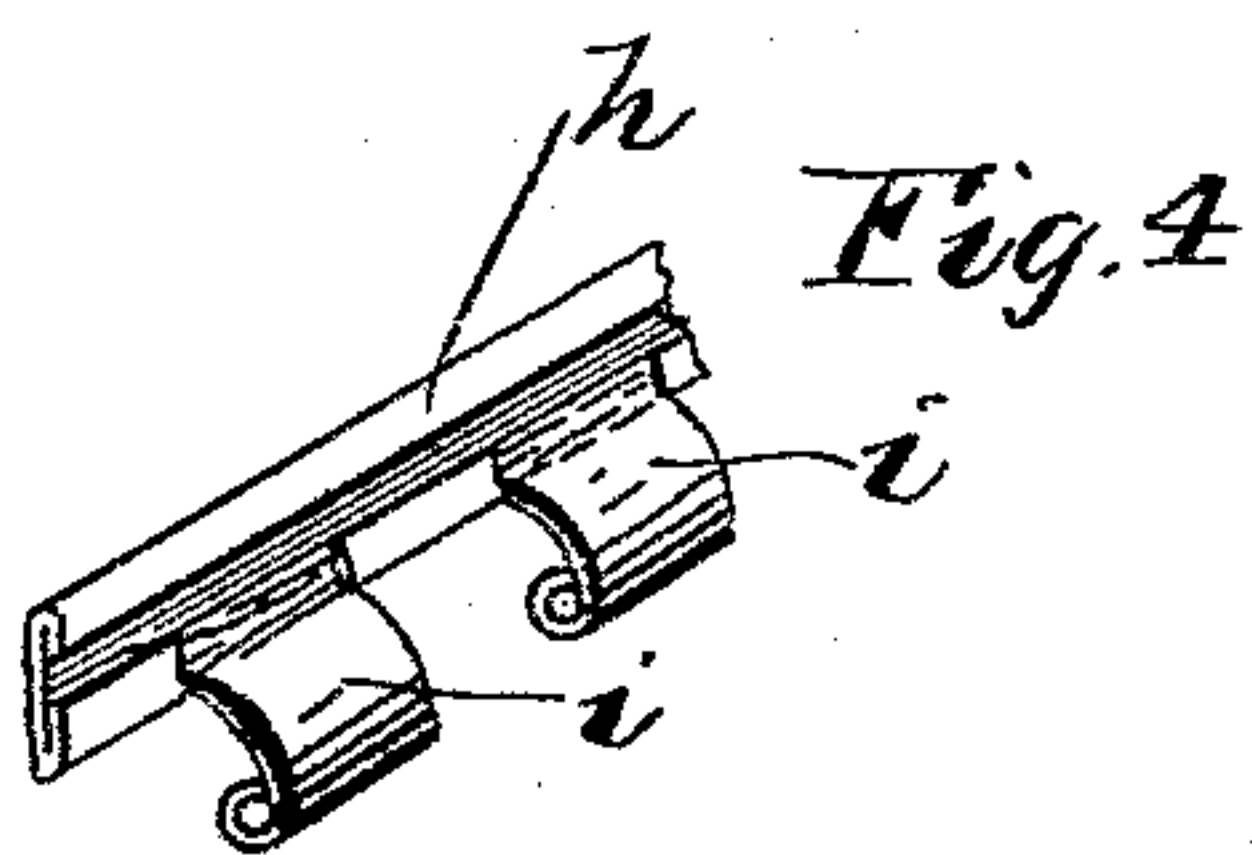
