

(No Model.)

2 Sheets—Sheet 1.

A. GREENAWAY.

FRANKLIN STOVE AND FIRE GRATE.

No. 258,575.

Patented May 30, 1882.

Fig. 1.

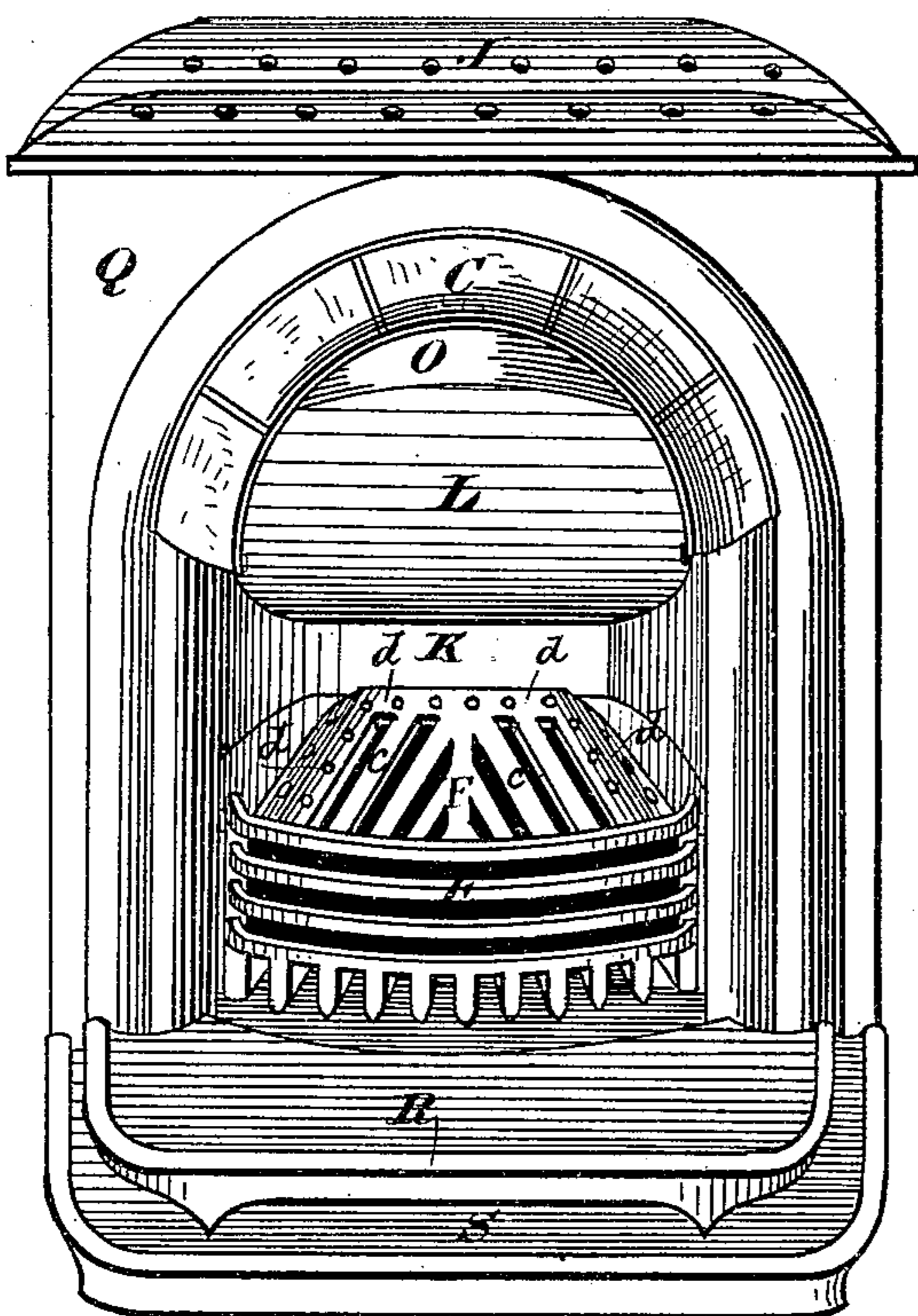


Fig. 2.

