

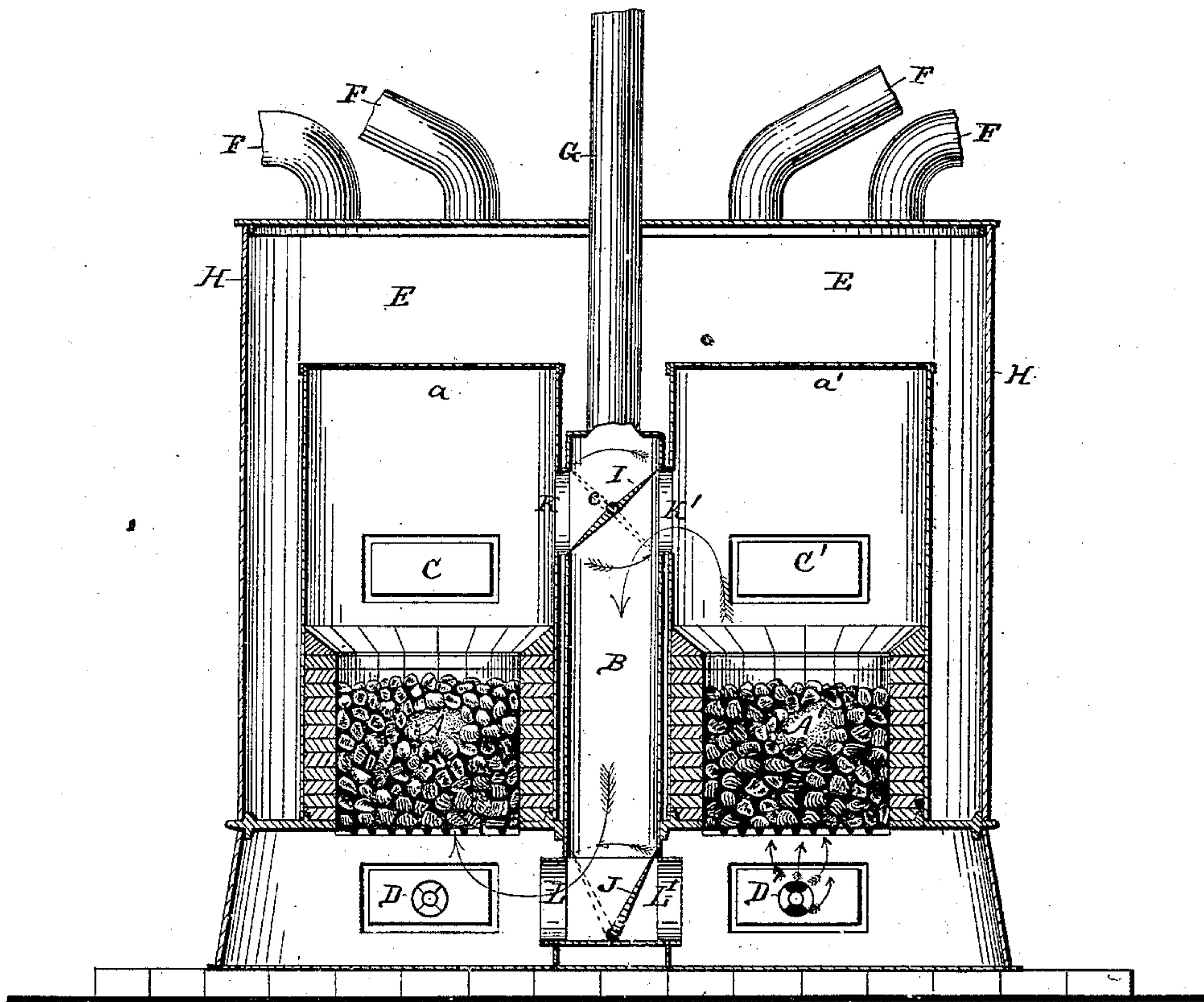
(No Model.)

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FURNACE.

No. 299,881.

Patented June 3, 1884.



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UNITED STATES PATENT OFFICE.

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FURNACE.

SPECIFICATION forming part of Letters Patent No. 299,881, dated June 3, 1884.

Application filed August 6, 1883. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. TOPLIFF, EDWARD S. CROSS, WILLIAM S. COX, and JOHN A. McCOLLUM, of Elyria, in the county of Lorain and State of Ohio, have invented a new and useful Improvement in Furnaces, of which the following is a specification.

Our invention relates to that class of furnaces used for heating houses; and it has for its object to provide means whereby the full value of the fuel shall be utilized, and smoke and foul gas to a great extent prevented in burning coal.

To this end our invention consists in a certain combination and arrangement of furnaces, flues, and dampers, hereinafter fully described and claimed, reference being had to the accompanying drawing, which is a transverse vertical section, part in elevation, looking toward the inner side of the front of our furnace.

A A' represent two furnace fire-pots, made, in any usual manner, into adjacent furnace-shells *a a'*. Around these furnaces the usual casing, H, is placed, forming the heat-chamber E, from which pipes F conduct heat to various parts of the house.

C C' are the furnace-doors, and D D' are dampers to the ash-pit. G is the smoke-flue leading to the chimney. B is a draft-flue connecting the two furnaces by passages K K', leading into their combustion-chambers, and by passages L L', leading into their ash-pits.

I is a damper pivoted at *c*, and adapted to stand diagonally across the draft-flue in either direction, in order that direct communication between either of the furnaces and the discharge-flue I may be interrupted or opened at will.

J is a damper adapted to close either one of the openings L or L'.

The operation is as follows: First make a fire in one of the furnaces—say A—allowing draft to enter by the ash-pit damper D. When the coal is well coked and the fire burns freely, make a fire in furnace A', turning dampers I and J, as shown in the drawing, and closing

the damper D, to force all the air furnished to furnace A to be drawn in at damper D'; thence through the freshly-started fire in furnace A'; thence down through flue B and inlet L. When it is necessary to replenish the fires, coal will be added first to furnace A, which has been longest burning, and the dampers all reversed to force the draft in at D, up through fire-pot A, down flue B, through passage L', and up through the fire in pot A'. By this means we are able to consume all the smoke after the first fire is started by passing it through a mass of burning coal. We thus save all the smoke and waste gases, which usually pass directly up chimney, prevent fouling the air, and utilize said smoke and gases for heating purposes.

We are aware that two furnaces or stoves have been connected together by separate flues, each leading from the combustion-chamber of one furnace to the ash-pit of the other, thereby oppositely connecting the two furnaces, and that a chimney has been connected with the combustion-chambers of two such furnaces; but such is not our invention, and we do not claim it. In our invention there is one flue common to two furnaces leading to the chimney. Four openings—one above and one below each fire-grate—lead into this common flue and into the chimney.

What we claim as our invention, and wish to secure by Letters Patent, is—

The combination, with two stoves or furnaces and a chimney, of a single flue provided with separate openings connecting with each of said stoves above and below their fire-grates and with said chimney, and dampers therein, substantially as described.

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Witnesses:
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