

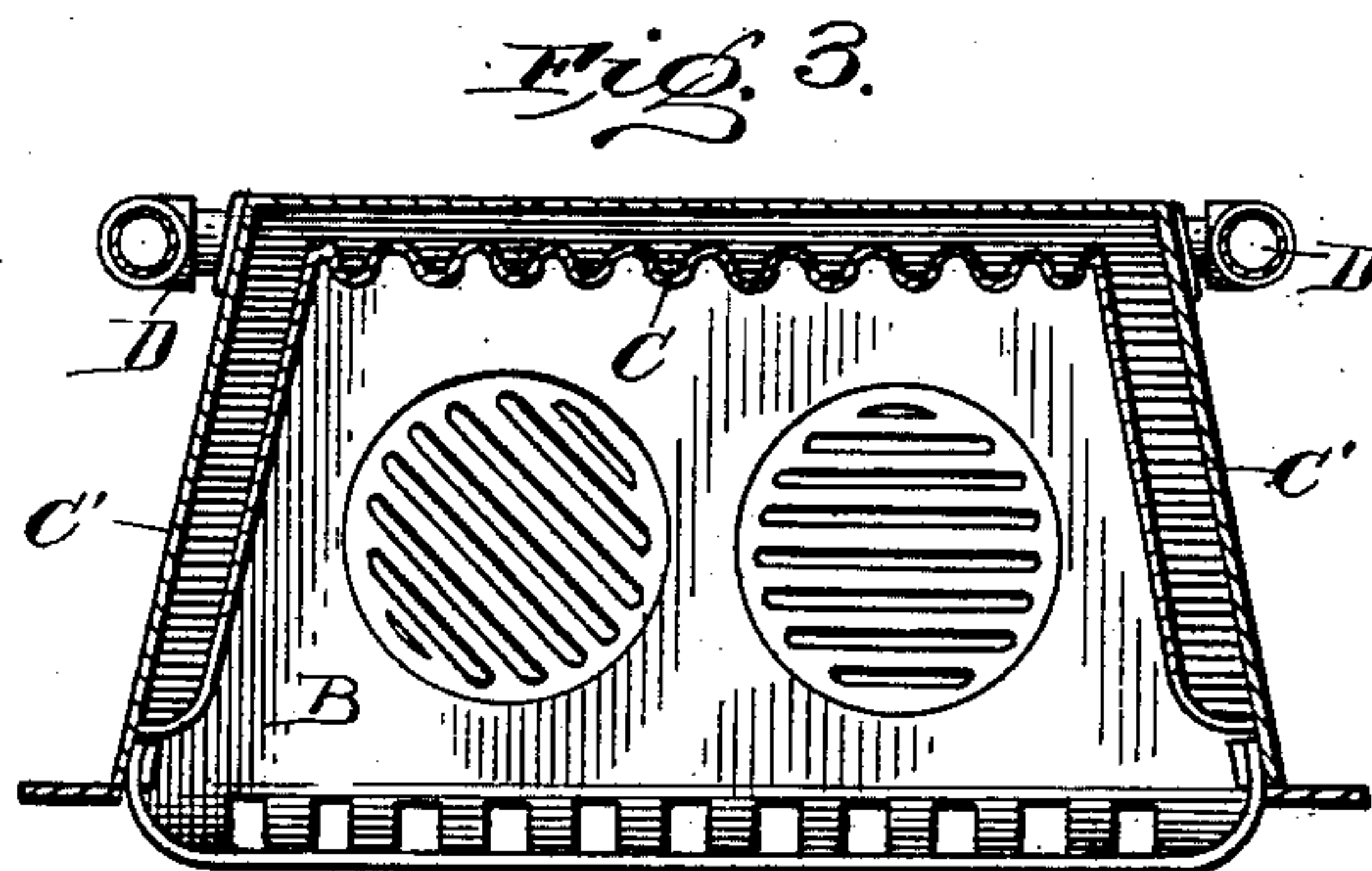
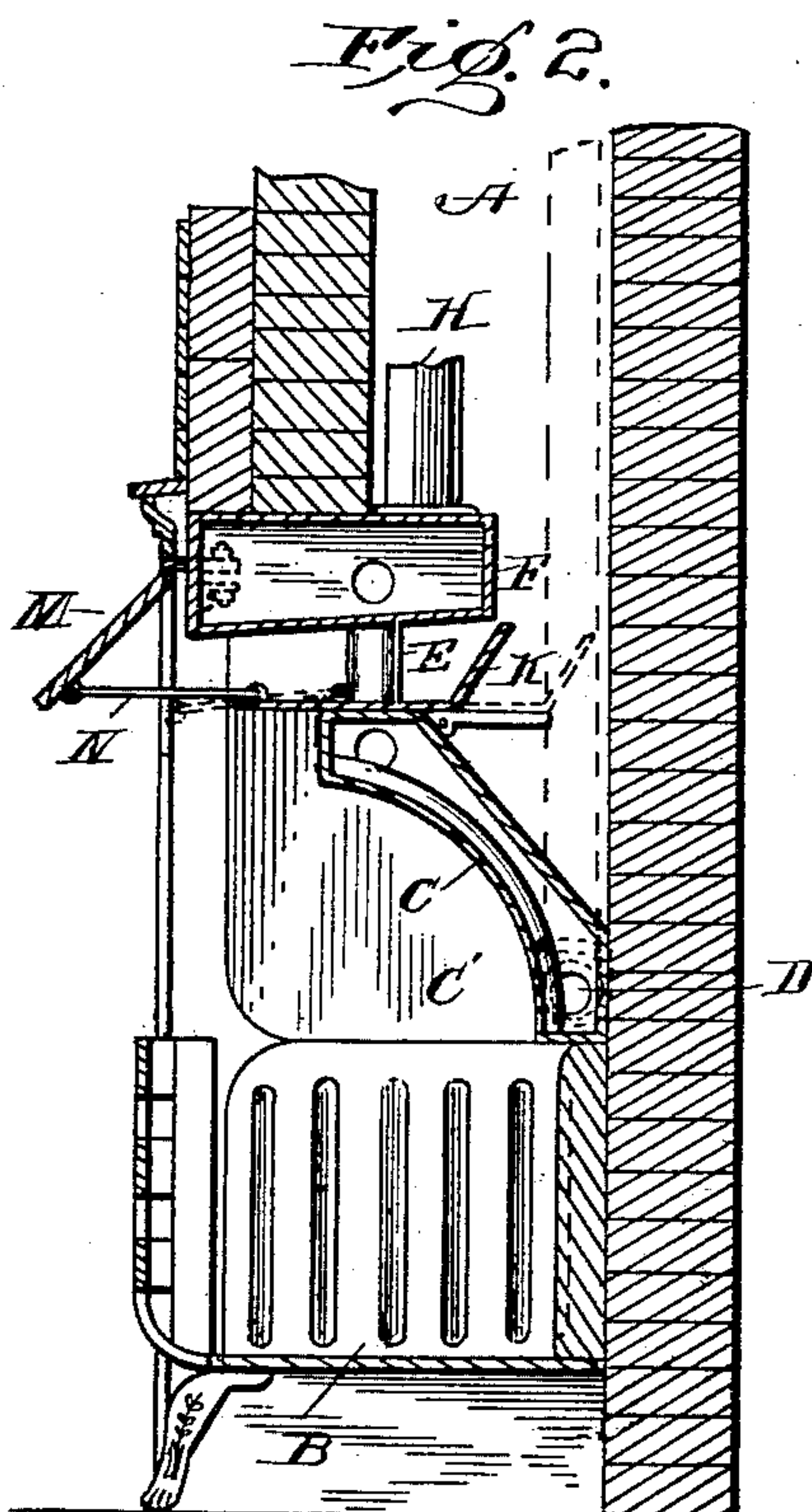
