

(No Model.)

J. H. KEYSER.
STOVE.

No. 401,889.

Patented Apr. 23, 1889.

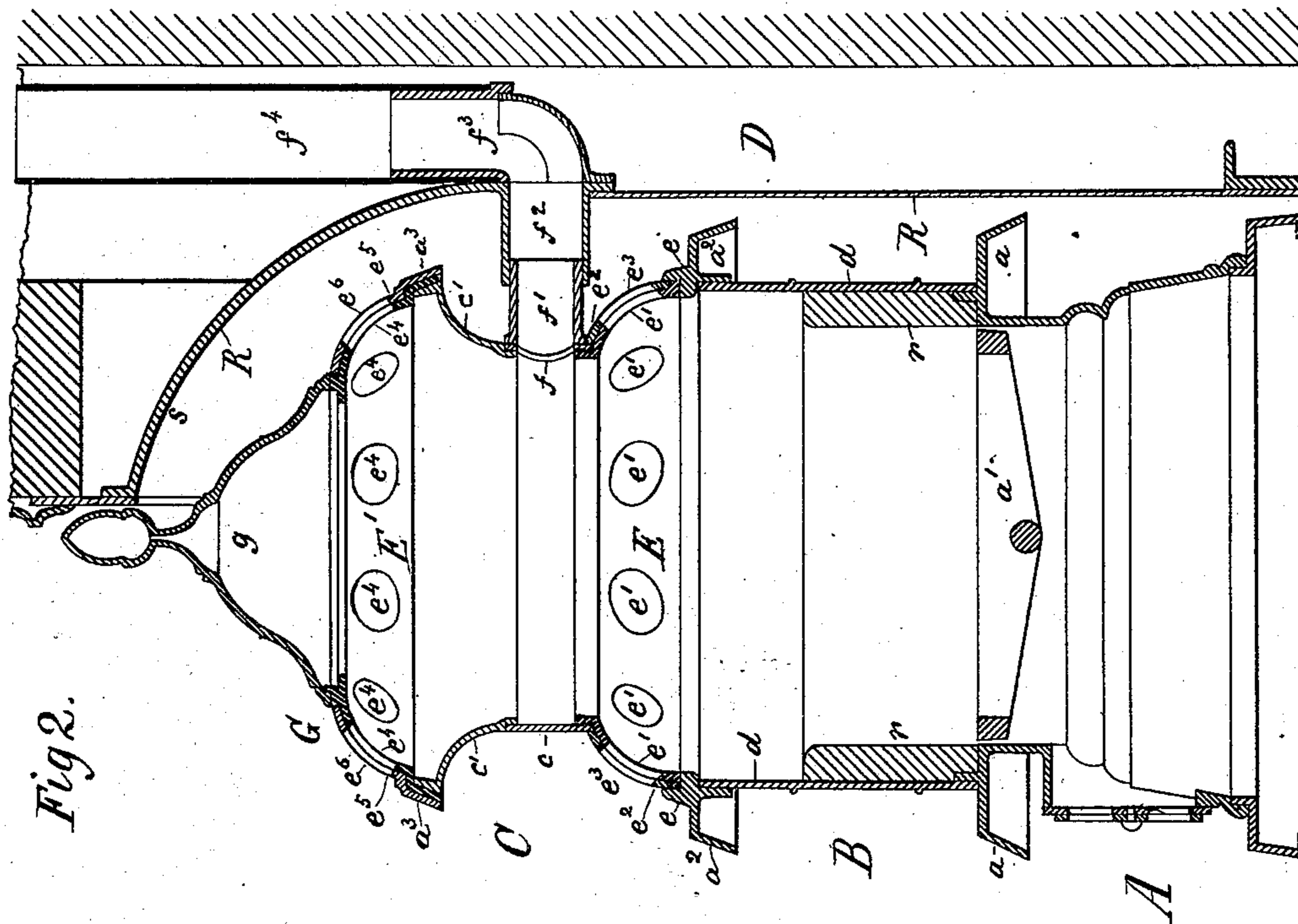


Fig 2.

