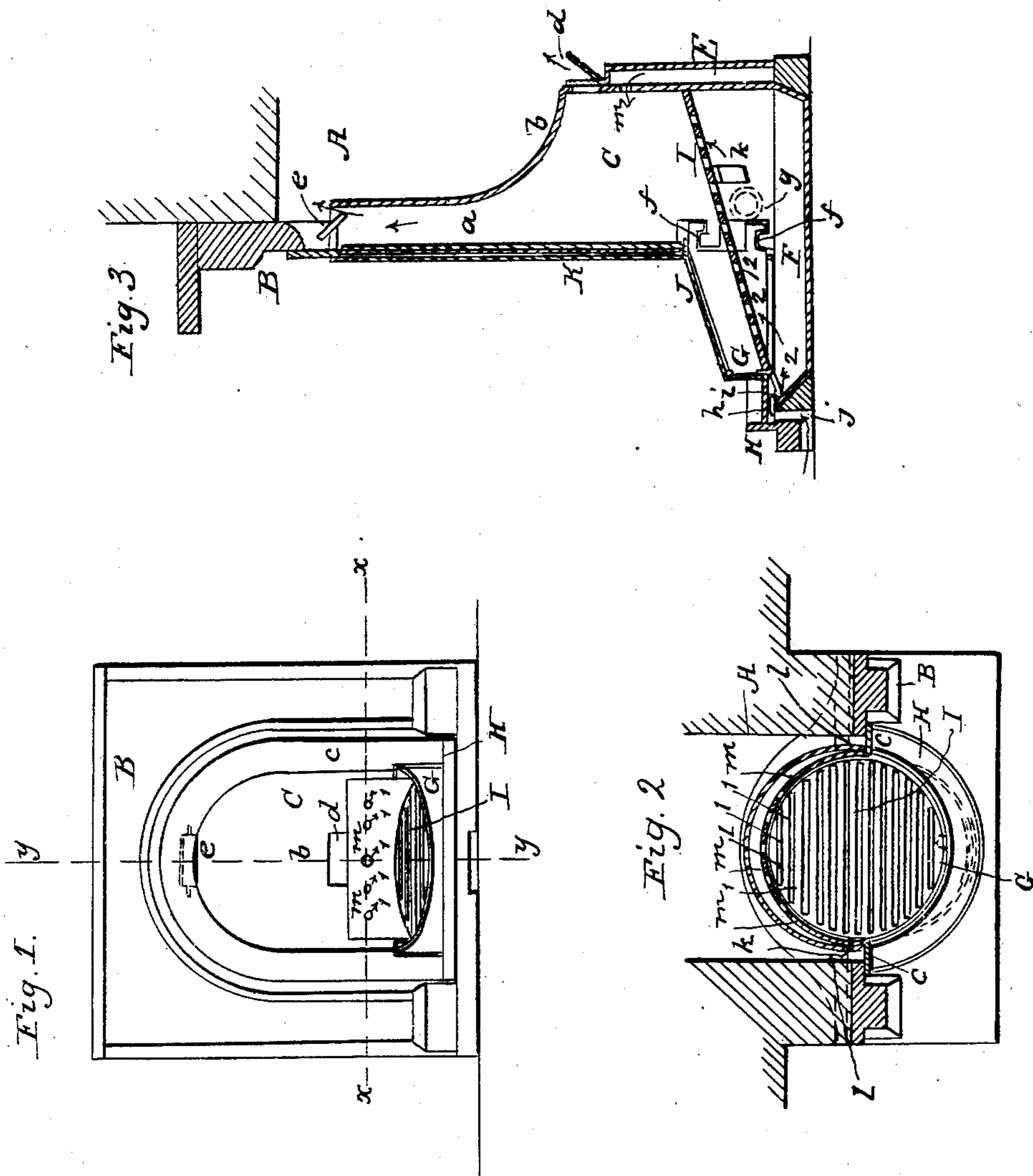


A. CARSON.

Fire Place.

No. 28,347.

Patented May 22, 1860.



Witnesses:
John Thompson
Charles Thompson

Inventor:
Alfred Carson

UNITED STATES PATENT OFFICE.

ALFRED CARSON, OF NEW YORK, N. Y.

FIREPLACE.

Specification of Letters Patent No. 28,347, dated May 22, 1860.

