

**Fireplace.**

Patented May 14, 1861.

Fig. 2

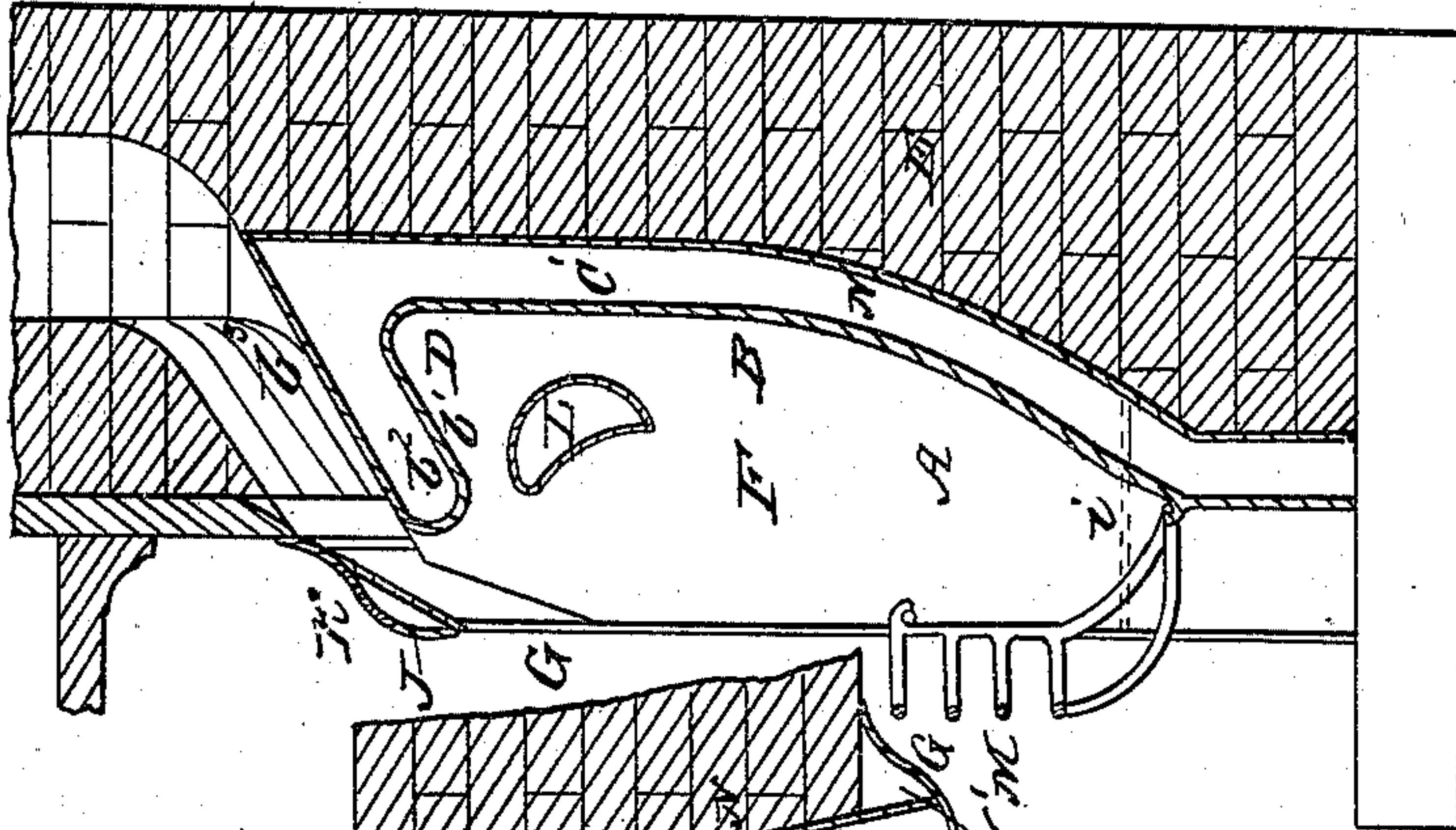