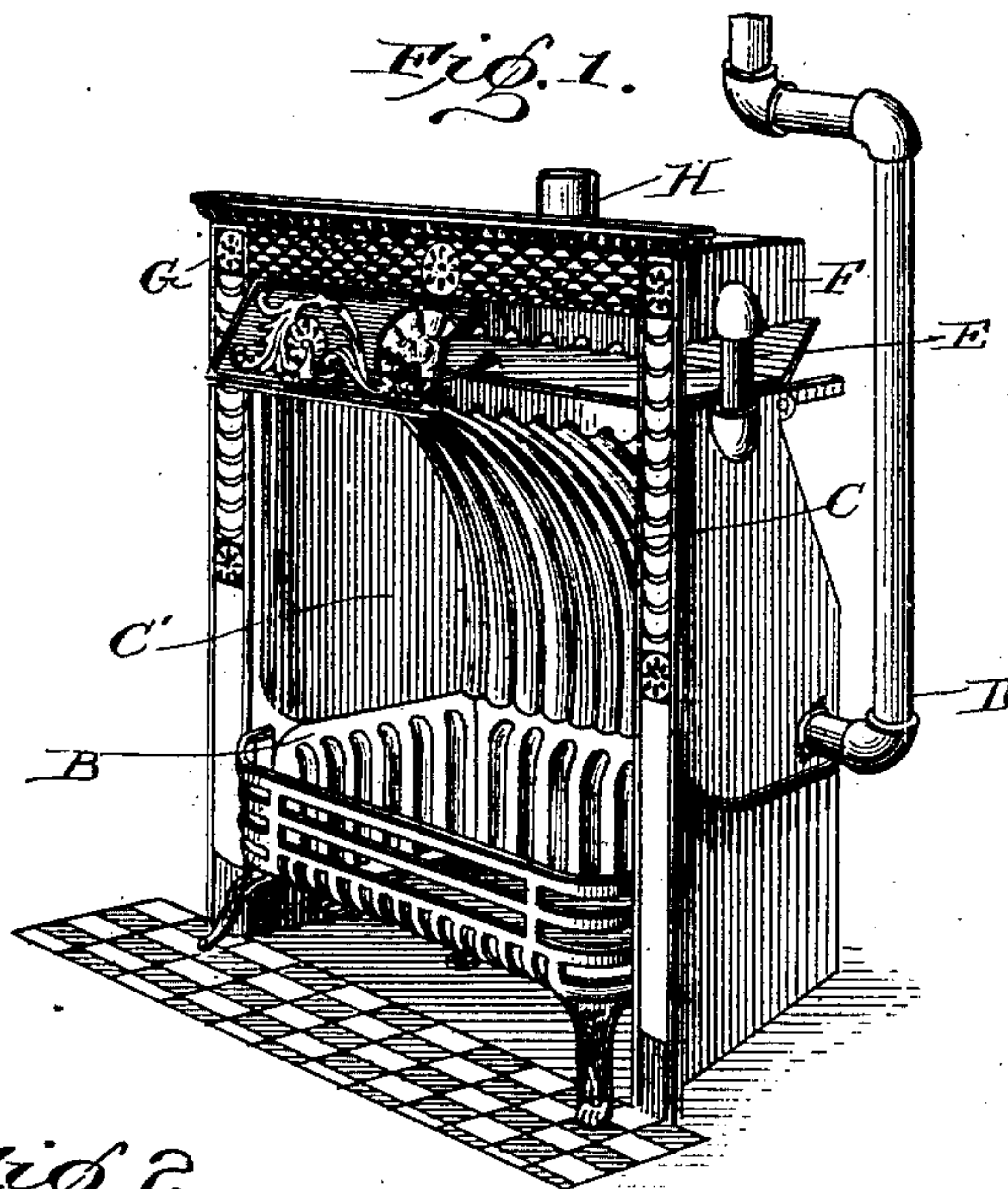
No. 677,542.

