

(No Model.)

G. BENNS.  
HEATING STOVE.

No. 335,420.

Patented Feb. 2, 1886.

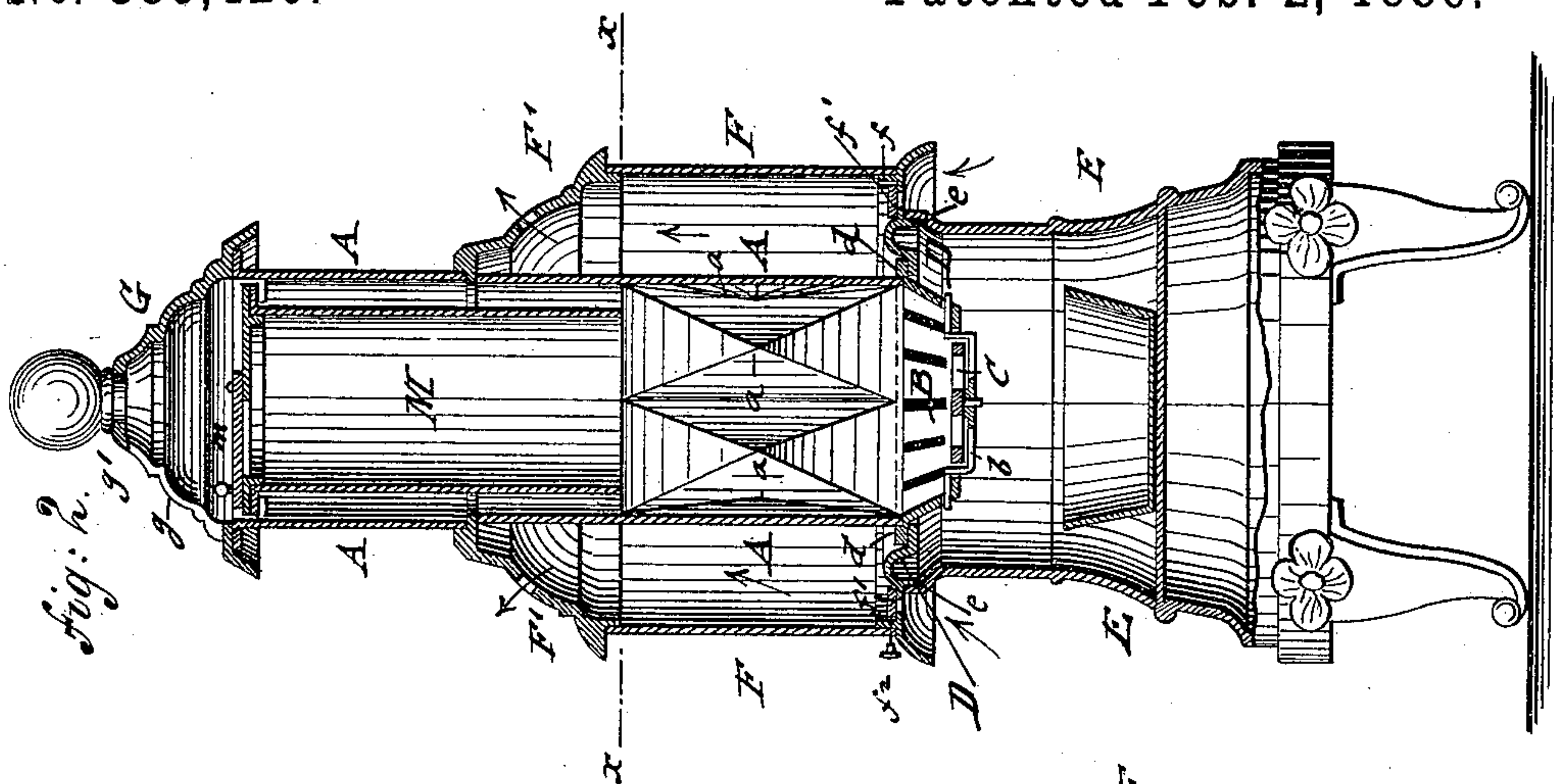


Fig. 3.

