No. 842,557. PATENTED JAN. 29, 1907.

W. J. KEEP & H. C. MAUL.

STOVE.

APPLICATION FILED OCT. 26, 1903.

2 SHEETS—SHEET 1.

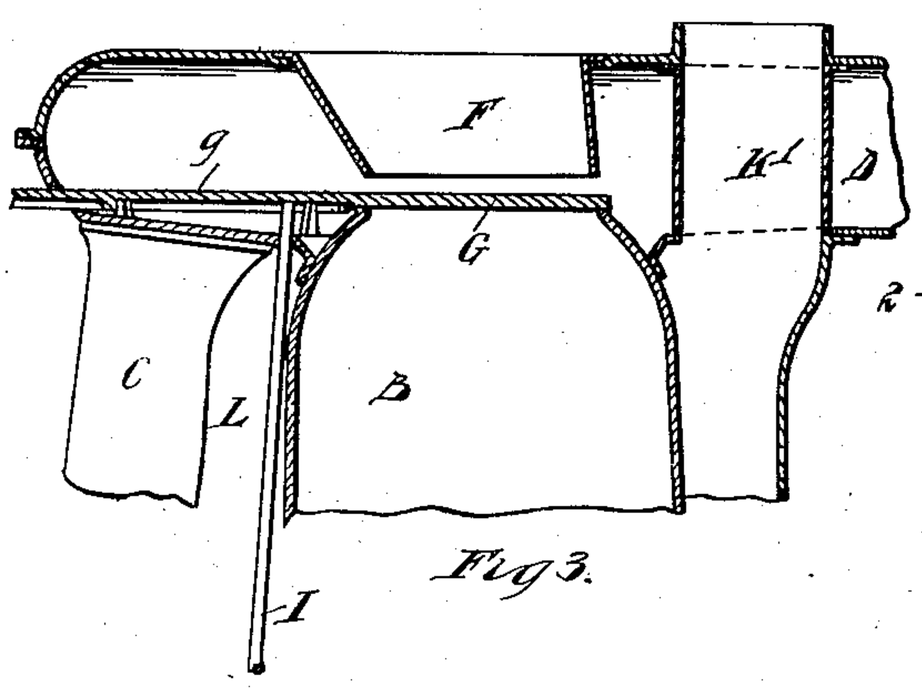

Fig 3.