Patented July 2, 1901.

J. H. HEITLAND.
FIREPLACE HEATER.

(Application filed Nov. 9, 1900.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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FIREPLACE-HEATER.

SPECIFICATION forming part of Letters Patent No. 677,542, dated July 2, 1901.

Application filed November 9, 1900. Serial No. 35,934. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HEITLAND, a citizen of the United States, residing at Quincy, in the county of Adams, State of Illinois, have invented certain new and useful Improvements in Fireplace-Heaters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in that class of heaters adapted for heating more than one apartment by means of an open fire or fireplace located in one apartment, the invention being more particularly applicable to heaters adapted to heat or keep in circulation a body of water through the medium of which the heat is distributed from one apartment to the other or to different parts of a large apartment, the objects of the invention being to produce a simple and highly-efficient structure wherein practically all of the units of heat may be absorbed before the gaseous products of combustion are allowed to escape up the flue.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now particularly described, and pointed out in the appended claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of a fireplace-heater embodying my present improvements, portions being broken away to show underlying parts. Fig. 2 is a vertical section through the same, taken on a plane from front to rear. Fig. 3 is a horizontal section taken in a plane near the bottom of the water-back and above the fire-tile or fuel-basket.

Like letters of reference in the several figures indicate the same parts.

In said drawings, Fig. 2, the letter A indicates a chimney having the usual uptake or flue therein terminating at the bottom in a fireplace-space in which the usual fire-tile or fuel-basket B is located and adapted for the reception of the body of the fuel constituting the fire. This fuel-basket may be of any usual or preferred construction, and I have illus-

trated a conventional form for the sake of convenience.

The heat-distributing and draft-controlling mechanisms wherein the present invention resides are located above and around the fuel-basket, and the arrangement is such that in the preferred construction said parts may be assembled in a single structure adapted to fit in the fireplace-opening and to have attached thereto the water-pipe constructions, as will be hereinafter described.