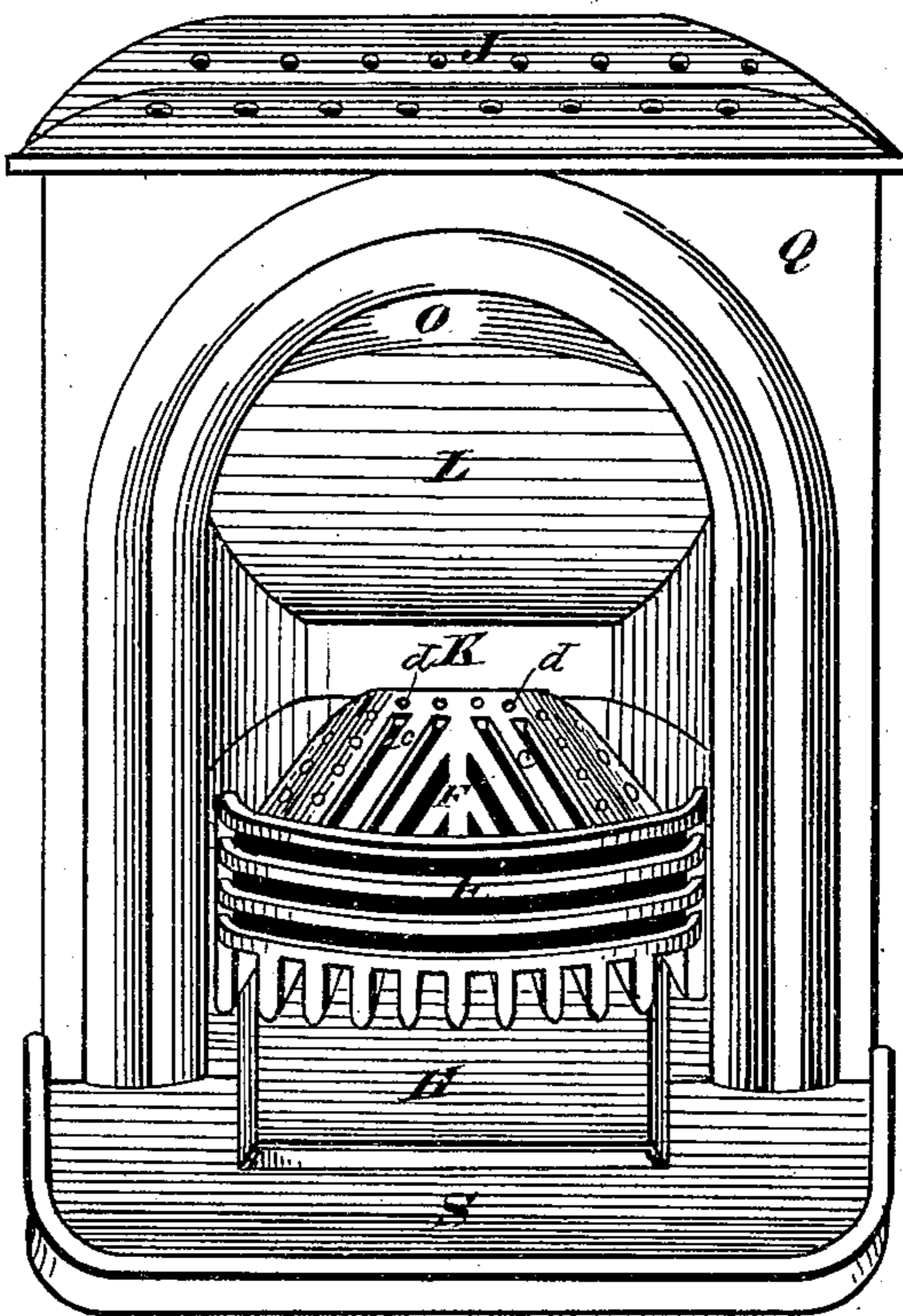