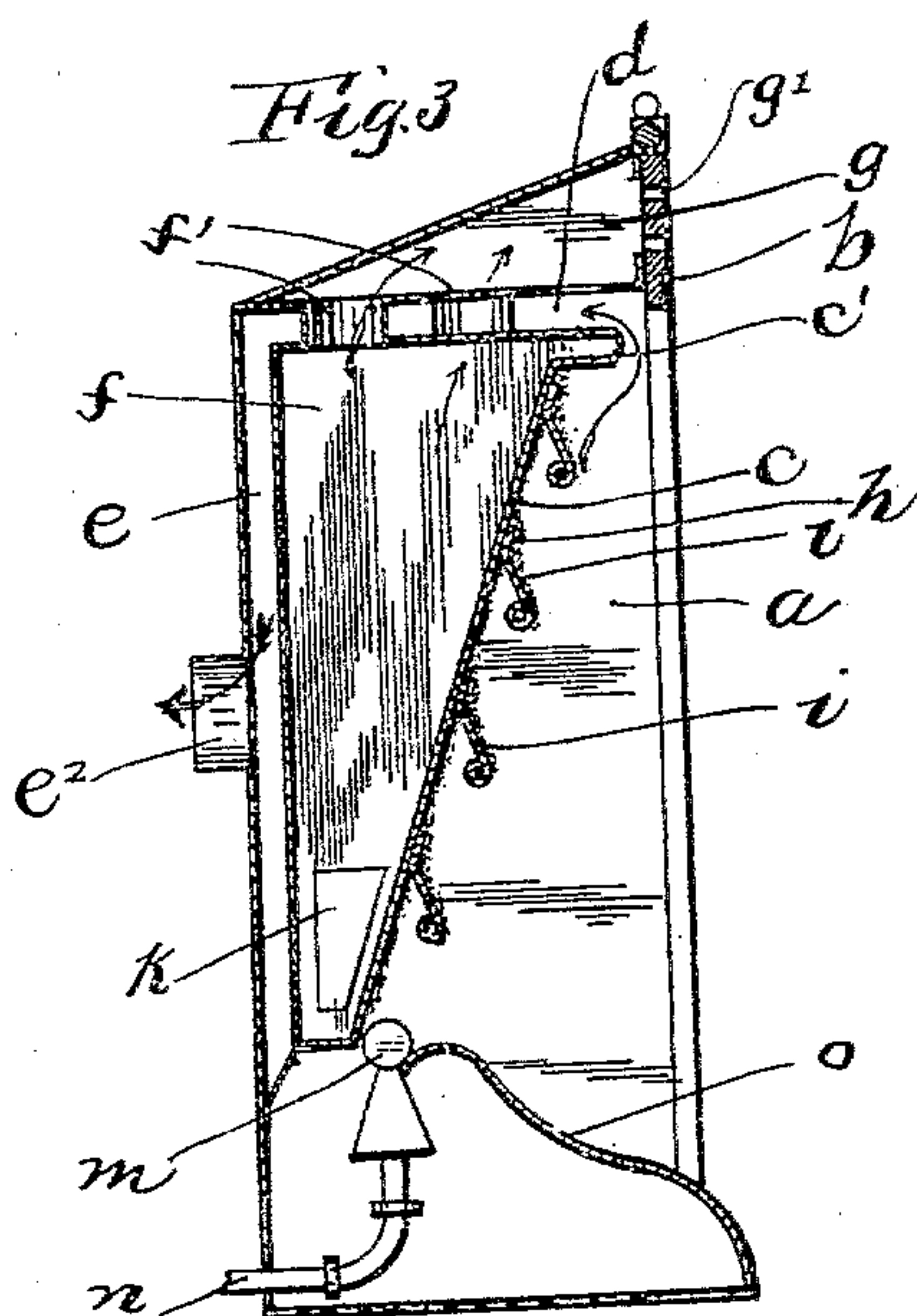
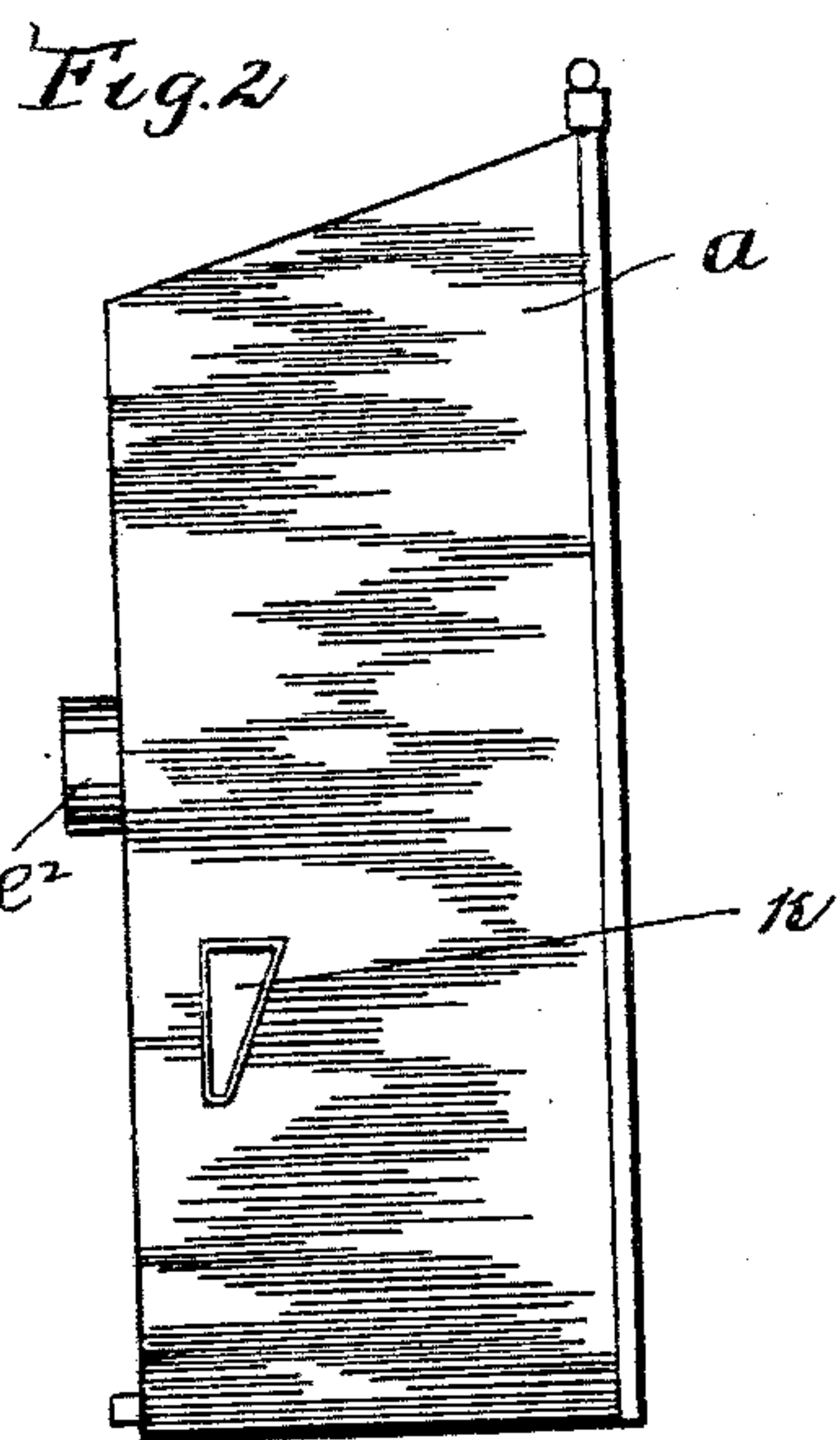
