 6 being an additional inlet for another kind of fluid. The openings 7, with pipes connected thereto, are for the discharge of condensed steam, return-water, or other fluids which

may be used. These openings may also be connected together by a similar header, as 1, so as to discharge through one outlet.

Pipes 8, connected to the top of the sections, are entered into the sections at each side of the partition 8' and provide communication between the chambers 8'' and 8^a of the section, as more fully illustrated in my application Serial No. 211,501, filed of even date herewith. Steam or other heating fluid is admitted to the header 1 by supply-pipes or pipe fastened to the flange 2 at the end of the header or at any convenient point. The valve 9 is fastened into the header 1. This valve consists of a body 10, a spindle 11, a hand-wheel 12, a screw 13, a disk 14, and a seat 15. There may be as many valves in the header as there are sections to the heater, or some sections may be supplied with valves, while others have none. As shown in Fig. 1, the header is provided with openings 16, which may be covered with caps, in which openings the valves may be located. The header at the extreme left has no provision for a valve, there being a valve provided in the supply-pipe leading to the header, and when this is open at least one section will be filled with fluid which it conveys, while all the other sections or any number of them may be shut off by means of the valves 9, which should be provided for as many sections as are desirable to use live steam in one or more sections and exhaust in all or part of the others. In such a case as many sections as would be desired for live steam might be connected together by a similar header with inlets at 6, admitting live steam at one or more inlets, as may be desired. The outlets 7 discharge condensed steam or other fluid and may be assembled in a similar manner, discharging the condensed exhaust steam in one direction and condensed live steam in the opposite direction simply by means of opening or closing valves.

While I have described my invention in connection with a heating system, it will be understood that I contemplate using the system for cooling air, as before mentioned, by cold water, salt-brine, ammonia, &c.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination of a plurality of rectangular base-sections with a header located above said sections, vertical pipes supporting the header and forming communication be-

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tween said header and sections, a plurality
of pipes conveying fluids to one point of dis-
charge connected to said sections, valve-
seats in the upper ends of the vertical pipes,
5 and valves projecting through said header
for controlling the flow of fluids through each
pipe.

In testimony whereof I affix my signature
in the presence of two witnesses.

JOHN D. McEACHREN.

Witnesses:

A. C. FERGUSON,
A. BROWN.