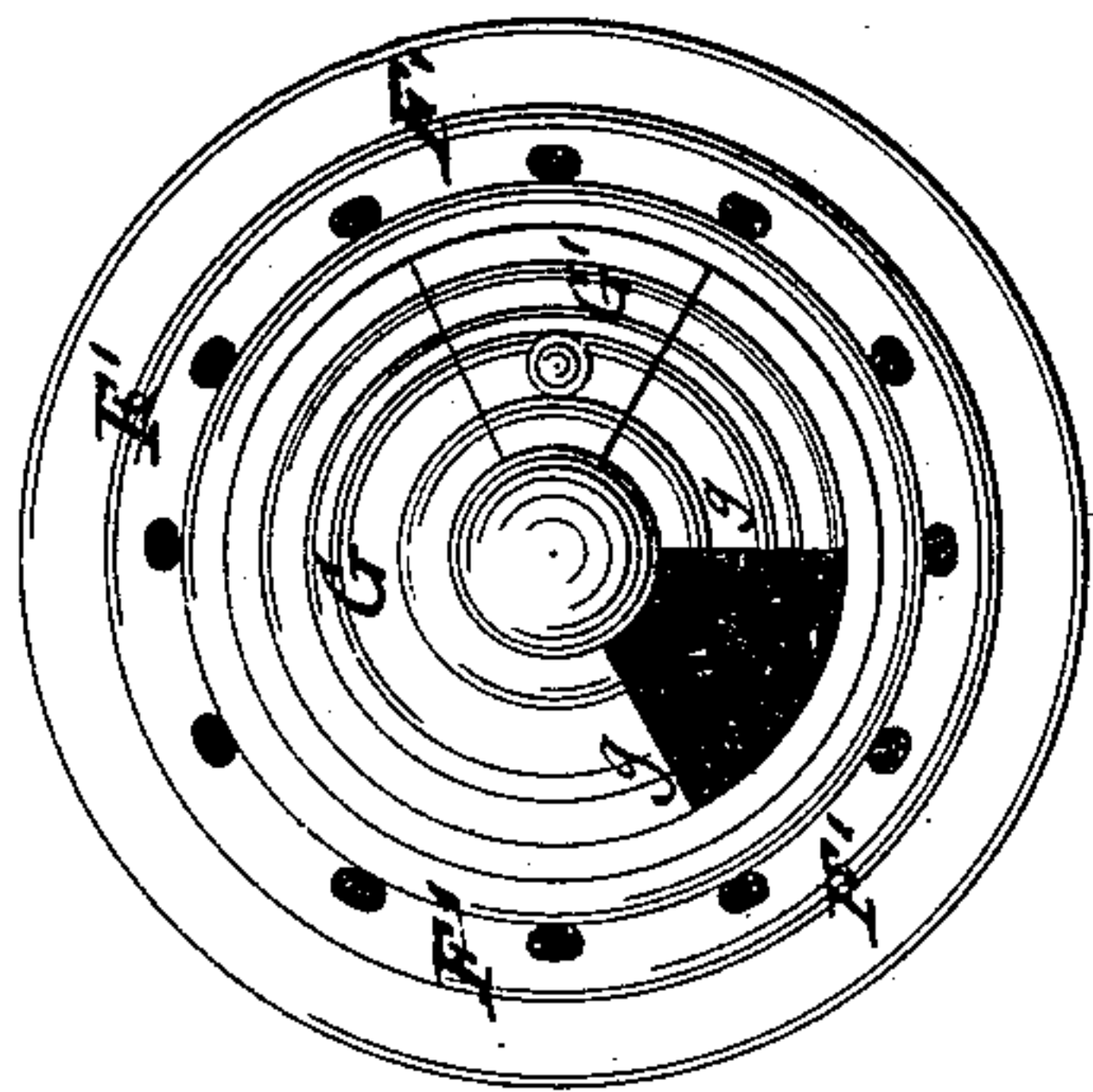
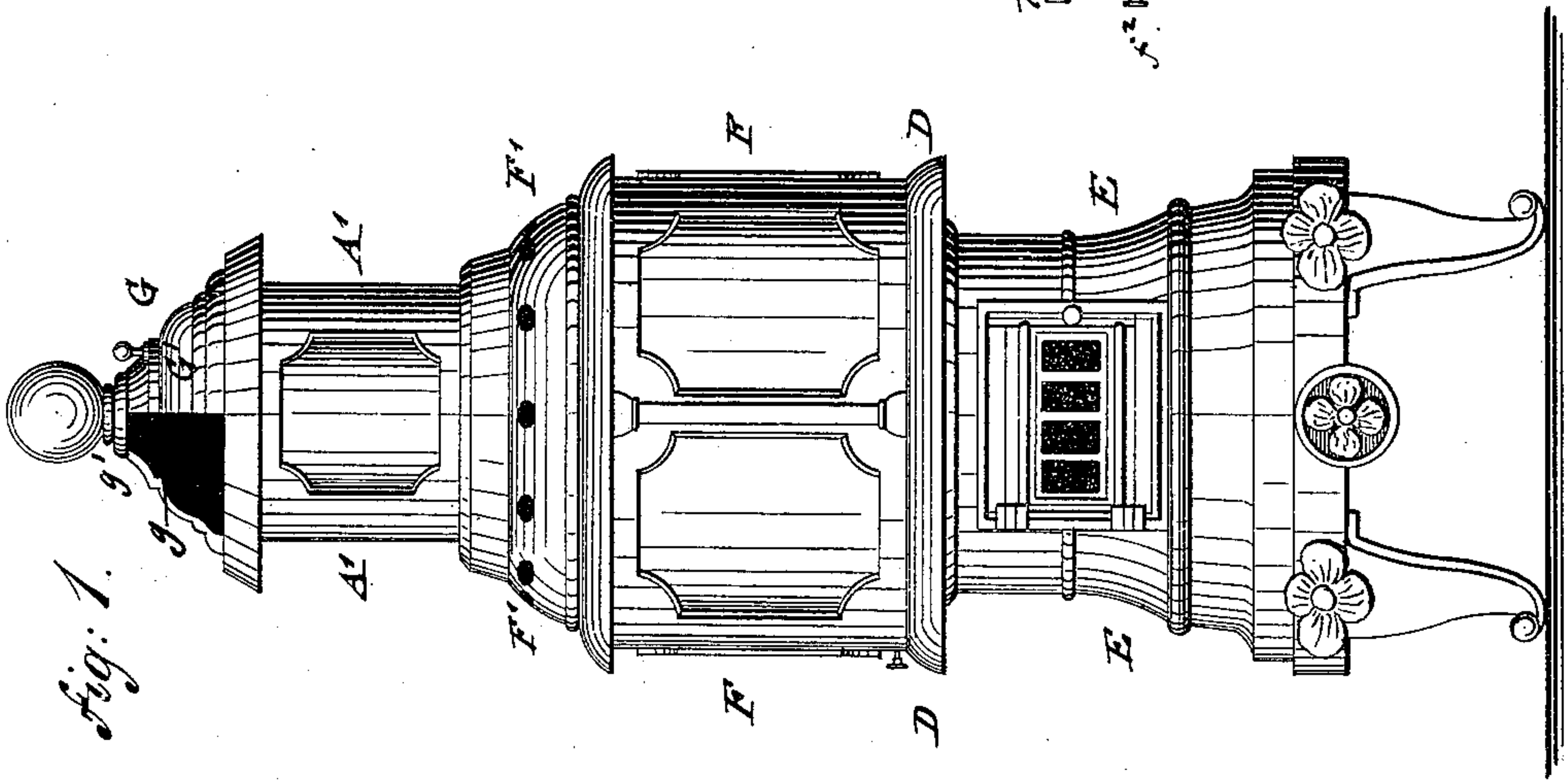