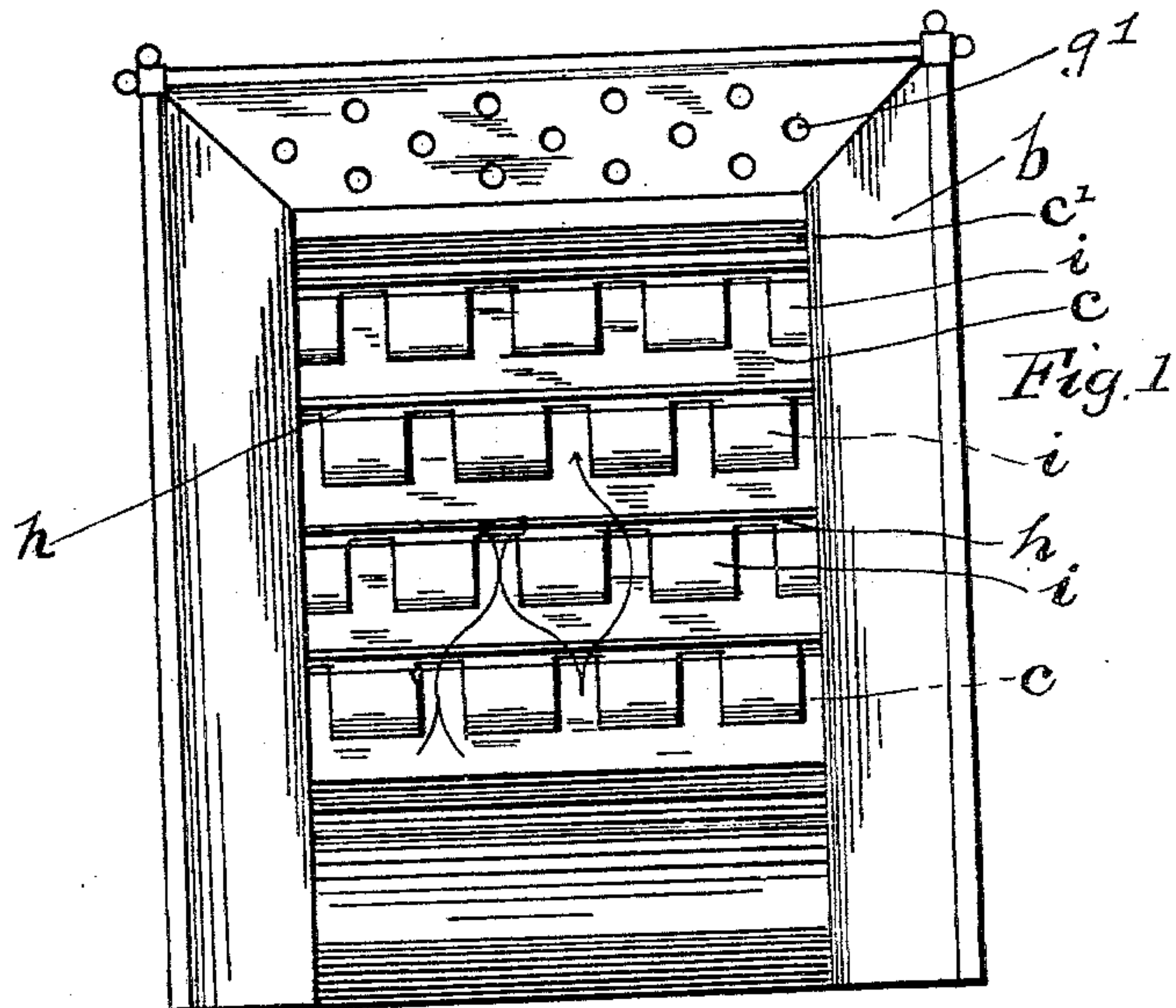