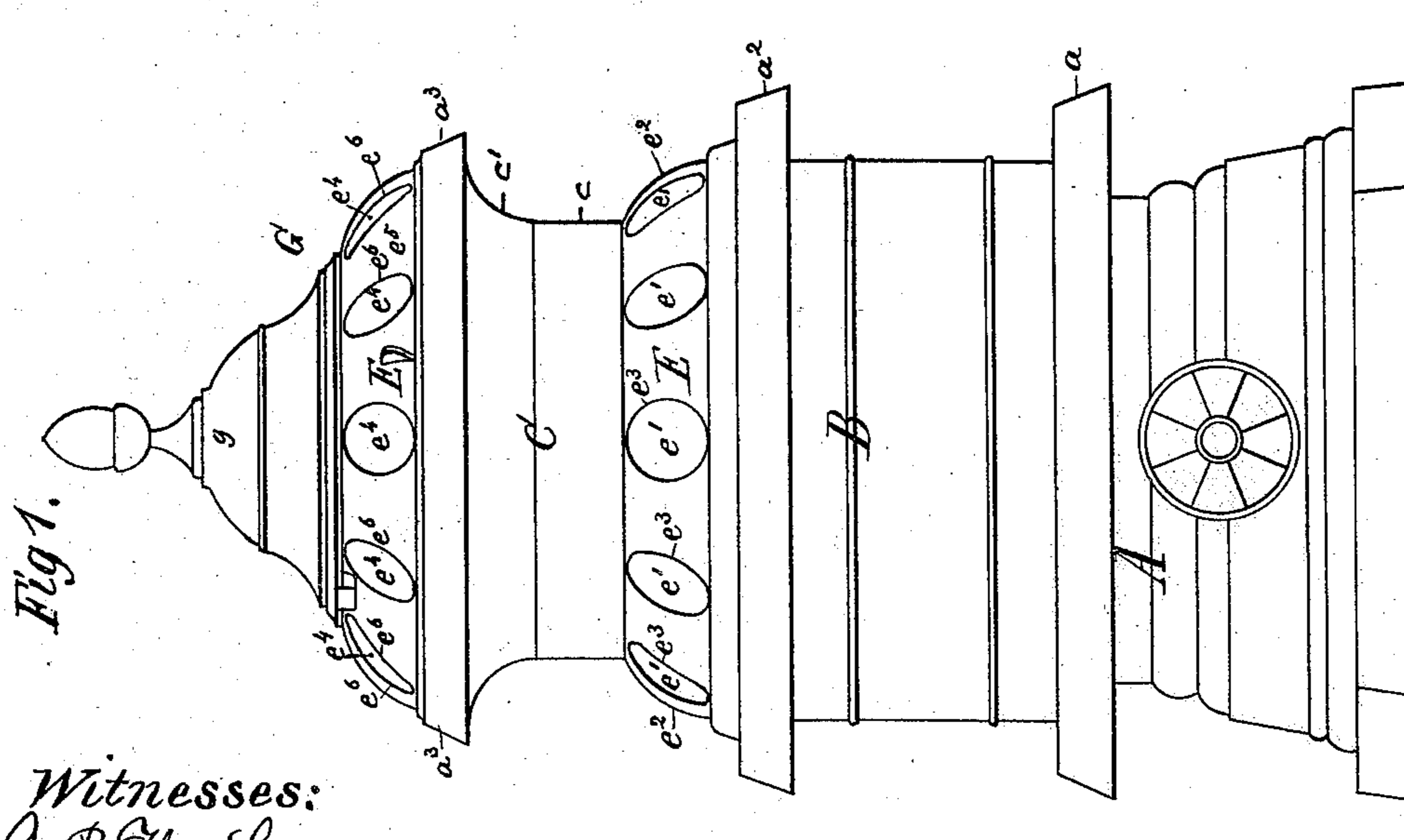


Fig 1.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN H. KEYSER, OF NEW YORK, N. Y.

STOVE.

SPECIFICATION forming part of Letters Patent No. 401,889, dated April 23, 1889.

Application filed November 23, 1888. Serial No. 291,690. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. KEYSER, a citizen of the United States, residing in the city, county, and State of New York, have invented
5 a new and useful improvement in stoves adapted for use in connection with a recessed or concave summer-piece for fire-places in rooms to be heated wherein the stoves are placed; and I do hereby declare the following
10 to be a full, clear, and exact description of the same, reference being had to the annexed drawings, wherein—

Figure 1 is a view in elevation of my improved stove, and Fig. 2 a central longitudinal vertical section showing its relation to
15 and adjustment within the recess or concavity of a "summer-piece" set in the fire-place of the room to be heated.

My invention relates specially to what is
20 known as a "low-down coal-stove," or a stove adapted in height and other dimensions for being set in the modern fire-place, in which the before-mentioned recessed fire-place summer-piece is set. This character of stove as
25 improved by me will comprise the usual cast-iron ash-pit section, A, and middle sheet-iron section, B, fitted to the foot-rest a and lined with fire-brick, r , and provided with a grate, a' , and adapted to serve as a fire-pot in which
30 the fuel is burned. This latter section is surmounted by an annular conical cast-iron ring, E, having properly-spaced air-supply and illuminating openings e' all around it, and is encircled by a draft-regulating ring, e , having
35 corresponding openings, e^8 , all around it, said ring fitting in a guide of the foot-rest a^2 of the ring E, as shown.