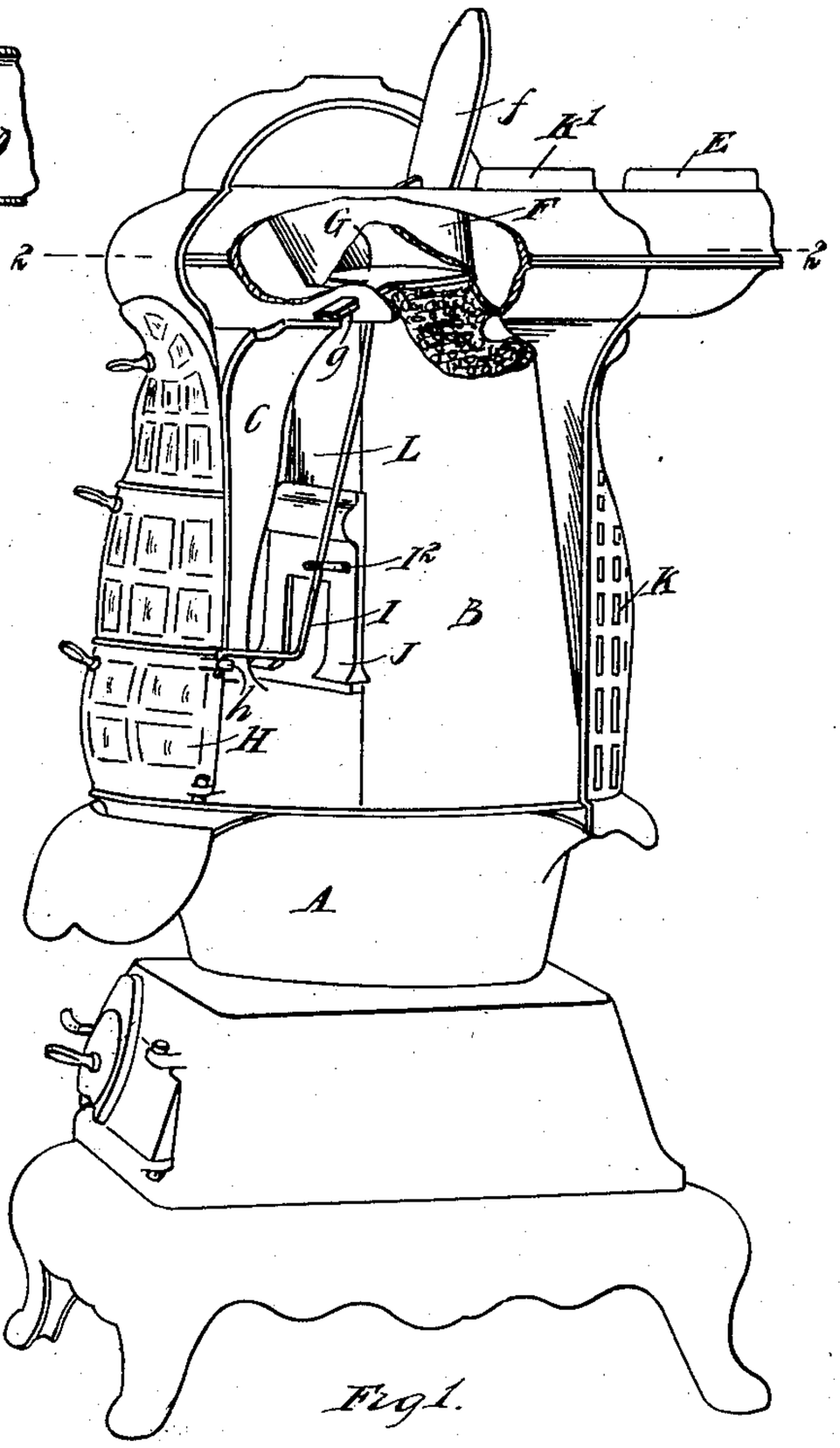

Fig 1.

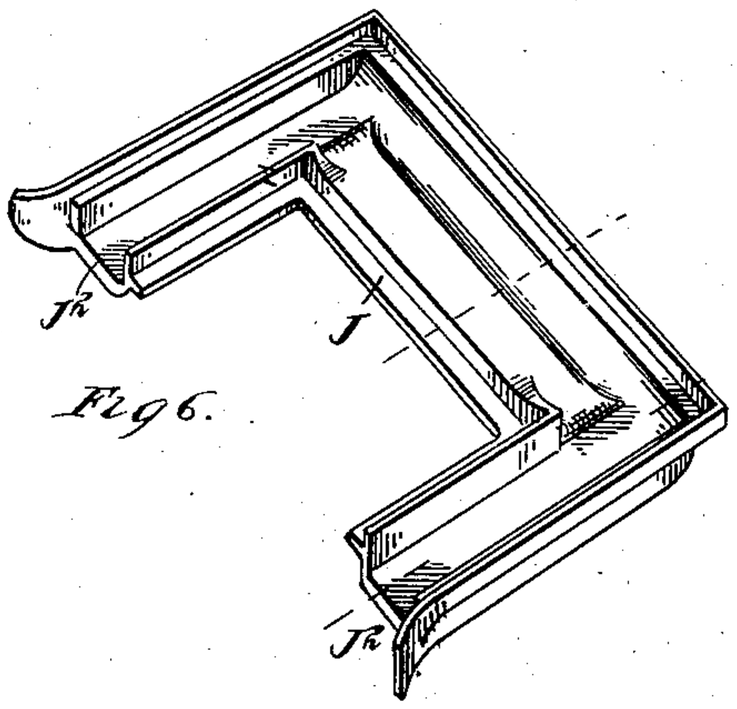

Fig 6.

