4 Sheets—Sheet 1.

C. A. HAMLIN.

Cooking and Heating Stove.

No. 207,604. Patented Sept. 3, 1878.

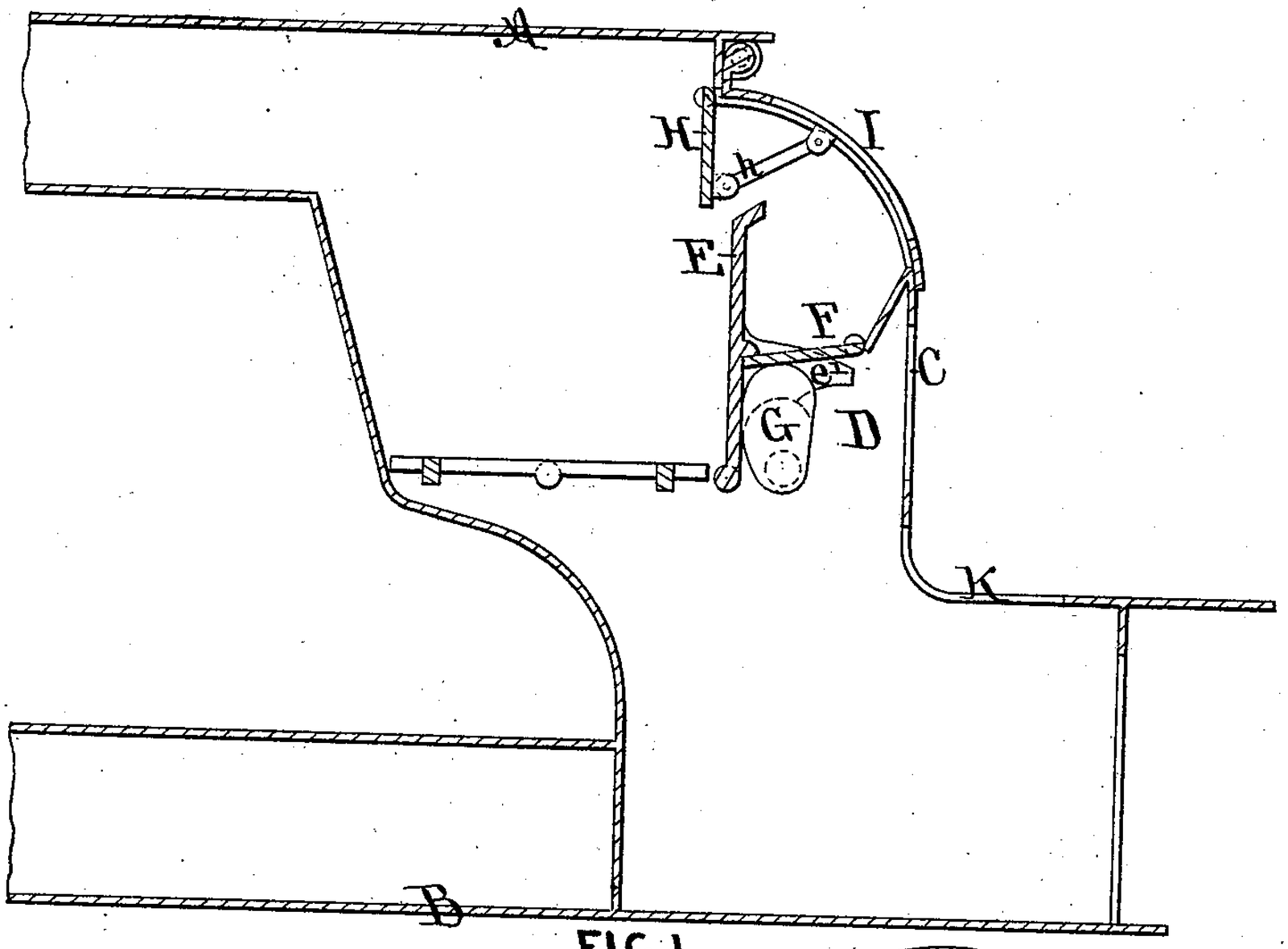

FIG. 1

