

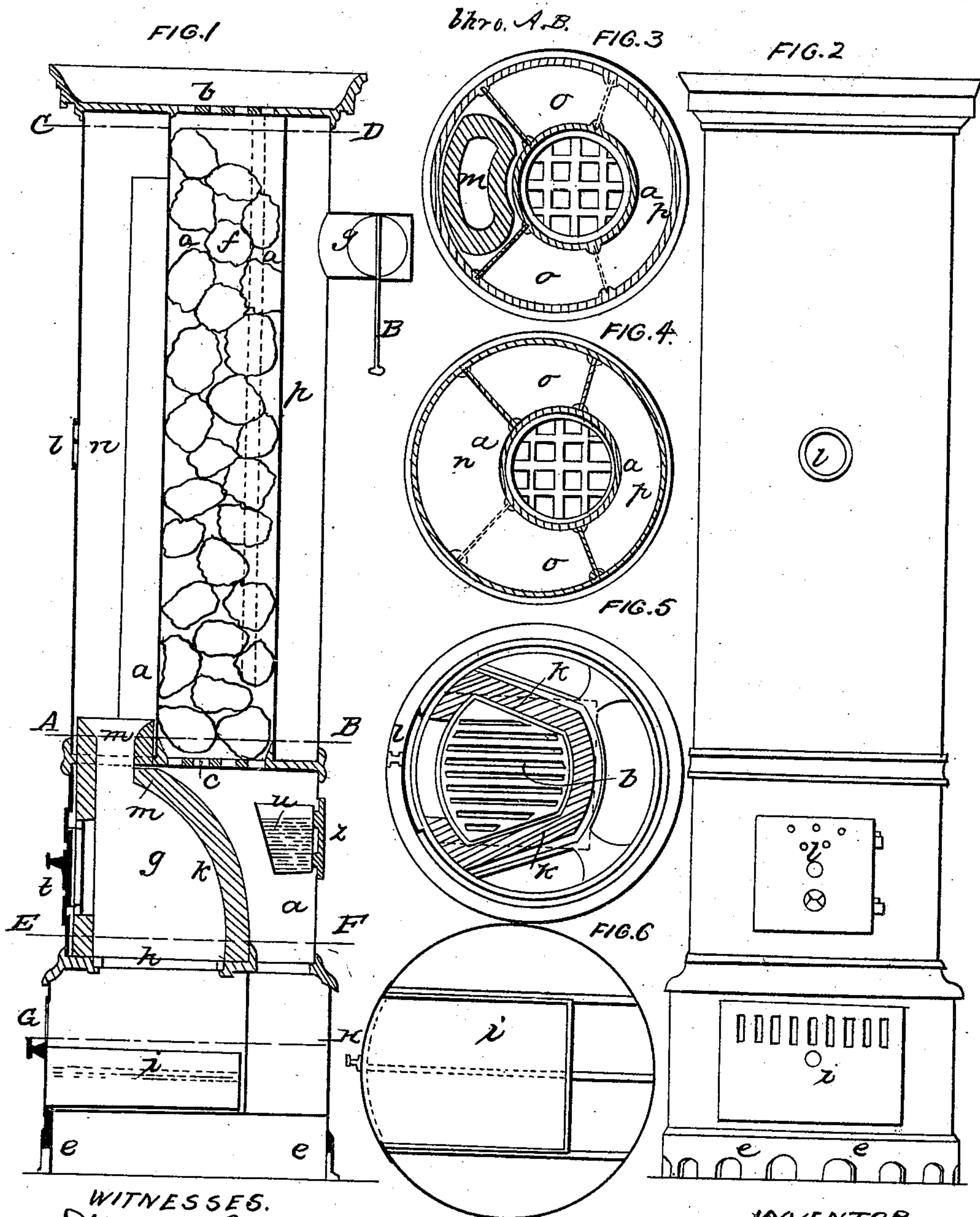
C. C. SCHIEFERDECKER.

2 Sheets—Sheet 1.

Stove.

No. 26,058.

Patented Nov. 8, 1859.