If desired the foot-rest a^2 and the ring E may be cast in one piece.

40 On the ring E is mounted an upwardly-flared top section, C, of sheet-iron, which is capped by a hollow conical cast-iron cap portion, G, comprising a ring, E' , having air-supplying and illuminating openings e^4 all around
45 it, which ring is encircled by a movable draft-regulating ring, e^5 , having openings e^6 corresponding to those e^4 all around it.

Above the openings of the ring E' the cap G is made to form an extension or top gas-chamber, and in the center of the top of the
50 casting a fuel-supply opening, covered by an urn, g , or other device, is provided. The cap

G below its openings spans the horizontal area of the entire sheet-iron body portion c of section C, and serves, in connection with
55 the space within the said body portion, as an upper gas reverberatory, combustion, and illumination chamber immediately between the perforated rings $E E'$, as well as above the ring E' . To accomplish the combustion of
60 the gases between two rings, $E E'$, the draft-exit f of the stove-pipe collar f' is located about midway between and in contiguity with the two series of draft-supply and illumination openings $e' e^4$ of the sections B and C, as
65 shown, so that the force of the up-chimney draft shall be sufficient at all times to prevent the escape of gas into the room through said openings when they are left fully open
70 and the pressure of rising gas is very great. The operation of the stove is similar to other
75 stoves which are supplied with air above the fuel and the starting-draft below the fuel is closed, this operation being the passage of the cold air through the openings $e' e^4$ down to
the fuel on the grate and the passage up of the hot air and gases to the exit-passage f .

The cap G may be made with a finishing-skirting, as a^3 , and the sheet-iron body portion may be bolted to an inner flange of the
80 cap, so as to have its upper edge covered by the skirting. The draft-regulating ring E' may also have a similar skirting and the same ride on the skirting a^3 . The stove thus constructed of a base, middle, and top section is
85 adapted to be included within the dimensions of the metallic concaved or recessed reflecting summer-piece R, Fig. 2, which is fitted to the fire-place opening of a modern chimney. The summer-piece R has a collar, f^2 , to receive the
90 collar f' of the stove. This summer-piece is made of metal, and may, if desired, be polished on its arched surface opposite the upper illumination-openings, so as to more effectually reflect the light and heat into the
95 room.

It will be seen from foregoing description that by providing the stove with the section C and combustion reverberatory cap section G and the air-supply and illumination open-
100 ings $e' e^4$ all around a high degree of heat will be secured at the top of the stove, and this heat, being radiated against the arching portion s of the summer-piece R, will be reflected

outwardly and downwardly into the room, and thus the available heat of the stove greatly magnified and made available for heating the room, and at the same time the illumination
 5 will also be increased, from the fact of the flame being exposed all around through the openings in the air-supply and draft-regulating rings of both sections B and C, and the light emitted through these openings thrown
 10 upon the concave reflecting-surface of the summer-piece and reflected into the room.

My stove as constructed is quickly heated, and is in many respects superior to known stoves of this class, and its main peculiarity
 15 of having the draft-exit between the two series of air-supply openings makes it possible to utilize the full draft of the stove for preventing the escape of gas at the openings e' e^4 of the rings E E' into the room, while at the
 20 same time the entire upper section, C, including the cap portion G of the stove, is made to become an illumination, reverberatory, and gas-combustion chamber in addition to the fuel-section B.

25 I claim—

1. The combination of the concave arching

summer-piece B and a single-cylinder fire-place coal-stove having only a direct-draft exit, f , and formed of sections A B C, sections B and C being each provided with a station- 30
 ary perforated draft-ring and with a sliding perforated downdraft register-ring, said rings being respectively below and above the draft-exit f' of the stove and all around sections B and C, and throwing light upon the curved 35
 surface of the said summer-piece and into the room, substantially as described.

2. A single-cylinder fire-place coal-stove, having only a direct-draft exit, f , and formed of sections A, B, and C, the sections B and C 40
 being provided each with a stationary perforated downdraft-ring and with a sliding perforated downdraft register-ring, said rings being respectively below and above the draft-exit f of the stove, and exposing the flame of 45
 both sections B and C, substantially as and for the purpose described.

JOHN H. KEYSER.

In presence of—

WILLIAM TURTON,
 WM. SHELLEY.