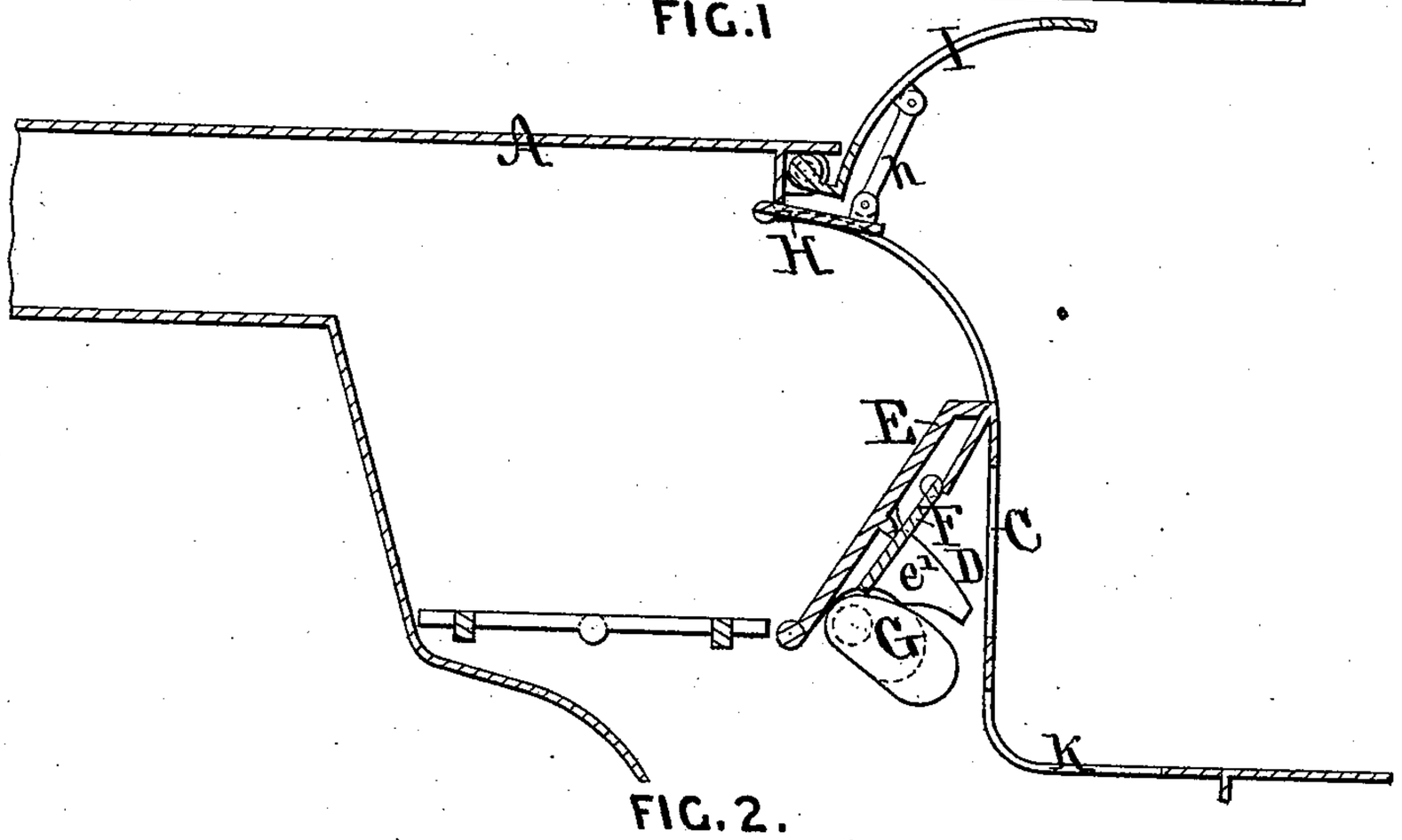

FIG. 2.

Witnesses;

William H. Low.

E. P. Bennett

Inventor;

Charles A. Hamlin

4 Sheets—Sheet 2.

C. A. HAMLIN.

Cooking and Heating Stove.