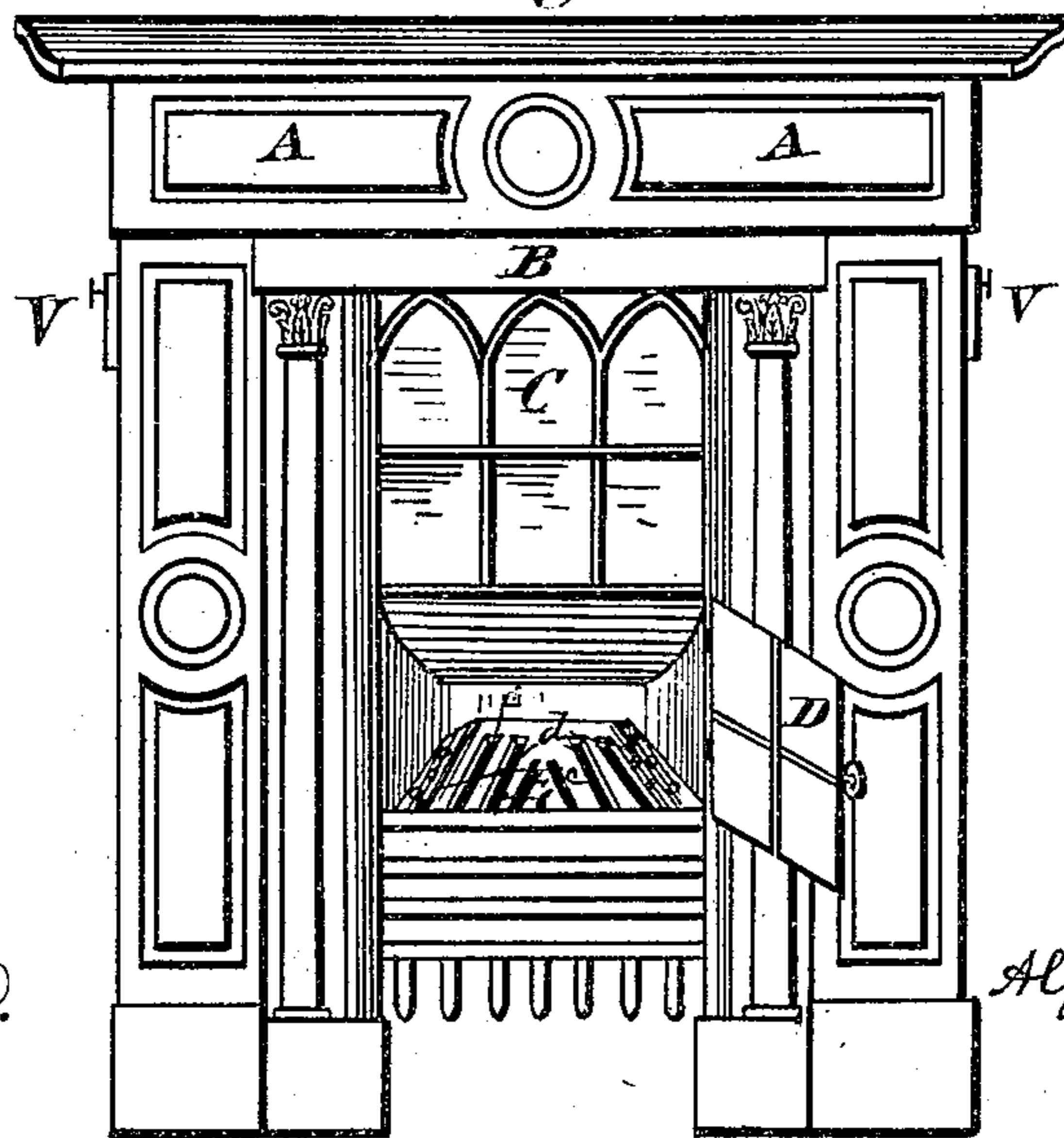


