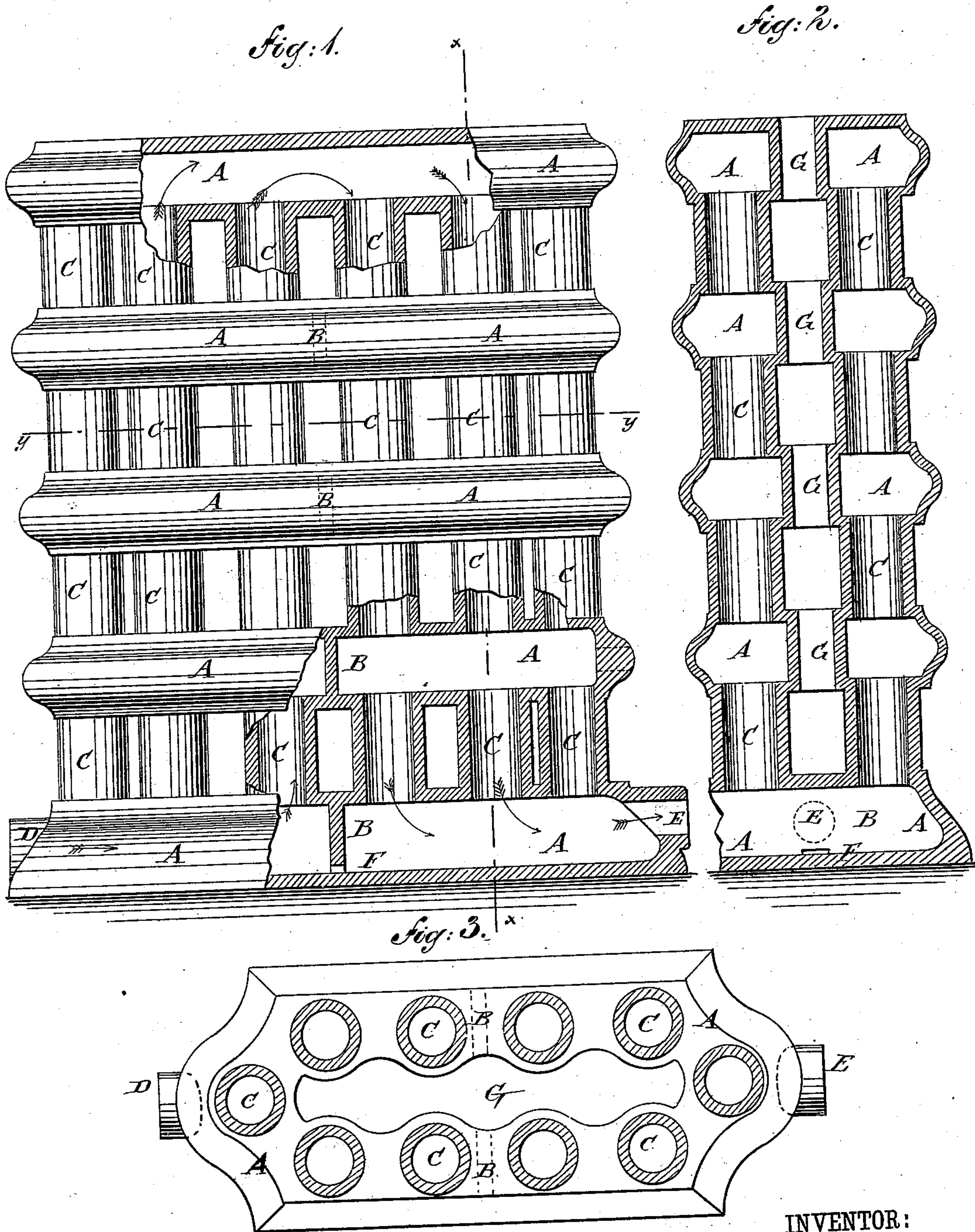


(No Model.)

L. G. GOLDSMITH & N. REED.
Steam Radiator.

No. 230,267.

Patented July 20, 1880.



WITNESSES:

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LEWIS G. GOLDSMITH AND NICHOLAS REED, OF JERSEY CITY, N. J.

STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 230,267, dated July 20, 1880.

Application filed April 16, 1880. (No model.)

To all whom it may concern:

Be it known that we, LEWIS G. GOLDSMITH and NICHOLAS REED, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Steam-Radiators, of which the following is a specification.

Figure 1 is a side elevation, partly in section, of the improvement. Fig. 2 is a sectional end elevation taken through the line *x x*, Fig. 1. Fig. 3 is a sectional plan view taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish steam-radiators so constructed as to have a much larger radiating-surface than those constructed in the ordinary manner, and at the same time to induce a free circulation of air between and around their parts.

The invention consists in constructing a steam-radiator of a series of horizontal chambers having central cross-partitions, except the upper one, and openings through them, except the lower one, and a series of connecting-tubes, all cast in one piece, whereby a free circulation of steam is obtained through the radiator, and a free circulation of air around and between its various parts, as will be hereinafter fully described.

The radiator is formed of five, more or less, horizontal chambers, A, each of which, except the upper one, is divided into two parts by a cross-partition, B. The chambers A are connected by short upright tubes C, the ends of which open into the said chambers A, as shown in Figs. 1 and 2. The lowest chamber A has an inlet-opening, D, at one end, through which the steam is introduced, and an outlet-opening, E, at the other end, through which the steam escapes.

In the lower part of the partition B of the lowest chamber A is formed an opening, F,

through which the water of condensation from the inlet part of the radiator may flow into the outlet part, and flow out through the outlet-opening E. The lower side of the outlet-opening E should be a little above the top of the opening F, so that the said opening F will be always covered with water to prevent steam from passing through it. Through the middle part of all the chambers A except the lowest one is formed an opening, G, through which the heated air will rise, so as to induce a circulation of air around the tubes C, and thus greatly increase the heating qualities of the radiator.

The radiator is all cast in one piece, so that there will be no joints to make tight and no fitting to be done in putting up the said radiators, thus making them less expensive in manufacture and less liable to get out of order than radiators constructed in the usual manner.

With this construction the steam enters through the opening D, passes up through the first or inlet half of the radiator to the upper chamber, then down through the other or outlet half of the radiator, and passes out through the opening E.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

A steam-radiator constructed substantially as herein shown and described, consisting of the chambers A, having partitions B and openings G, and the tubes C, all cast in one piece, whereby a free circulation of steam is obtained through the radiator and a free circulation of air around it, as set forth.

LEWIS G. GOLDSMITH.
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Witnesses:

JAMES T. GRAHAM,
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