WITNESSES.  
*Henry Baldwin*  
*Geo. Francis*

INVENTOR  
*C. C. Schieferdecker M. D.*  
 by his Attorney  
*Wm. D. Baldwin*

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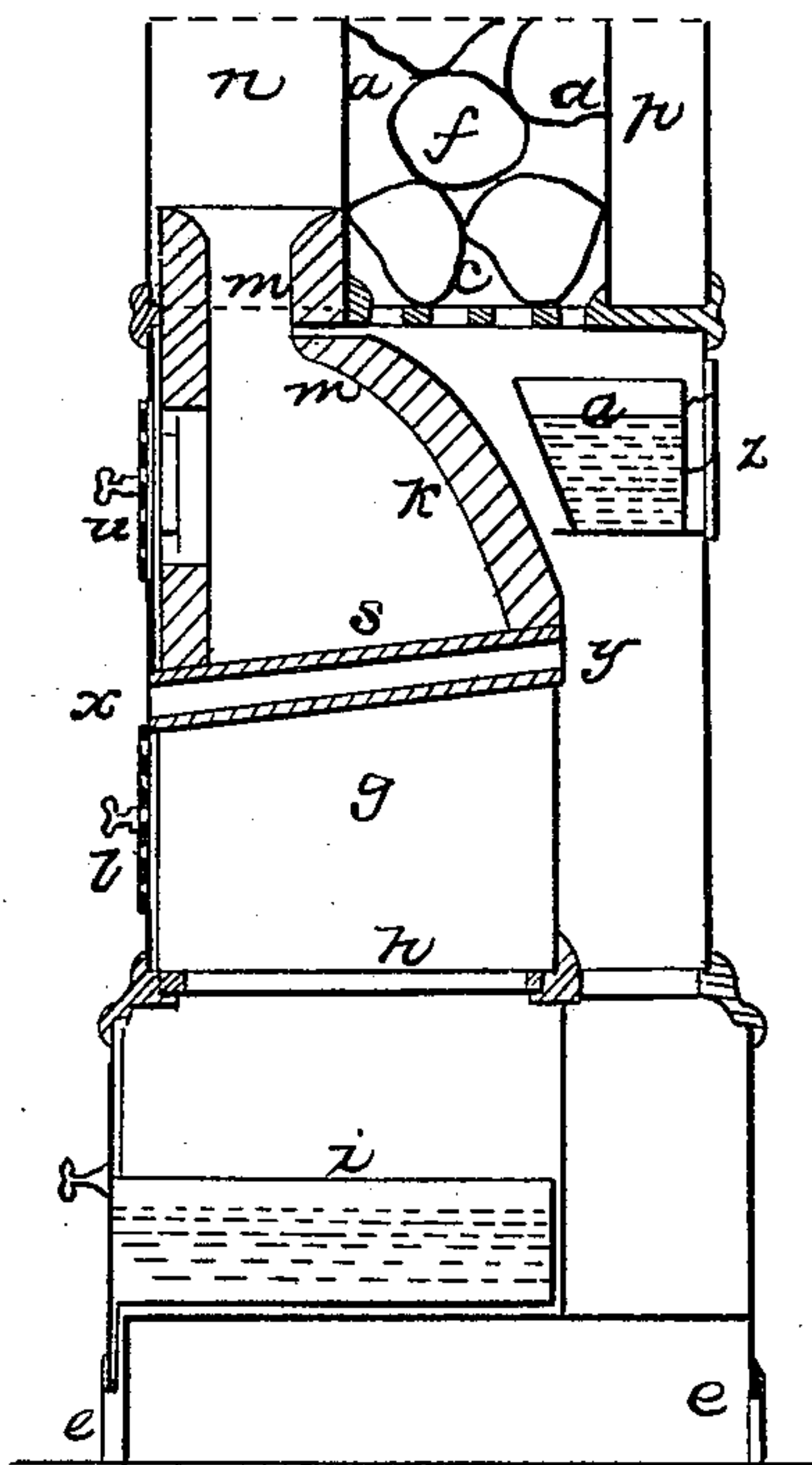
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FIG. 7



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# UNITED STATES PATENT OFFICE.

C. C. SCHIEFERDECKER, OF BALTIMORE, MARYLAND.

## STOVE.

Specification of Letters Patent No. 26,058, dated November 8, 1859.

*To all whom it may concern:*

Be it known that I, CHRISTIAN CHARLES SCHIEFERDECKER, of the city and county of Baltimore, in the State of Maryland, have  
5 invented a new and useful Improvement in Stoves, Especially Applicable to Ventilating and Medicinal Uses, of which the following is a full, clear, and exact description, reference being had to the accompanying draw-  
10 ings, which make part of this specification, and in which—

Figure I represents a vertical, longitudinal, axial section through a stove embracing my improvement. Fig. II represents a view  
15 of the front of the same. Fig. III represents a horizontal transverse section through the same at the line A, B, of Fig. I. Fig. IV represents a similar section at the line C, D, of Fig. I. Fig. V represents a similar section at the line E, F, of Fig. I. Fig. VI  
20 represents a similar section at the line G, H, of Fig. I, and Fig. VII represents a vertical, longitudinal axial section through a stove embracing a modification of my said im-  
25 provement.

In some diseases it is highly essential to the welfare of the patient that the room to which he is confined should be preserved at an uniform temperature. It is also of great  
30 importance in many complaints, especially those of a pulmonary character, that the remedies should be administered by inhalation, instead of being taken into the stomach.

It is more especially the object of my in-  
35 vention to meet the first of these requirements, with the greatest economy of fuel practicable; but at the same time my improvement can readily be used to facilitate the accomplishment of the second.

40 In order to attain the above named objects I construct a stove of any suitable form in such manner that it shall contain a central space or chamber, through which the air passes to be warmed, surrounded by a series  
45 of ascending and descending flues, the said chamber being filled with lumps or pieces of some material refractory to heat, such as lumps of fire-clay, broken pieces of sand-  
50 stone, cannon balls, &c., for the purpose of accumulating and retaining the surplus heat while the fire is active and gradually imparting it to the air of the apartment as it passes through its interstices, and thus pre-  
serve an almost uniform temperature.