Fig. 5.



WITNESSES

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Fig. 3.

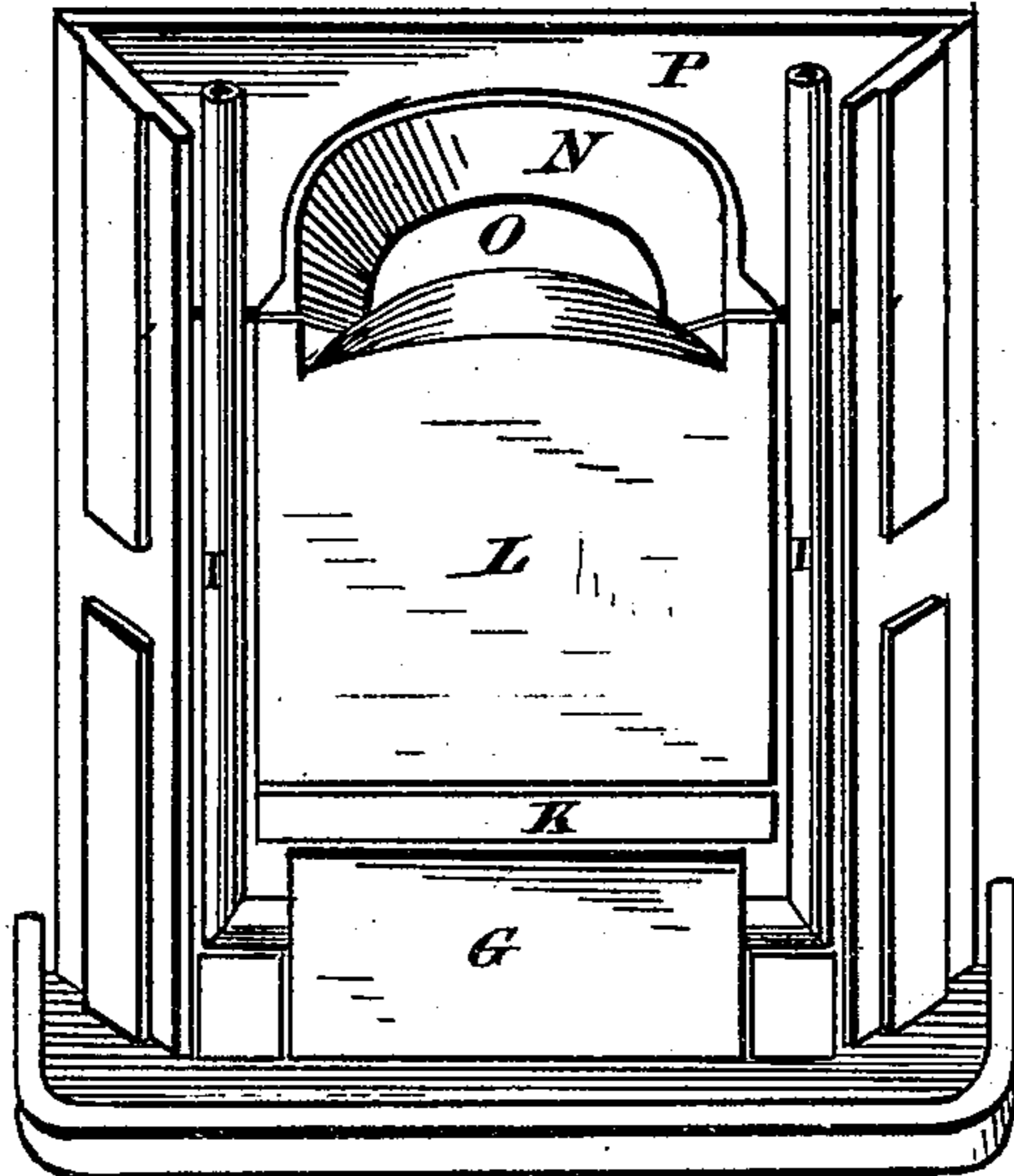


Fig. 4.