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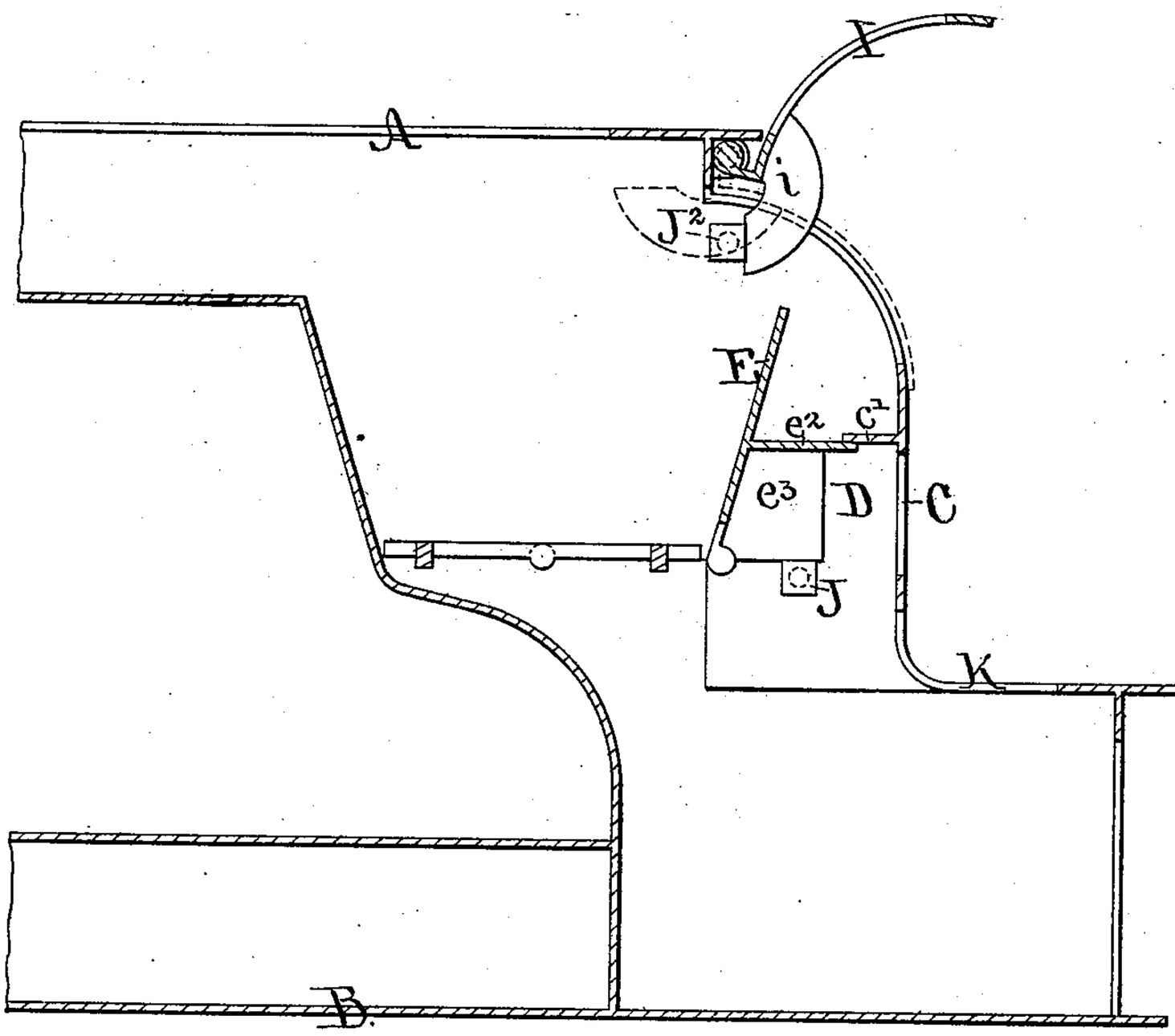

FIG. 3.

Witnesses;

William H. Low.

E. J. Bennett

Inventor;

Charles A. Hamlin

4 Sheets—Sheet 3

C. A. HAMLIN.

Cooking and Heating Stove.

No. 207,604. Patented Sept. 3, 1878.