55 In the accompanying drawings my im-

provement is shown as applied to a stove of a cylindrical form, that being one which occupies the least space and yet affords the greatest extent of radiating surface. The walls (*k*) of the fire-chamber (*g*) may be  
60 constructed of fire-clay, or any other suitable material. The ascending flue (*n*) is in the front of the stove, and occupies about one-fourth of the circumference of the cylinder. The descending flues (*o*) are on each side of  
65 the stove and occupy about one half of its circumference. The escape flue (*p*) occupies the remaining space at the rear of the stove.

At or near the center of the stove a cylin-  
70 der or casing (*a*) is placed. This cylinder is completely surrounded by the ascending and descending flues, and extends from a point below the level of their lower ends to the top of the stove. It is covered at top by  
75 a grating *b* and at bottom by a similar one *c*, by which means the air is permitted to circulate freely through the interior of the cylinder. The space (*f*) of the cylinder is filled with lumps of fire-brick or some other  
80 material refractory to heat for the purpose of absorbing the caloric radiated inwardly from the flues and imparting it to the air as it percolates through the interstices of the  
85 mass of fire-brick.

The air to be heated enters through the holes (*e*) near the bottom of the stove and ascends through the passage (*x*) which surrounds but is entirely separated from the  
90 ash-pan (*i*). It then passes into the water-chamber (*d*), from whence it escapes into the air-space (*f*) and reënters the room at the top of the stove. The fire is supplied with air through holes in the front of the  
95 ash-pan (*i*). Air may also be admitted above the fuel if desired, through a small valve in the furnace door (*l*) in order to assist in the consumption of the smoke evolved during combustion.

The operation of the stove is as follows:  
100 The fuel is fed into the furnace (*g*) through a fire-door (*l*). The ashes fall into the ash-pan (*i*), while the gaseous products of combustion pass through the throat (*m*) and up the ascending flue (*n*) to the top of the  
105 stove, where they divide and pass down the descending flues (*o*) to near the level of the throat (*m*), when they enter the rear ascending flue (*p*) and escape to the chimney through the pipe (*q*). During this passage  
110



through the flues the greater portion of the caloric evolved by the combustion of the fuel is either radiated from the outer surface of the stove or absorbed by the refractory material contained in the air-space (*f*), and that portion of the heat thus absorbed is gradually imparted to the air as it passes through this central space. The cool air enters through the draft-holes (*e*) and passes up the opening (*x*) where it is partially warmed by the heat evolved from the ash-pan, and thence into the water-chamber (*d*), where it absorbs the moisture evaporated from the vessel (*w*) and is still further heated by contact with the rear wall (*k*) of the furnace. From thence it ascends through the air-space (*f*) and its temperature is still further elevated in percolating through the interstices of the fire-brick with which the cylinder is filled. It finally escapes through the grating in the top of the stove into the room or apartment to be warmed. A constant circulation being established and maintained by the cool air being drawn from below, warmed, and discharged above the stove, the room in a few moments after the kindling of the fire becomes heated in all parts to a uniform temperature at which it can readily be maintained, even for some time subsequent to the extinguishment of the fire, by reason of the fire-clay continuing to evolve its heat accumulated during the active combustion of the fuel. By this means it is obvious that I can secure an equable distribution of heat and can maintain any required temperature with the greatest possible economy of fuel, for the long circuit of ascending and descending flues, combined with the central air-space filled with refractory material practically utilizes almost every particle of heat generated.

By placing medicines in the water-vessel (*w*) or in the chamber *d*, they will be evaporated and their vapor be quickly disseminated throughout the room. This means may advantageously be employed for disseminating pleasant odors or for disinfect-

ing a sick chamber, as well as for medicinal purposes.

In Fig. VII a modification of my invention is shown in which two furnaces are employed, one beneath the other, for the purpose of consuming the smoke evolved during combustion. A hollow grate-bar (*S*) is likewise shown, said bar opening at one end into the air-passages of the stove and at the other into the external air, and one end being placed higher than the other in order to create a draft through it, thus affording additional heating surface to the stove. But as I make no claim under this patent to these modifications a more detailed description of them is deemed unnecessary here.

It is obvious that the form and proportions of my stove may be varied in various ways without departing from the spirit of my invention, but as these modifications would readily suggest themselves to a skillful constructor of stoves after seeing my invention any further reference to them is deemed superfluous.

I am aware that the use of ascending and descending smoke flues in stoves is not new. I am also aware that the use of a central air-space is not new; and I am, further, aware that fire-clay and other refractory material have been used to economize heat that without them would have constituted waste heat, and therefore I do not claim either of these separately; but

What I do claim as my invention and desire to secure by Letters Patent, is—

The combination of the central air-space (*f*), containing material refractory to heat, with the series of surrounding ascending and descending smoke-flues (*n*, *o*, *p*), when arranged substantially as herein set forth, for the purpose described.

In testimony whereof I have hereunto subscribed my name.

C. C. SCHIEFERDECKER.

Witnesses:

CARL BÖSTEL,  
WM. D. BALDWIN.