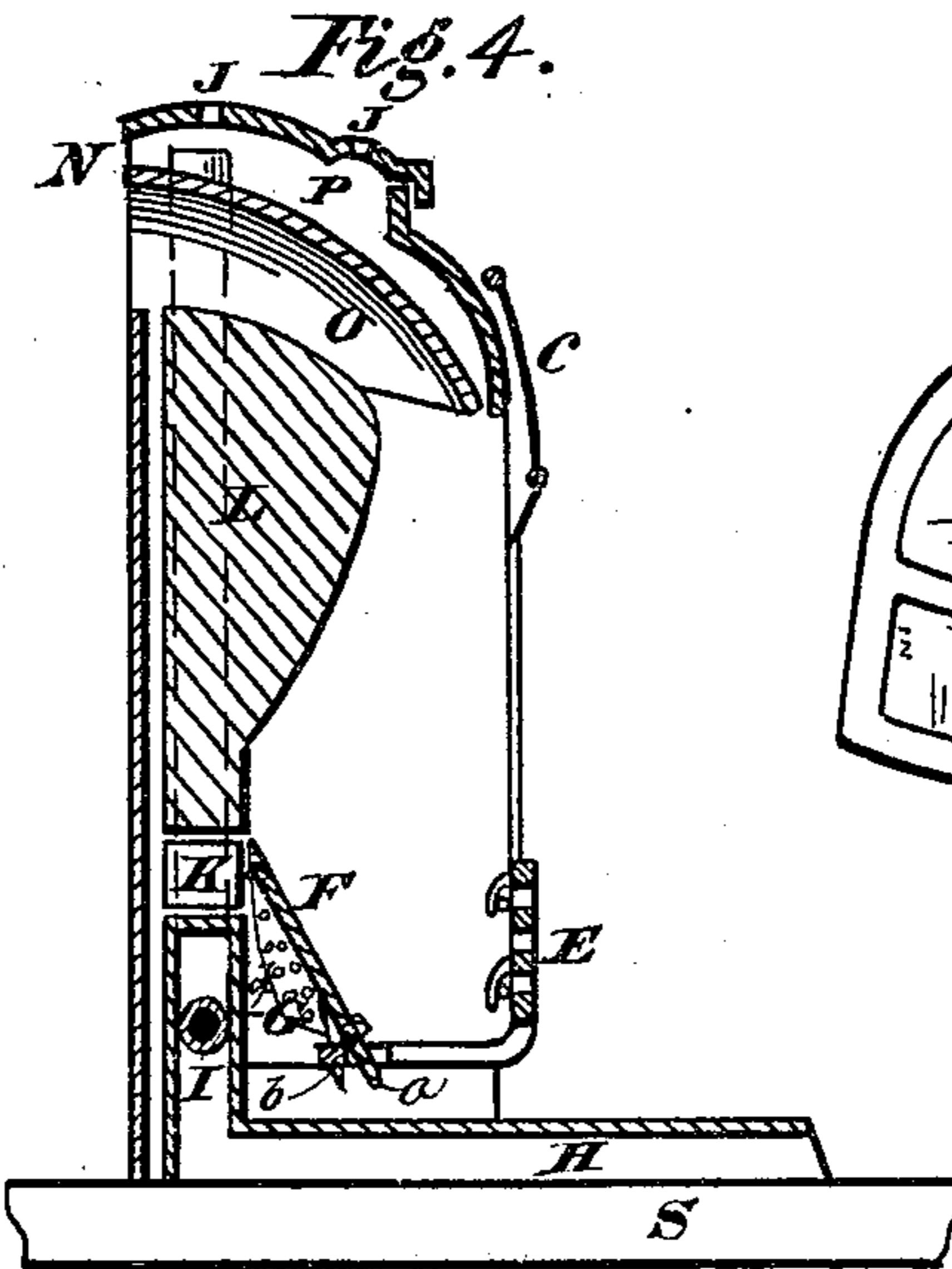
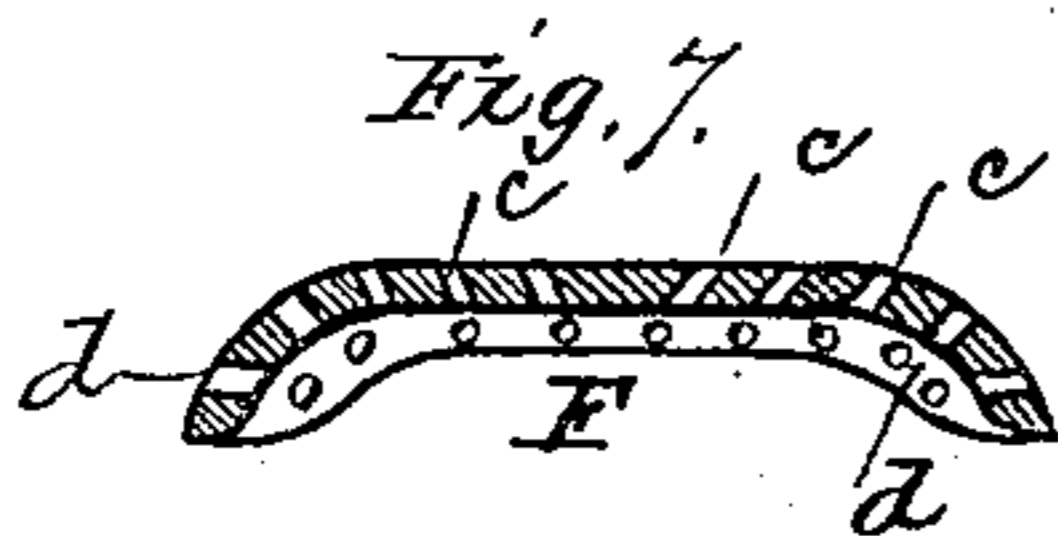