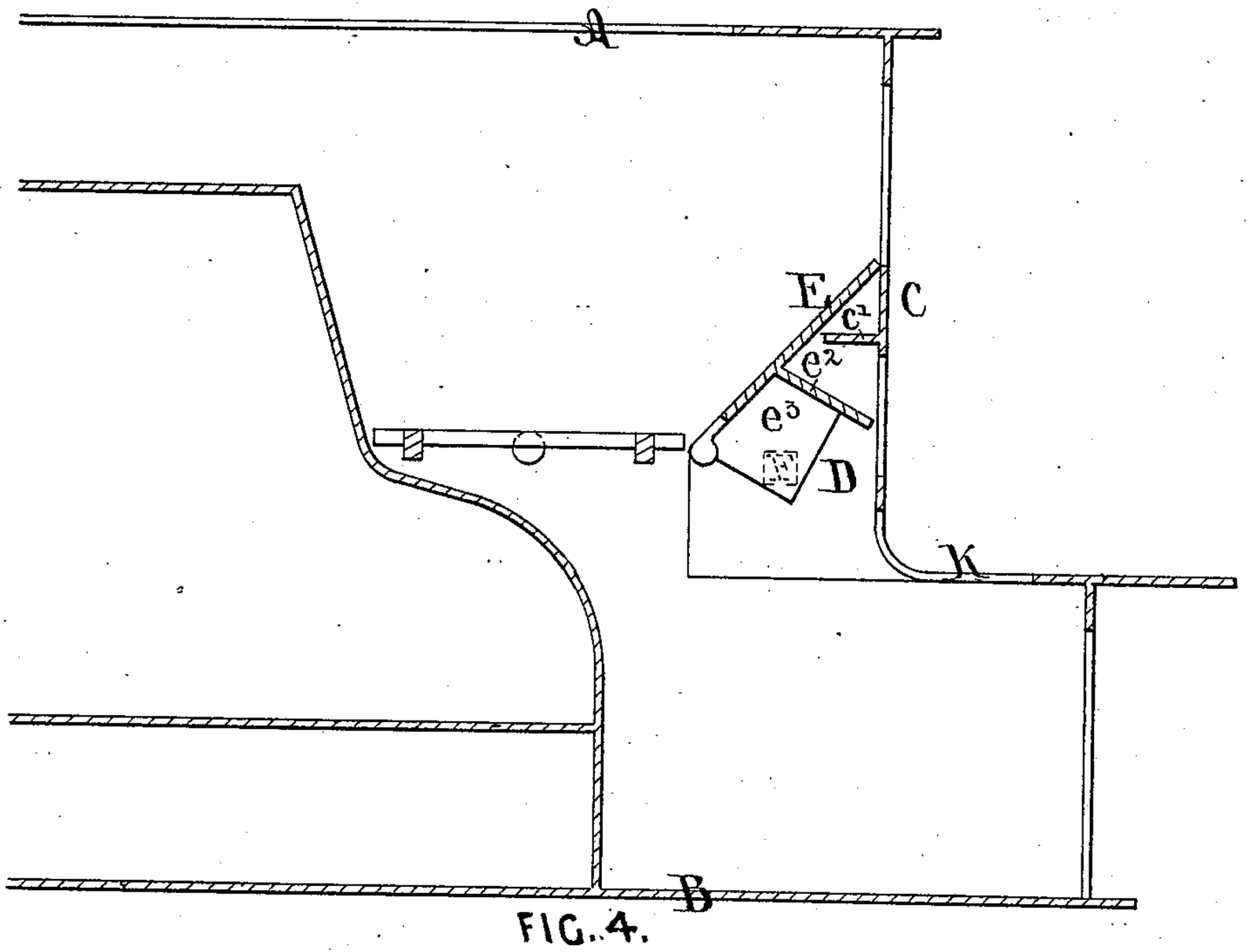

FIG. 4.