Fig. 3

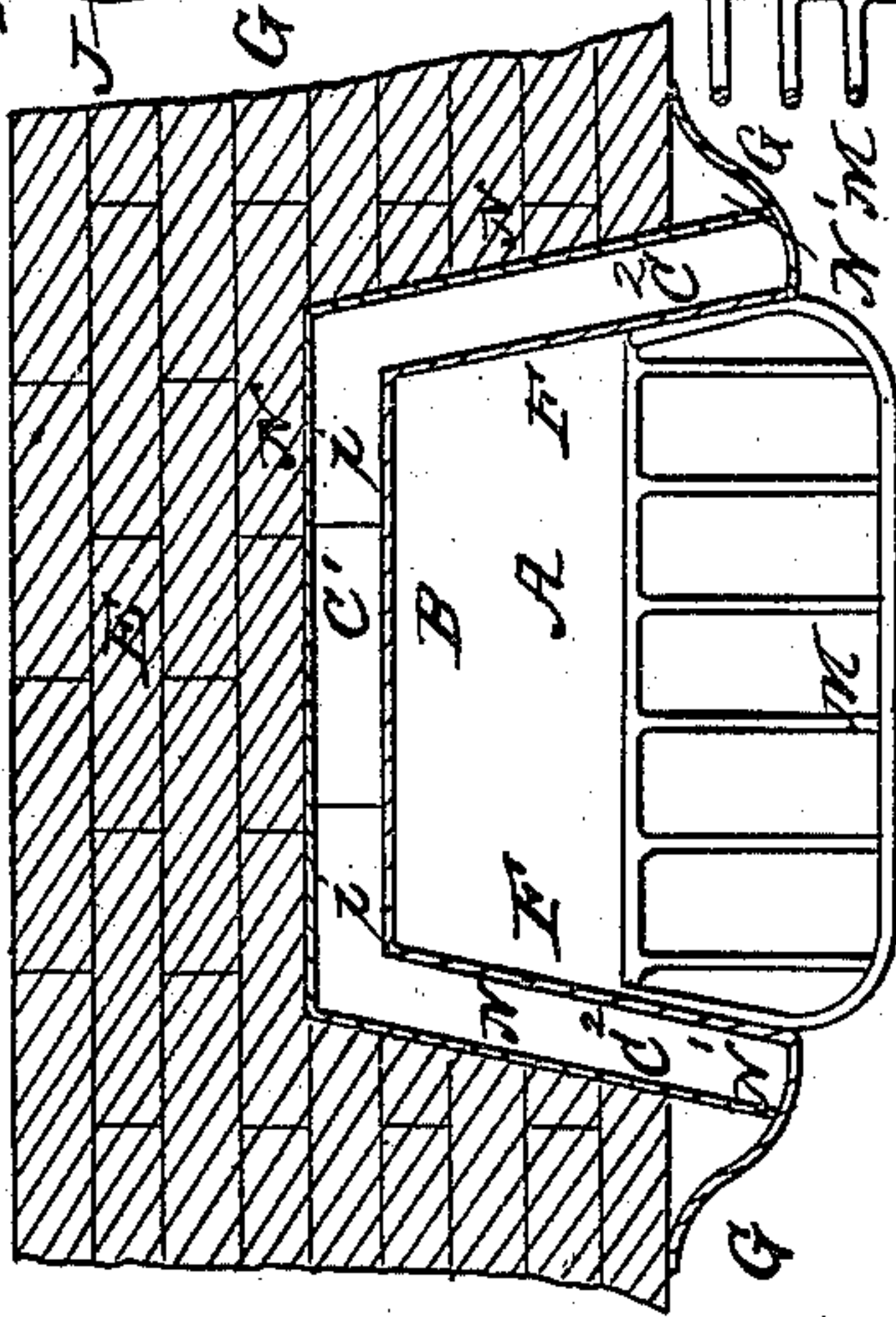
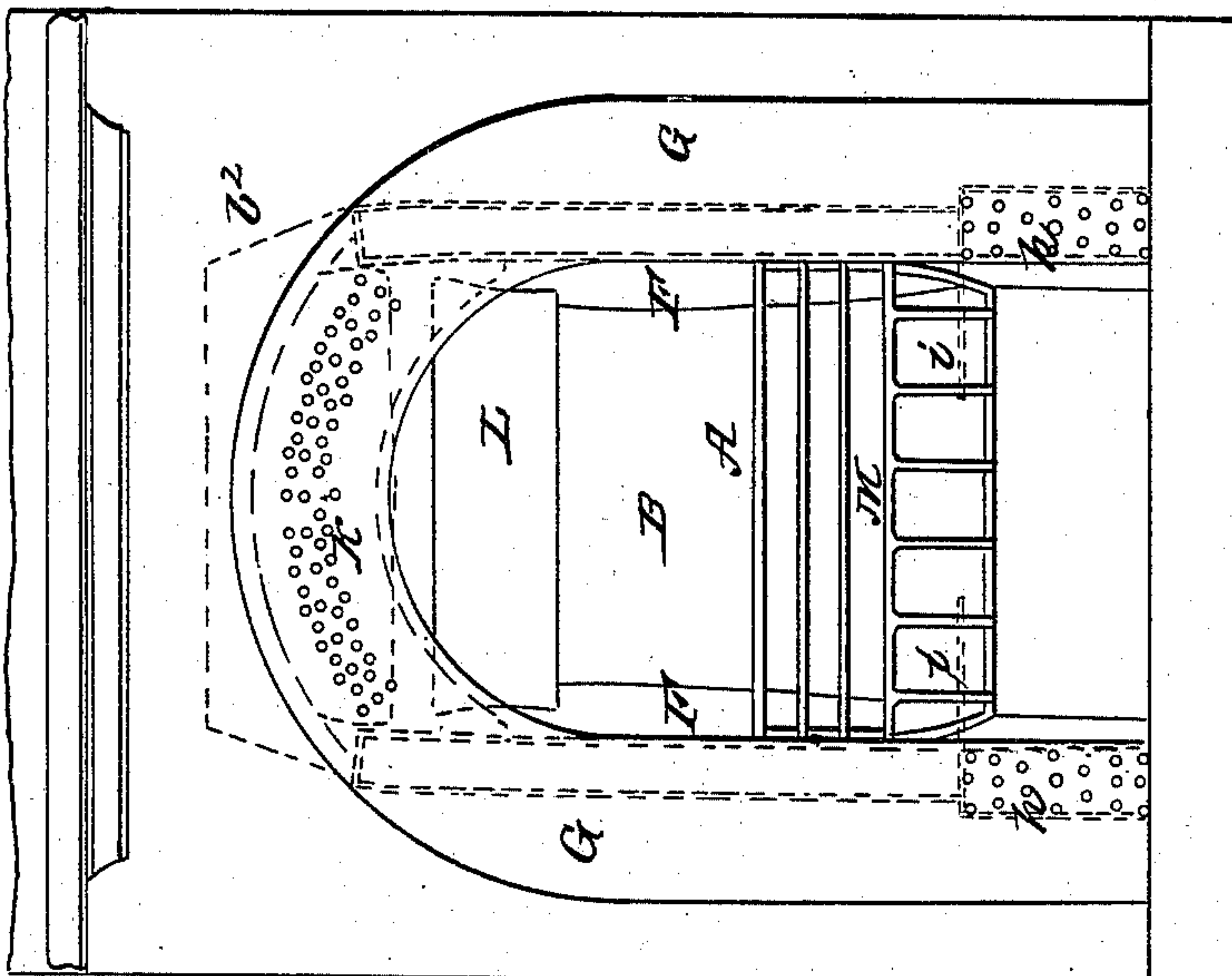