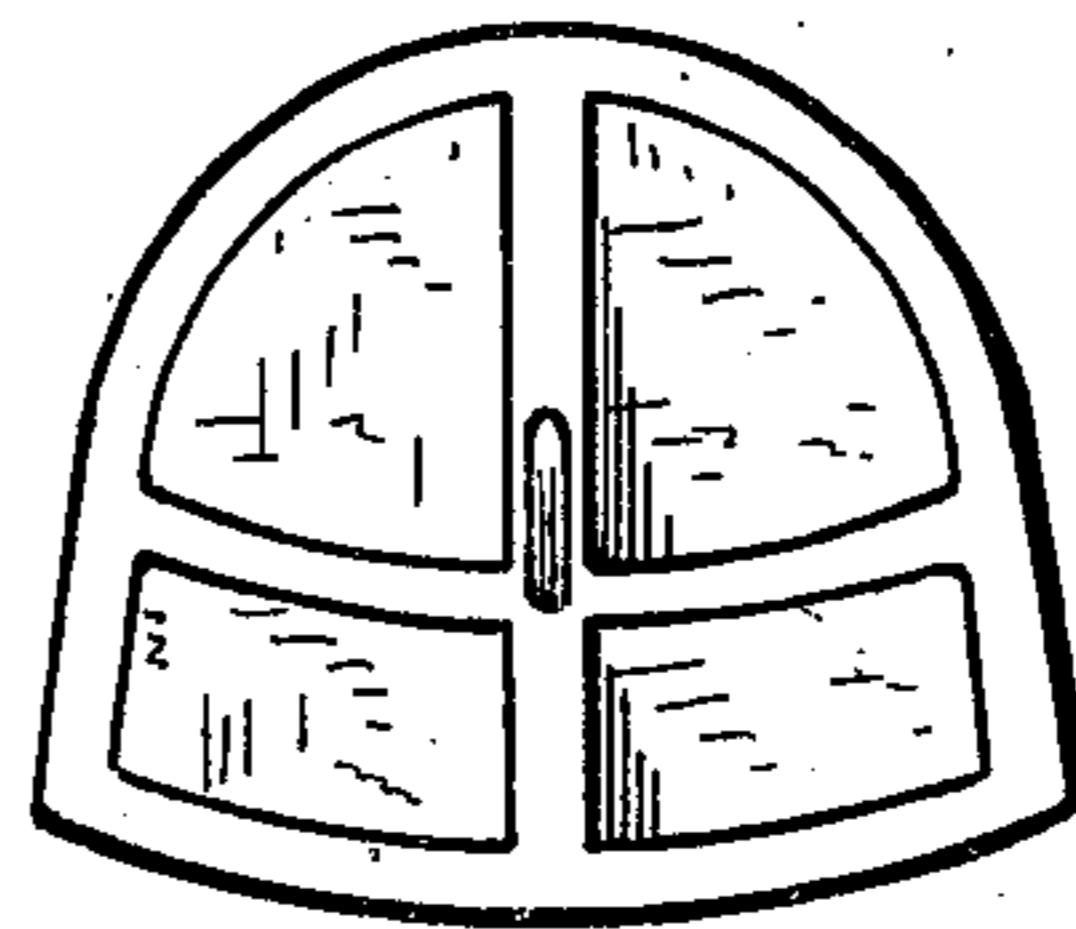