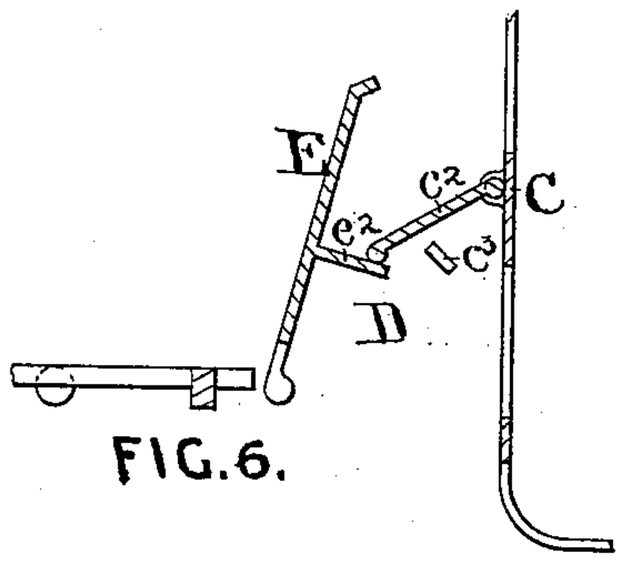

FIG. 6.

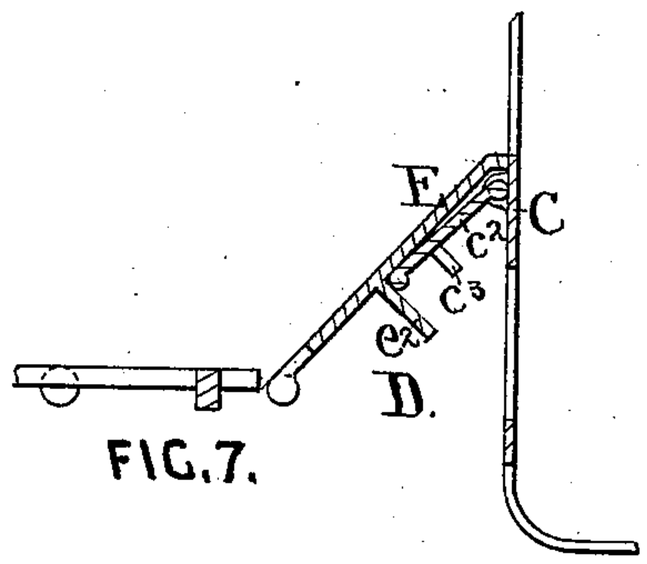

FIG. 7.

Witnesses.

William H. Lorr.

E. J. Bennett

Inventor.

Charles A. Hamlin

4 Sheets—Sheet 4

C. A. HAMLIN.

Cooking and Heating Stove.

No. 207,604. Patented Sept. 3, 1878.