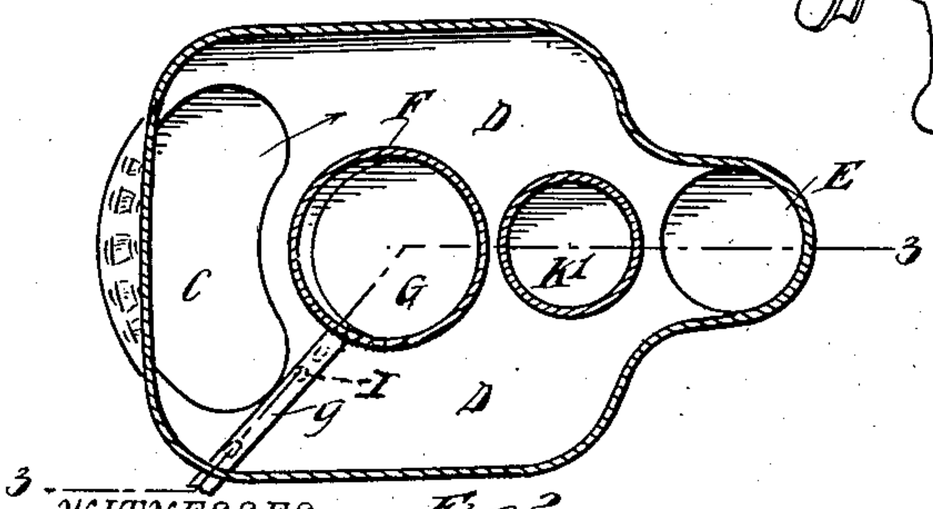

Fig 2.

WITNESSES

Lotta Lee Hayton.

May E. Kott.

INVENTORS

William J. Keep

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2 SHEETS—SHEET 2.