(No Model.)

P. J. CASSIDY.
GAS STOVE.

No. 597,392.

Patented Jan. 18, 1898



WITNESSES:
Ray Blinn
A. L. Phelps

INVENTOR
Patrick J. Cassidy
BY
C. C. Shepherd,
ATTORNEY

UNITED STATES PATENT OFFICE.

PATRICK J. CASSIDY, OF COLUMBUS, OHIO.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 597,392, dated January 18, 1898.

Application filed November 18, 1896. Serial No. 612,557. (No model.)

To all whom it may concern:

Be it known that I, PATRICK J. CASSIDY, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Gas-Stoves, of which the following is a specification.

My invention relates to the improvement of gas-stoves; and the objects of my invention are to provide a stove of this class adapted for the use of natural or artificial gases; to so construct and arrange the parts of my improved stove as to provide an increased radiation of heat without a corresponding increase in the volume of gas consumed; to so construct my improved stove as to provide for perfect combustion and to provide certain improvements in the construction and arrangement of the burner-plate, whereby an increased heating and radiation surface is produced, and to produce other improvements the details of construction of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved stove. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section of said stove, and Fig. 4 is a detail view in perspective of a portion of one of the burner-plate radiating-strips.

Similar letters refer to similar parts throughout the several views.

In the construction of my improved stove I provide a casing *a*, of sheet metal or other suitable material, said casing being provided with an open front which is provided with a suitable frame *b*. Within the casing *a* I provide a burner-plate *c*, which, as shown in the drawings, is inclined from a point in the upper and forward portion of said casing to a point in the rear and lower portion thereof. This burner-plate *c* is provided with a forward projection *c'* in its upper portion. The projection extends nearly to the front of the casing and forms an additional obstruction to the passage of the hot air and thereby causes more heat to be radiated into the room. It also forms a hollow chamber within which the confined air is heated more quickly and escapes into the room.