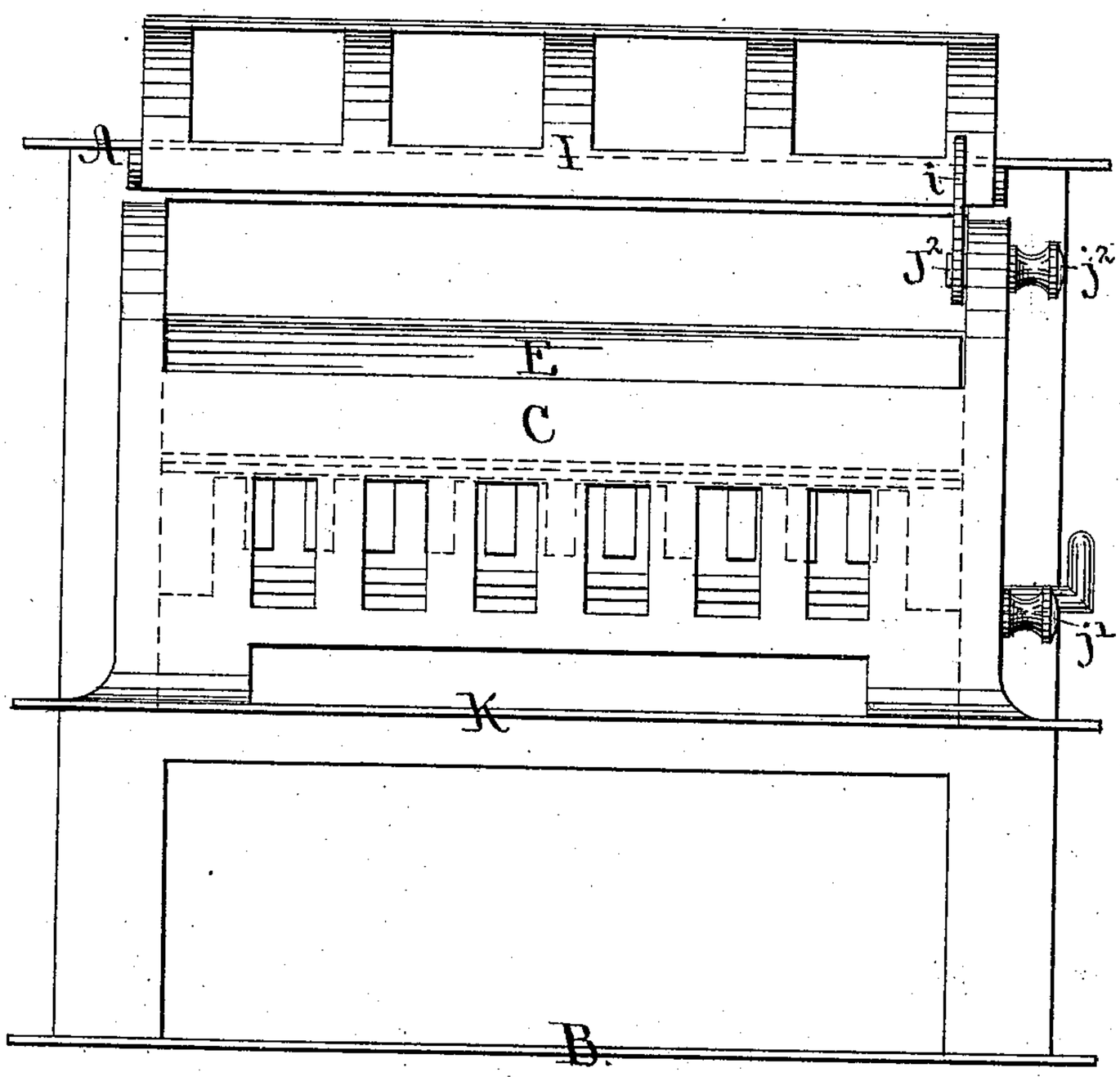

FIG. 5.

Witnesses.

William H. Low

E. F. Bennett

Inventor.

Charles A. Hamlin.

UNITED STATES PATENT OFFICE.

CHARLES A. HAMLIN, OF GREENBUSH, ASSIGNOR TO RANSOM STOVE WORKS, OF ALBANY, NEW YORK.

IMPROVEMENT IN COOKING AND HEATING STOVES.

Specification forming part of Letters Patent No. **207,604**, dated September 3, 1878; application filed July 15, 1878.

To all whom it may concern:

Be it known that I, CHARLES A. HAMLIN, of Greenbush, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Cooking and Heating Stoves, of which the following is a full and exact description:

My invention relates to certain improvements on stoves for which Letters Patent No. 189,557 were granted to me on the 17th day of April, 1877; and it consists, first, in combining the adjustable front plate of the fire-box shown and described in said Letters Patent with a plate or other similar device moving coincidentally with said adjustable plate, adapted to form the top of the chamber in the space between the front of the fire-box and the front plate of the stove, and constituting a barrier for preventing currents of air from passing through said chamber or space; secondly, in the mechanism herein shown and described for operating the adjustable front plate of the fire-box and its coacting parts; and, thirdly, in the combination of the front door and the grated guard, as herein set forth.

In the accompanying drawings, which form a part of this specification, and to which reference is herein made, Figure 1 is a longitudinal section of the front end of a cooking-stove, showing the adjustable front fire-plate in its erect position; Fig. 2, the same with the adjustable front fire-plate inclined. Figs. 3 and 4 are longitudinal sections of the same part of the stove, showing a modification of the adjustable front fire-plate; Fig. 5, a front elevation of same; and Figs. 6 and 7 are detached sectional views of another modification of the front fire-plate.

As shown in the drawings, A is the top plate, B the bottom plate, and C the front plate, of the stove. Between the front plate, C, and the fire-box a chamber, D, is formed of sufficient size to allow the adjustable front fire-plate, E, to be thrown into the inclined position shown in Figs. 2, 4, and 7. This chamber materially aids in promoting combustion in the fire-box by retaining a large volume of heated air, which, by reason of the barrier formed by the plate F, only finds escape from the chamber by passing through the grated openings of the front fire-plate into the fire-box, where it is utilized in increasing the combustion of the fuel. As shown in Figs. 1 and 2, the adjustable front fire-plate, E, has projecting from its front a lug, e^1, whose under edge is formed into curved depressions, for the purpose of properly engaging with the cam by which it is operated, as hereinafter described.