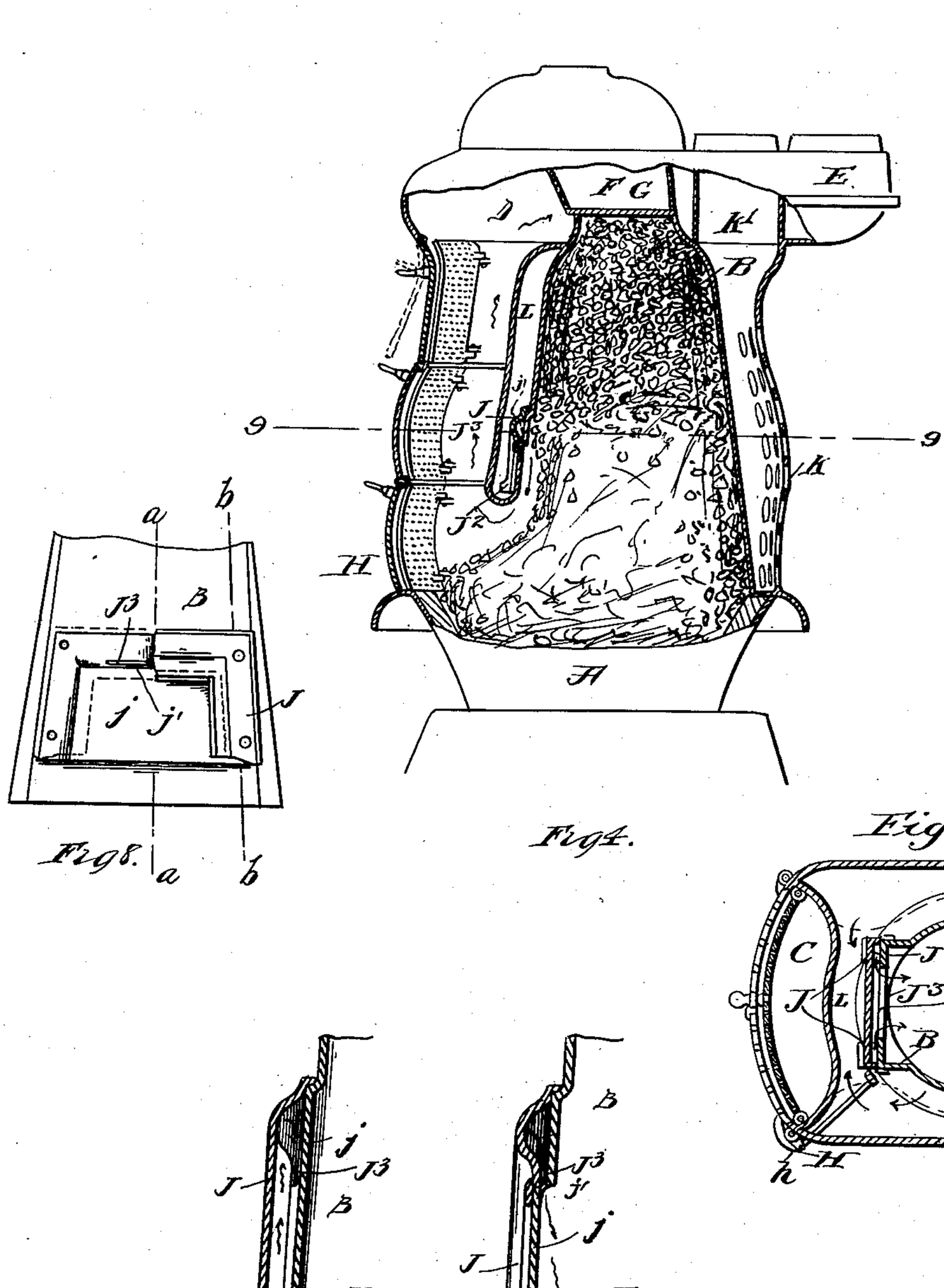

Fig 8.

Fig 4.

Fig. 9.

Fig 7.

Fig 5

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UNITED STATES PATENT OFFICE.

WILLIAM J. KEEP AND HENRY C. MAUL, OF DETROIT, MICHIGAN, ASSIGNORS TO THE MICHIGAN STOVE COMPANY, OF DETROIT, MICHIGAN, A CORPORATION.

STOVE.

No. 842,557. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed October 26, 1903. Serial No. 178,548.

To all whom it may concern:

Be it known that we, WILLIAM J. KEEP and HENRY C. MAUL, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Stoves; and we declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to stoves, and has for its object to provide an improved stove for burning soft coal. We attain this object in the device illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a stove embodying our invention, a part being removed to show the interior construction. Fig. 2 is a plan showing a section on the line 2 2 of Fig. 1. Fig. 3 is a detail section of the upper part of the stove, the section being taken along the broken line 3 3 of Fig. 2. Fig. 4 is a vertical elevation principally in section. Fig. 5 is a section showing the air-admission passages on the line *a a* of Fig. 8. Fig. 6 is a detail perspective of a casting in which are air-admission passages. Fig. 7 is a view similar to Fig. 5 on the line *b b* of Fig. 8. Fig. 8 is a segmental elevation of the casting shown in Fig. 6, attached to the coal-reservoir. Fig. 9 is a cross-section on the line 9 9, Fig. 4.

A is the fire-pot.

B is the coal-magazine.

C is a passage for the products of combustion and gases on their way to the flues. The passage C is separated from the magazine B by an air-space L, open laterally to the outer air, Fig. 9. The magazine B and passage C form the body of the stove. The wall bounding the air-space L at its lower end divides the magazine and passage C and forms a bridge-wall.

D indicates branches of a passage connecting the flue E with the passage C.

F is a hopper for receiving the coal when it is being supplied to the magazine.

f is a removable cover for the hopper F.