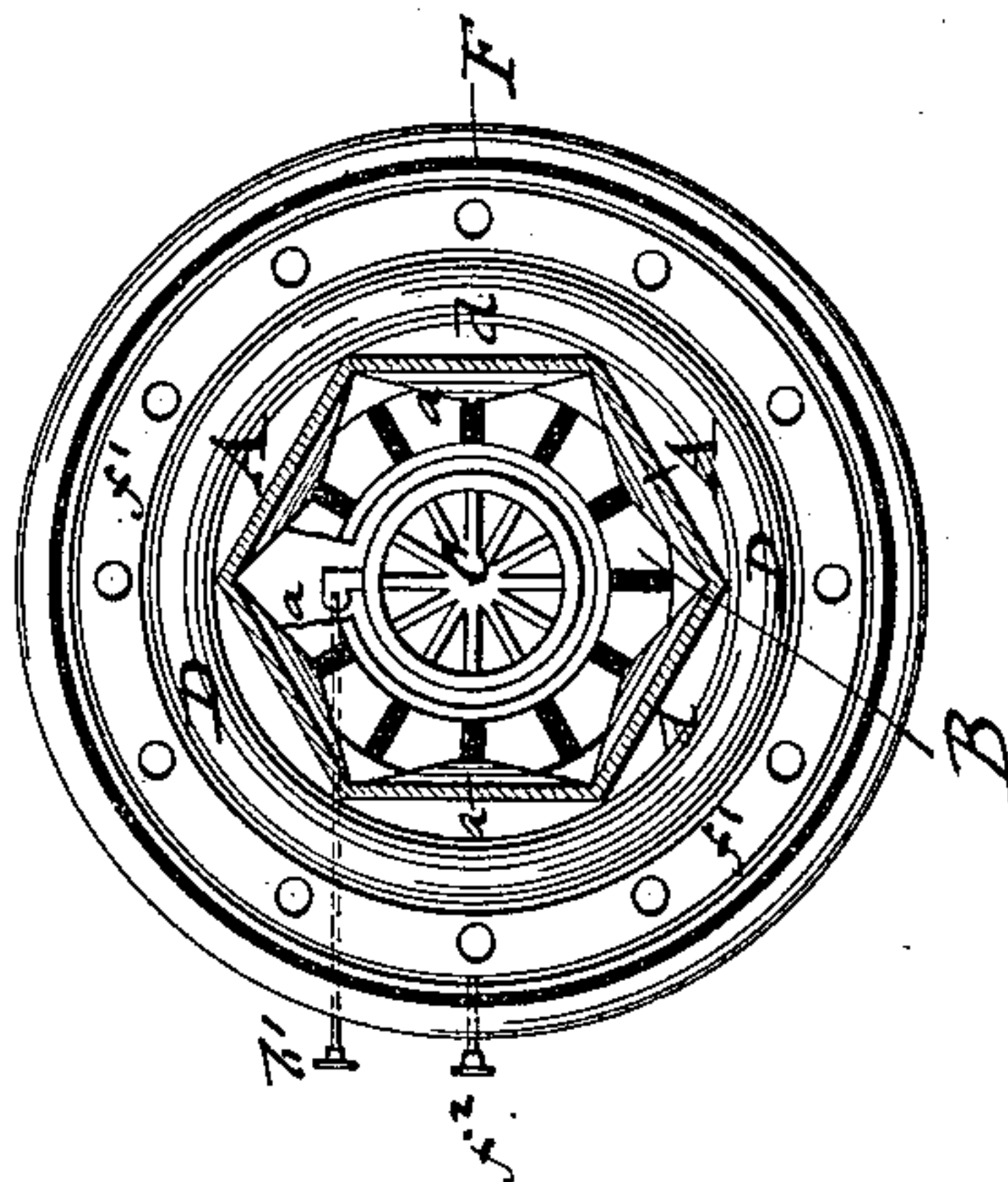