To all whom it may concern:

Be it known that I, ALFRED CARSON, of the city, county, and State of New York, have invented a new and Improved Fire-
5 place or Grate for Heating Apartments; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specifica-
10 tion, in which—

Figure 1, is a face or front view of my invention. Fig. 2 a horizontal section of the same taken in the line *x, x*, Fig. 1. Fig. 3 a vertical central section of the same taken
15 in the line *y, y*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obviate the difficulty hitherto attending open grates or fire-places for heating apartments, towit:
20 the escape of a large amount of heat up the chimney or flue the result being due to the encompassing of the back and sides of the fire-place or grate by the masonry of the
25 chimney and the consequent small area of heat-radiating surface exposed, together with the very direct communication of the fire with the chimney or flue.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents the lower part of a chimney or flue and B, the mantel.

C, is a fire place of cast-metal, the lower
35 part of which is of semi-cylindrical form and the upper part considerably contracted in depth so as to form a narrow passage *a*, into the flue A, the curved part *b*, of the fire place which contracts it at the upper
40 part serves as a deflecting plate to throw the heat outward into the apartment as will be fully understood by referring to Fig. 3. The fire place is cast with a flanch *c*, at its
45 front part which flanch laps over the edge of the mantel forming a finish to the same, as shown clearly in Fig. 1. At the back part of the lower portion of the fire chamber there is a narrow chamber E, the form of which is shown in Figs. 2 and 3. Directly
50 over the chamber E, there is a damper *d*, which, when open, forms a direct communication between the fire chamber and the flue as shown in Fig. 3. At the upper part of the passage *a*, there is a damper *e*, which is

also shown in Fig. 3. F, is the ash-pit which
55 is directly below the fire place C, and extends some distance out in front of it beyond the mantel. G, is a semi-cylindrical fender the ends of which are provided with hooks *f*, which fit in corresponding recesses
60 *g*, in the sides of the fire place as shown clearly in Fig. 3. This fender may have its upper edge inclined as shown clearly in Figs. 1 and 3, and it projects out in front of the fire place but not quite so far as the ash
65 pit F.

H is a hearth-plate which is fitted around the fender G, and covers the front part of the ash-pit. This hearth-plate is provided with a horizontal plate *h*, to admit of a
70 space or passage *i*, through which and a passage *j*, air may be admitted into the ash pit, see Fig. 3, the passage *j*, communicating with a pipe or passage which leads outside the apartment and supplies the ash-pit with
75 fresh or pure air.

I, is an inclined grate which is fitted in the fire chamber and extends down to the front and bottom part of the fender G. The grate I, is of circular form and rests
80 on ledges or supports *k*, and may be turned around to rid the fire place of ashes, the front part of the grate being provided with a pin which is accessible for the purpose of turning the grate by removing the hearth
85 piece H, see Fig. 3. The lower part of the chamber E, at each side communicates with the apartment by pipes *l*, as shown by the dotted lines in Fig. 2. The back of the fire chamber is perforated as shown at *m*, said
90 perforations being just above the grate I.

From the above description it will be seen that a very large grate I, is obtained, and consequently a large fire surface will be exposed and a large amount of heat radiated,
95 the inclination of the grate together with its exposed position, one-half of it being in front of the fire place, insuring such result. The cold air also being drawn from the apartment at the sides of the chimney or
100 flue, and passing through the chamber E, and ejected over the fire through the perforations *m'*, as shown by arrows 1, serves to equalize the temperature of the apartment, while the pure and fresh air from without
105 with which the fire is supplied as indicated by the red arrows 2, keeps the apartment supplied with pure warm air, the vitiated

air being allowed to escape by means of proper eduction openings in the apartment. In kindling the damper *d*, is opened and when the fire is underway the damper *d*, is closed and damper *e*, opened.

During summer or when a fire is not required the fender *G*, is covered by a semi-circular plate *J*, and a mirror *K*, or any suitable fire board having a proper ornamentation may be fitted in the front of the fire place, see blue lines in Fig. 3. In converting the fire place into a summer arrangement, it will be seen that the grate does not require to be removed nor any parts what-
15 ever belonging to the fire place.

The whole device is simple, economical and it is believed will obviate the objections

hitherto attending the open fire-places or grates fitted directly in chimneys.

I do not claim an air-heating chamber directly back of a fire-grate fitted in a chimney for that has been previously used, but:

I do claim as new and desire to secure by Letters Patent.

The arrangement of the inclined grate *I*, 25 fire place *C*, fender *G*, hearth plate *H*, and cold-air-passage *j*, with or without the air-heating passage *E*, substantially as and for the purpose set forth.

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Witnesses:

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