As indicated in the drawings, the upper portion of the casing above the burner-plate is provided with a horizontal flue *d*, the latter communicating in its rear portion with a vertical flue *e*, which is adjacent to the back of the casing *a*. Between the flue *e*, inclined burner-plate *c*, and flue *d* is formed an air-chamber *f*, which through the medium of the desired number of short vertical tubes *f'* communicates with the interior of a top chamber *g*, which may be formed above the flue *d*.

In case of the employment of the top chamber *g* I may form in the upper and transverse portion of the frame *b* suitably-arranged perforations or outlets *g'*.

At a suitable point below the flue *d* the back flue *e* is provided with an outlet *e'*, which may be made to communicate with a suitable pipe.

h represents separated transverse radiator and flame deflecting strips, which, as indicated in the drawings, are secured by rivets or otherwise one above the other to the outer face of the burner-plate. Each of these strips has formed therewith at desirable intervals outwardly-extending and downwardly-inclined projections *i*, the latter preferably terminating in rolls, as indicated more clearly in Fig. 4 of the drawings. This construction and arrangement of the projections form inverted-V-shaped spaces between each projection and the plate, within which the ascending current of heated air is kept until it can force its way to the ends of the projections, which will retard its upward passage to a greater extent than if the attachments of the projections to the plate were smaller and did not extend in a horizontal direction across the plate. By inclining the plate forward it is evident that any air that might escape at the edge of these projections would ascend in a straight line and be caught in the projections above it, and thereby the passage of the air would be retarded and a larger amount of heat would be radiated into the room.

Through the sides of the casing *a* are formed suitable openings *k*, which, as indicated, communicate with the interior of the air-chamber *f*.

In front of the lower end portion of the burner-plate *c* is supported a desirable form of gas-burner *m*, to which leads a suitable

gas-inlet pipe *n*. *o* represents a suitably-shaped fender which extends outward from said burner.

The burner-plate *c*, as well as the flame-deflecting projections *i* and strips *h*, are preferably covered with mineral wool or other suitable non-combustible material.

In operation it is obvious that the flame which rises from the burner *m* against the front face of the burner-plate will be divided and deflected in different directions through contact with the projections *i*. Owing to the fact that the projections *i* are preferably staggered in their arrangement in the manner indicated in Fig. 1 of the drawings, it is obvious that an increased division or deflection in the flame will be obtained.

If desired, the projections *i* may be made continuous throughout the length of the strip *h*. It is also obvious that I may omit the chamber *g*, thereby obviating the necessity of employing the perforations *g'* and admitting of the heat from the heat-chamber *f* passing directly outward through the conduits *f'* into the air of the room. This latter construction is particularly applicable where the stove is not incased or inserted within a fireplace. It is evident that the products of combustion following the line of the arrow will pass into the flue *d*, thence into the flue *e*, and out through the flue *e'*. It will also be observed that the escape of the heated air from the chamber *f* will insure an incoming draft of cold air through the openings *k*.

From the construction and operation which

I have herein shown and described it will be seen that a simple, reliable, and effective form of gas-stove is provided, by means of which an increased radiation and intensity of heat is obtained without a proportionate increase in the quantity of gas consumed. It is obvious that the projections *i* will serve to retard the heated air in its upward movement and deflect the same into the room. It will also be seen that when viewed from the front of the stove the fire will present a more pleasing appearance to the eye than is presented by the ordinary straight flame in stoves of this character.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a gas-stove, the combination, with a casing, of a burner-plate, the front of which is provided with a series of outwardly and downwardly extending projections, the base of each series extending horizontally across the face of the plate, substantially as set forth.

2. In a gas-stove, the combination, with a casing, of a burner-plate, strips secured horizontally across the face thereof, each strip being provided with outwardly and downwardly extending projections, the projections of the strips being staggered relatively to each other, substantially as set forth.

PATRICK J. CASSIDY.

In presence of—

C. C. SHEPHERD,

A. L. PHELPS.