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 335,420, dated February 2, 1886.

Application filed April 12, 1885. Serial No. 162,633. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE BENNS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful  
5 Improvements in Heating-Stoves, of which the following is a specification.

This invention has reference to certain improvements in heating-stoves.

In the accompanying drawings, Figure 1 represents a side elevation of my improved heating-stove; Fig. 2, a vertical central section.  
10 Fig. 3 is a plan of the same; and Fig. 4 is a horizontal section on the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the fire-pot of my improved heating-stove, which fire-pot is made of six, eight, or more sides and cast in one piece. The individual sides  
20 of the fire-pot A are provided at their inside with diamond-shaped projections *a a*, that extend from the ends toward the center of the panels, so that the apex of the projections is at the center of the panel. This has the advantage that the sides of the fire-pot are not  
25 liable to warp, bulge, or crack at the points most exposed to heat of the fire. The fire-pot A is supported on the grooved rim *d* of a basket, B, which rim is again supported on the  
30 inner edge of a ring-shaped bottom, D, that rests on the upper edge of the wall of the ash-pit E. The grooves of the rim *d* of the basket are made somewhat larger than the base of the fire-pot, so as to provide for the expansion of  
35 the same. The basket B is provided with slotted openings, by which air is admitted to the fuel, and with a horizontally-movable grate, C, that is centrally pivoted to a diametrical supporting-piece, *b*, hung to the basket B, and  
40 oscillated thereon by a shaker-rod, *b'*, which passes through the wall of the ash-pit to the outside, as shown in Fig. 4. The ring-shaped bottom D is attached by a downwardly-extending flange, *e*, to the ash-pit E. The exterior  
45 part of the bottom D supports a cylindrical jacket, F, that is concentric to the fire-pot, and attached to an upwardly-extending flange, *f*, of the bottom D. An annular space is formed between the fire-pot A and the jacket  
50 F, which space is closed at the upper part by a fixed perforated ring, F', that supports the