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALFRED GREENAWAY, OF LOUISVILLE, KENTUCKY.

FRANKLIN STOVE AND FIRE-GRATE.

SPECIFICATION forming part of Letters Patent No. 258,575, dated May 30, 1882.

Application filed January 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALFRED GREENAWAY, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Franklin Stoves and Fire-Grates; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention is in the nature of improvements in fire-places and equivalent or similar heating apparatus; and the invention has for its object the increment of the heat-evolving surface of such grates, and at the same time providing against the escape of noxious products of combustion and insuring perfect draft.

To these ends the invention consists in the combinations and arrangements of parts hereinafter more particularly specified and claimed.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view, looking squarely in the face of the stove or grate, the smoke-hood being in place. Fig. 2 is a similar view with the hood removed. Fig. 3 is a perspective view, looking at the rear. Fig. 4 is a central vertical cross-section. Fig. 5 is a perspective view of a fire-place grate, looking squarely in the face thereof. Fig. 6 is a plan view of a mica blower, and Fig. 7 is a longitudinal horizontal section of the back of the basket.

In order to obtain a greater extent of heat-exit than has heretofore been had in grates, I make the grate-opening in the frame Q about one-third higher than is ordinarily done, and in order to remedy any defective draft or the out-throw of smoke incident to such increased opening, I provide a fixed or movable hood, C, which I arrange at the top of the opening. This hood I prefer to make of a metallic frame, light and ornate, and provided with mica sheets secured therein, the said hood projecting somewhat below the edge of the opening, as shown in Fig. 4. This hood will, if the stove or grate draw badly or smoke, insure perfect draft and obviate smoking, and will not interfere with or reduce the increased heat-outlet. Ordinarily a basket eighteen inches long has a frame-opening fourteen inches high between it and the un-

derside of the front arch; but in my construction I increase this opening one-third, thus making the proportion twenty-one of opening to eighteen of basket, and I observe these proportions as nearly as possible in all sizes.

The grate E, I prefer to set a little higher than usual, and its back F, I prefer to arrange at an angle of about forty-five degrees to the horizontal. The back F is secured detachably to the front E by means of a lug, *a*, entering between the grate-bars in front, and two lugs, *b*, resting against the rear edge of the frame of the bars. This back is slitted transversely and obliquely to form draft-openings *c*, and its ends turned back to form wings or deflectors, which are perforated at *d*. This slitting and perforating of this fire-back insures the combustion of the fuel and gases at the back of the grate, thereby increasing the heat and insuring the perfect and complete consumption of the fuel.

G is an air-chamber, preferably formed of sheet metal and arranged in the rear of the fire-chamber.

H is an air-conduit leading from the front of the grate on the hearth S beneath the grate into the chamber G. The air heated in this chamber is conducted through lateral pipes or flues I to the hot-air chamber P, or to registers V, as may be desired, for distribution into the apartments to be heated.

K is a transverse metal bar, upon which the tile L is supported. This tile is somewhat larger than usual, and completely fills in the back of the stove or grate. It is cemented in place to make a tight joint, and its wide and enlarged top, combined with the cap or arch N, forms the smoke-flue O. Above the flue-cap is a chamber, P, which in Franklin stoves may have a perforated top, J, and receive the hot air from the pipes I for distribution into the apartment. The cap N is cemented in place to make a close and smoke-tight joint beneath the chamber P. R is the ordinary fender.

In Fig. 6, I have shown a blower for use in connection with the grate. This blower is formed as a skeleton frame filled in with mica.

In Fig. 5, I have shown a fire-place grate arranged in accordance with my invention, A being the mantel; B, a cross-piece over the extended opening; C being the hood in said extended opening; D, the blower, which may

be hinged to the grate-framing. Otherwise the construction is substantially the same as heretofore described.

By my invention I am enabled to secure a greater quantity of heat than has been possible with constructions heretofore in use.

What I claim is—

1. A basket, E, and the surrounding frame Q, having its opening extended about the basket, as shown and described, to secure a large heat-outlet, combined with the tile L, the cap N, and the smoke-flue between the two, and the mica-filled hood C, placed about the opening of said frame to insure a perfect draft and prevent smoking, all constructed and arranged to operate substantially as set forth.

2. The tile L, as shown and described, cemented in place, combined with the grate, the grate-frame Q, with its enlarged opening and

hood, and the cap N, substantially as shown and described, whereby an enlarged heat-opening is obtained and a perfect draft insured.

3. In a grate, the front portion, E, made with grate-bars, combined with the back F, having projections *a b* to interlock with the front portion, E, to hold said back at or about at an angle of forty-five degrees to the horizontal, substantially as described.

4. The air-conduit H, the air-chamber G, the grate E, its back F, the flues I, the tile L, and the chamber P, combined and arranged as shown and described, and for the purpose specified.

ALFRED GREENAWAY.

Witnesses:

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