Immediately above the fuel-basket there is located what I shall herein term a "water-back" C, having side portions C' which extend forwardly, while the back proper is curved upwardly and forwardly from the upper rear edge of the basket and is preferably corrugated, as shown clearly in Fig. 1. This water-back is preferably a hollow casing and is adapted to form a deflecting-surface against which the rising products of combustion and heated air are deflected toward the front of the fireplace and around over the upper edge of which said products must pass on their way to the flue or uptake. It is adapted at the bottom for the connection of a return or cold-water pipe D and at the top two side pipe connections E are provided, which connect with and support a water-box F. Said water-box F may be a rectangular structure located above the water-back with a sufficient space between the two to constitute the flue or passage-way for the heated air and products of combustion, the front of the water-box extending forward beyond the upper end of the water-back and preferably extending to the front of the fireplace, leaving, however, sufficient space for the application of the usual front frame, such as indicated in Fig. 1 at G. The under face of the water-box is corrugated transversely or in the direction of flow of the products of combustion and heated air, and on the upper side of said water-box the outgoing water-pipe H is attached in any suitable manner, the two pipes D and H running off to the circulating system or connecting with the radiators for heating distant portions of the apartment or other apartments, as will be readily understood.

In order to regulate effectually the draft

from the fuel-basket to the uptake or flue and make provision for retaining the heated products in contact with the water-back and water-box a sufficient length of time to obtain the most efficient results, I provide on top of the water-back a sliding L-shaped damper K, the upwardly-extending or L portion thereof being adapted to move forward, so as to more or less close the space between the water-back and water-box and the forwardly-extending portion or body of the damper being adapted to constitute the support for the L portion thereof and also as a ready means for the attachment of the connection for operating the damper. At the front of the fireplace and depending from the front of the water-box is a hood or check M, hinged at its upper edge and adapted to swing from a pendulous vertical position outwardly into a more or less inclined position, and thereby admit a greater or less quantity of air into the flue above the fuel-basket and so check or increase the draft as occasion requires. In accordance with the present invention this check or hood is connected with the damper K by a link N, whereby said check or hood and damper are caused to move in unison, and inasmuch as the effect of moving the check or hood outwardly and drawing the damper forwardly to cut off the flue are somewhat similar the ultimate effect is cumulative, and a more perfect control of the fire and passage of the products of combustion up the flue is secured. It will be noted that as the check or hood M is swung upward or opened the body portion of the damper K will be caused to extend more or less beyond the top of the water-back C, and thus it will constitute a deflector, whereby the draft will be thrown more or less to the front and will cut it off more or less through the fuel-basket. It will be understood, of course, that the corrugations in the bottom of the water-box provide a sufficient opening for maintaining the draft to prevent the escape of gases into the apartment even though the damper be drawn forward to the position indicated in full lines in Fig. 2, and when said damper is moved backwardly and the check or hood swung down to the position indicated in dotted lines in said figure not only will the flue be opened to its widest extent, but by cutting off the influx of air above the fuel-basket the draft through said fuel-basket is enhanced and the combustion made more rapid. With such an arrangement it is found that highly-economical results are obtained, for with a single fireplace-heater of this character several apartments may be kept at a uniform temperature in all save the coldest weather and at the same time by coupling the check or hood and damper together the regulation of

the fire is made extremely simple and easily understood by even the most unskilled or ordinary help.

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

1. In an open-front fireplace-heater, the combination with the fire-tile, forwardly-curved back above said tile, substantially horizontal flue above said back and box above the flue, of a damper in said flue, a hood pendulously mounted in front of said flue and a link connection between said hood and damper whereby when the hood is moved outwardly the damper will be closed and the passage of the heated products beneath the box retarded; substantially as described.

2. In an open-front fireplace-heater the combination with the fire-tile, the water-back having forwardly-extending sides and forwardly-curved rear portion located above said tile and terminating in a substantially horizontal top, the water-box located above the water-back and connected therewith by circulating-pipes and forming between said box and back a substantially horizontal flue, of a damper located in said flue, a hood pendulously supported in front of the water-box and a link connection between said hood and damper whereby when the hood is swung outwardly the damper will be closed and the passage of products of combustion over the water-back and under the box retarded; substantially as described.

3. In a fireplace-heater the combination with the fire-tile, water-back and water-box located above said back and having a corrugated under surface with circulating-pipes connecting said box and back, of a damper having an upwardly-extending L-shaped portion adapted to close the space between the box and back while allowing the products of combustion to pass through the valleys of the corrugations, a hood pendulously supported in front of the water-box and means for operating said hood and damper to check or promote the draft; substantially as described.

4. In a fireplace-heater, the combination with the fire-tile, water-back and water-box located above said back, of a damper having an upwardly-extending L-shaped portion adapted to close the space between the box and back, and the body portion of which constitutes a deflector for directing the draft toward the front, a hood pendulously supported in front of the fire-box and means for operating said hood and damper to check or promote the draft; substantially as described.

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