upper end of the jacket F. That portion of the bottom D outside of the ash-pit wall is perforated, so that the air is drawn in through the openings of the bottom D into the space between the fire-pot A and jacket F, heated in  
55 its passage through said space, and emitted through the perforations of the top ring, F', as shown by the arrows in Fig. 2. A perforated slide-ring, *f'*, the openings of which  
60 register with the openings of the bottom D, is adjusted by an exterior handle, *f''*, so as to open or close the openings of the bottom D and establish or interrupt the passage of air through the annular space around the fire-pot.  
65 The ash-pit is provided at the front part with hinged doors having registers for admitting the proper supply of air to the grate. The upper part of the fire-pot is closed by a dome-shaped top, G, which is provided with a supply-opening, *g*, and a sliding floor, G', that is  
70 guided by a ring-shaped collar, *g'*, on the upper part of the top G. A magazine, M, at the interior of the fire-pot is provided with a lid, *m*, which is opened when the fuel is to be supplied, the magazine being supported by lugs  
75 at the upper part of the fire-pot. The base of the stove below the ash-pit may be utilized in the usual manner as a base-flue in connection with a return-flue, in which case connection  
80 with the chimney is made by a smoke-pipe at the back of the stove, which pipe is not shown in the drawings.

The advantages of my improved heating-stove are that the same can be used without  
85 fire-brick linings until the fire-pot is entirely burned out, after which the same can be replaced at small expense. The air in the room is quickly heated by the circulation of the air through the jacket and by the direct contact  
90 of the air with the heated ash-pit and exterior surfaces of the stove.

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

1. In a heating-stove, the combination of  
95 an ash-pit, a ring-shaped bottom resting upon the wall thereof, a fire-pot above said ring-shaped bottom, a basket at the lower end thereof, and a grate below said basket, said fire-pot, basket, and grate being supported by said ring-shaped bottom, substantially as described.

2. In a heating-stove, the combination of



an ash-pit, a ring-shaped bottom resting upon the wall thereof, a fire-pot above said ring-shaped bottom, a basket at the lower end thereof, a grate below said basket, said fire-pot, 5 basket, and grate being supported by said ring-shaped bottom, and a jacket surrounding said fire-pot, supported by said ring-shaped bottom, and provided with exterior air admission and exit openings, substantially as described.

10 3. In a heating-stove, the combination of an ash-pit, a ring-shaped bottom resting upon the wall thereof and provided with openings outside said wall, a fire-pot above said ring-shaped bottom, a basket at the lower end thereof, 15 of, a grate below said basket, said fire-pot, basket, and grate being supported by said ring-shaped bottom, a jacket surrounding said fire-pot and supported by said ring-shaped bottom, and a perforated top ring connecting the upper 20 end of said jacket with the fire-pot, substantially as described.

4. In a heating-stove, the combination of an

ash-pit, a ring-shaped bottom resting upon the wall thereof and provided with openings outside said wall, a fire-pot above said ring-shaped 25 bottom, a basket at the lower end thereof, a grate below said basket, said fire-pot, basket, and grate being supported by said ring-shaped bottom, a jacket surrounding said fire-pot and supported by said ring-shaped bottom, a per- 30 forated top ring connecting the upper end of said jacket with the fire-pot, a ring resting upon said ring-shaped bottom and provided with openings corresponding with the openings therein, and means for shifting said ring 35 to open or close said openings, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GEORGE BENNS.

Witnesses:

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