G is a cover for the magazine B, which cover rests upon the upper end of said magazine between the same and the lower end of the hopper F. There is sufficient distance between the upper end of the magazine B and the lower end of the hopper F to allow of some vertical movement of the cover G. The cover G is provided with a handle *g*, extending to the outside of the stove, and said cover may be withdrawn from off the magazine B by drawing outward on the handle *g*. The outer end of said handle passes through a slot in the outer casing of the stove with a reasonably close fit.

H is a fire-door having at its upper part, near its hinged edge, a lug *h*. In the outer end of said lug is formed a hole into which the downturned end of the rod I projects, which rod passes horizontally for a short distance, then slantingly upward through a hole in a stationary lug 12, and its upper end rests against the lower surface of the inner portion of the handle *g*. When the fire-door H is opened, the lug *h* is carried inward in an approximately horizontal plane, carrying with it the lower end of the rod I and presses said rod upward through the lug 12, because of the slanting direction in which said rod passes through the aperture in the lug 12.

J is a casting forming a casing which when in place on the side of the magazine forms a passage J^2, open at the bottom and closed at the top.

J^3 is a passage formed between the inner wall of the casting J and the wall surrounding the magazine B, which passage passes approximately vertically downward opening into the magazine B through a slot *j'*. The casting J is secured to the wall of the magazine B in the air-space L between said magazine and the passage C. The magazine under the casting J is cooled by the passage of air. The magazine B is formed with an offset *j*, over which the casting J is fitted. The slot *j'* is formed vertically through the approximately horizontal upper part of said offset.

K is a lattice-work of ornamental design partially surrounding the body of the stove, leaving a space between said lattice-work and the body of the stove.

K' is a hot-air flue communicating at its lower end with the space between the body of the stove and the lattice-work K and opening into the room or communicating with a pipe leading to an upper room. The flue K' passes through the hot-air passages, so as to be surrounded by the hot flue-gases.

By the above construction when the fire-

door H is open the cover G is slightly raised, leaving a space between it and the upper part of the magazine B, so that the interior of said magazine communicates with the flue E, and the gases are not liable to be thrown out at the open fire-door. When said door is again closed, the cover G falls back into position upon the upper end of the magazine B.

It will be observed that by the construction above described that a passage J^3, directing a current of air into the magazine through a long narrow slot J′ in an approximately vertical direction, is provided. This causes the combustion of the coal about the space adjacent to said passage and below it, cutting away the side of the columns of coal, as indicated in Fig. 4, and does not cause the coal to burn in irregular direction through its mass. The result is that the coal feeds from the magazine perfectly and regularly and no explosion occurs nor discharge of combustible gases.

The hot-air flue K′ is surrounded and supplied with heat from the hot products of combustion immediately as they pass out from the stove. The lower end of this flue communicates with the space between the hot body of the stove and the ornamental lattice-work surrounding the same. Thus a draft is occasioned not only by the hot-air in the flue itself but also by the hot air between the lattice-work and the body of the stove. The lattice-work is heated by radiation from the body of the stove, and the heat absorbed is taken up by contact by the air passing through the apertures in the lattice-work and to the flue K′.

At the upper end of the flame-flue in front thereof is a door or section adapted to be swung outward around hinges at its upper edge, as indicated in dotted lines, so as to admit air to said flue and regulate the draft of the stove.

What we claim is—

In a stove, the combination of a magazine, having its upper end communicating with a flue-passage when the cover is lifted, a cover adapted to close the upper end of said magazine, a fire-door adapted to swing in a horizontal plane and cover an opening in a side wall of the stove in a plane below that of the cover, said door being provided with a lug eccentric to the pivot thereof, and a rod engaging said lug and cover, said rod being normally located in an inclined position, for the purpose described.

In testimony whereof we sign this specification in the presence of two witnesses.

WILLIAM J. KEEP.
HENRY C. MAUL.

Witnesses:
GEO. L. RENO,
LOUIS W. LEMKE.