F is a plate hinged to the front plate, C, and so arranged that when the front fire-plate, E, is erect, as shown in Fig. 1, it joins the front plate, C, on one side and the front fire-plate, E, on the other, thereby forming the top of the chamber D, and serving as a barrier against the passage of air through the top of said chamber; G, a cam provided with major and minor lobes, extending radially in the same direction from a shaft passing through the side of the stove, whereby the cam may be operated from the exterior. This cam operates the front fire-plate, E, and the hinged plate F in the following manner. Its minor lobe is arranged to bear against the lower edge of the lug e^1 of the fire-plate, so that the first movement of the cam starts the fire-plate toward its erect position, and moves it out of the course of the hinged plate, which, by the continued movement of the cam, is caught by the major lobe thereof and raised into a horizontal position. When the movement of the cam is completed, and, as shown in Fig. 1, its minor lobe fits into the innermost curve of the lug e^1, and secures the front fire-plate against any accidental displacement, at the same time its major lobe bears against the under side of the hinged plate F and secures it in place. On reversing the movement of the cam to release the plates, they are moved in a reversed order, the hinged plate first dropping out of the way of the front fire-plate before the latter commences its movement.

To prevent the fuel from falling over the top of the front fire-plate while the stove is being charged, a hinged guard, H, is placed in the space between the top of the stove and the front fire-plate. This guard is made with grated openings formed therein, for the purpose of allowing the rays of light from the fire to pass

through them, and thence through the mica lights of the front door, I, to which door the guard H is connected by the rod *h* in such manner that the two have a coincident movement, so that when the door is opened the guard will be raised to leave an uninterrupted passage through the doorway to the fire, as shown in Fig. 2, and in closing the door the guard will be returned to its vertical position, as shown in Fig. 1.

In the modification shown in Figs. 3, 4, and 5, the front fire-plate, E, has projecting from its face a horizontal flange, e^2, which meets a corresponding flange, c^1, on the back of the front plate, C, and forms the barrier in the chamber D. A vertical flange, e^3, beneath the horizontal flange, and near one end of it, when the front fire-plate is in an erect position, rests upon the spring-bolt J and sustains the plate in its position. A knob, j^1, of the spring-bolt extends through the exterior plates of the stove, and affords a ready means for drawing back the spring-bolt when it is desired to drop the front fire-plate into an inclined position.

The front door, I, is provided with a curved dependent flange, *i*, which, when the door is opened, rests upon the spring-bolt J^2.

In the modification shown in Figs. 6 and 7, the front fire-plate, E, is provided with a horizontal flange, e^2, which, as the plate is raised to its erect position, engages with a plate, c^2, hinged to the front plate, C, and forms the barrier in the chamber D. When the front fire-plate is thrown into its inclined position the hinged plate c^2 drops out of the way of the front fire-plate, and is held by the stop c^3 in position to engage with the flange e^2 as the fire-plate is raised.

In the constructions shown in Figs. 1, 2, 3, and 5, the front of the stove has a projecting part rising vertically from the hearth K, and terminating in a curve near the top plate, A, upon which the front door, I, is fitted.

As shown in Fig. 4, the front of the stove is made flush by being carried in a straight vertical line from the hearth K to the top plate, A.

I claim as my invention—

1. The adjustable front fire-plate, E, in combination with a barrier formed in the chamber D by means of a hinged plate, F, or its equivalents, herein described, and for the purpose specified.

2. The chamber D, formed within the body of the stove by the front plate, C, front fire-plate, E, and plate F, as and for the purpose herein set forth.

3. The combination of the adjustable front fire-plate, E, and the cam G, as and for the purpose specified.

4. The combination of the cam G with the adjustable front fire-plate, E, and hinged plate F, as and for the purpose herein described.

5. The combination of the guard H and door I, connected and arranged to operate as and for the purpose set forth.

CHARLES A. HAMLIN.

Witnesses:
WILLIAM H. LOW,
SILAS W. COX.