Fig.



Witnesses  
Jann Groome  
W. H. Forbush

Inventor  
John S. Gausman  
Charles F. Cook



# UNITED STATES PATENT OFFICE.

J. S. GAUSON AND C. T. COIT, OF BUFFALO, NEW YORK.

## FIREPLACE.

Specification of Letters Patent No. 32,283, dated May 14, 1861.

*To all whom it may concern:*

Be it known that we, JOHN S. GAUSON and CHARLES T. COIT, of the city of Buffalo, county of Erie, and State of New York, have invented certain new and useful Improvements in Fireplaces and Air-Chambers in Connection Therewith; and we do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings and the letters of reference marked thereon.

The nature of our invention relates, 1st, to the peculiar construction and configuration of the fire back as hereinafter set forth. 2d. In the construction of a jacket made of tin or other material of good heat reflecting qualities and used in combination with said fire back for the purposes herein described. 3d. In the relative arrangement of air chambers as described. 4th. In the construction and arrangement of a crescent or other shaped tube placed horizontally across the fire chamber in combination with a recess in the fire chamber.

Figure I is a front elevation of our improved fire place. Fig. II is a vertical section of same. Fig. III is a cross section.

Letters of like name and kind refer to like parts in each of the figures.

A is the fire chamber, which from the peculiar construction of the fire back is higher and more concave than in common fire places.

B represents the fire back which we make of cast iron. It is so constructed as to extend upward and above the mouth of the chimney, and then downward and forward as represented at  $b'$ , so as to form the recess D, above the mouth of the chimney. It then makes a semicircular bend as shown at  $b^2$ , and then recedes again upwardly, as represented at  $b^3$ , so as to form the top and bottom of the air chamber  $c$ . This part  $b^3$  projects far enough over the side plates F and back plate to form a top or cover to the air chambers as shown by the dotted lines in Fig. I. This fire back may be cast in one piece as a whole, or it may be cast in two or more parts and then properly put together when the fire back is set into the chimney for use.

F represents side plates made of cast iron and used in connection with the fire back and form the side jambs of the fire place.

G, is the front plate also made of cast iron. Openings  $h$  are made through this plate

near the bottom which connect with the air passages formed by the horizontal partitions  $i$  for the purpose of conducting the cold air from the lower parts of the room into the air chamber  $c'$ . This plate is made curvilinear or with an outward swell, so as to afford space for the ingress of the cold air at  $h$ , and the egress of the heated air at  $k$ , a passage or chamber being also formed in rear of the top part of this plate and over the fire place as shown at J. This chamber or passageway communicates with the air chambers  $c'$ , so that there is a connection and communication between all of the air chambers.

L is a crescent or other shaped tube or air chamber placed horizontally across the fire chamber and secured to the side plates F, a short distance from the fire back and below the air chamber  $c$ . It opens into the side air chambers  $c^2$ . It adds to the heating capacity of the air chambers and insures a more perfect collection and combustion of the smoke and gases in the recess D.

E represents the brick work of the chimney—our improved fire place being placed therein; M, fire grate.

N represents a jacket made of tin or other polished metal having good heat reflecting qualities. It is placed in rear of the fire back and side plates and is connected therewith as shown at  $N'$   $N^2$  for the purpose of combining with the fire back to form the air chambers in the rear at the sides and over the fire chambers as represented. The smooth and polished surface of this jacket being a poor radiator of heat but possessing good reflecting properties it will reflect the heat back into the chamber and prevent it from passing through to be absorbed by the brick work. All (or nearly all) of the heat will therefore be retained within the chamber for heating the air therein which passes out through the appropriate openings  $k$  into the room.

The fire back when constructed as herein described and properly set in the chimney (among other purposes not mentioned) serves the following distinct purposes: 1st. The extension of the fire chamber upwardly so as to form the recess D, above or higher than the mouth of the chimney. 2d. The convenient formation of the top and bottom of the air chamber  $c$  directly over the fire. 3d. When properly placed for use it gives the proper form to the mouth and throat of the chimney so as to insure the



proper draft. 4th. It forms a top or cover to the air chambers  $c'$  and  $c^2$ , as described. 5th. In combination with the jacket N it is an essential device for the formation of the

5 air chambers  $c$ ,  $c'$  and  $c^2$ .

A fire place constructed (with air chambers) as herein described is ornamental, cheap, durable and may be put into old as well as new buildings and answers all the

10 purposes desired.

The cold air from the lower parts of the room passes through the openings  $h$  into the passage way formed by the horizontal partitions  $i$  and is thence conducted into the

15 chambers  $c$ ,  $c'$ ,  $c^2$ , where it becomes heated, and thence into the chamber or passage J, and through the openings K into the room.

We thus secure all the heat which is conducted through the fire back and side plates

20 for heating the air in the chambers; which heat is distributed through the room by the circulation of the air as described. We also secure all the advantages of radiated and reflected heat which can possibly accrue

25 from fire places of the best ordinary construction, and the combined advantages of fire place and furnace. The fuel (coal or

wood) burns clear and bright, the smoke and gases rise into the recess D, and are consumed, a complete combustion of the fuel is 30 obtained, all the heat therefrom is saved for warming purposes and a uniform and healthful temperature is produced in the room.

We claim—

1. So constructing the fire back B, as that 35 it will extend upward and above the mouth of the chimney and then downward and forward as shown at  $b'$  with semicircular bend  $b^2$ , receding again upwardly as shown at  $b^3$  for the purposes and substantially as 40 herein described.

2. Said fire back being constructed substantially as described, we claim in combination and arrangement therewith, the 45 jacket N, for the purposes set forth.

3. The combination of the tube or air chamber L with the recess D as and for the purposes set forth.

JOHN S. GAUSON.  
CHARLES T. COIT.

Witnesses:

JAMES SWEENEY,  
W. H. FORBUSH.