

(No Model.)

2 Sheets—Sheet 1.

W. H. VANCE.
SHUTTER FOR FIRE GRATES.

No. 453,765.

Patented June 9, 1891.

Fig. 1.

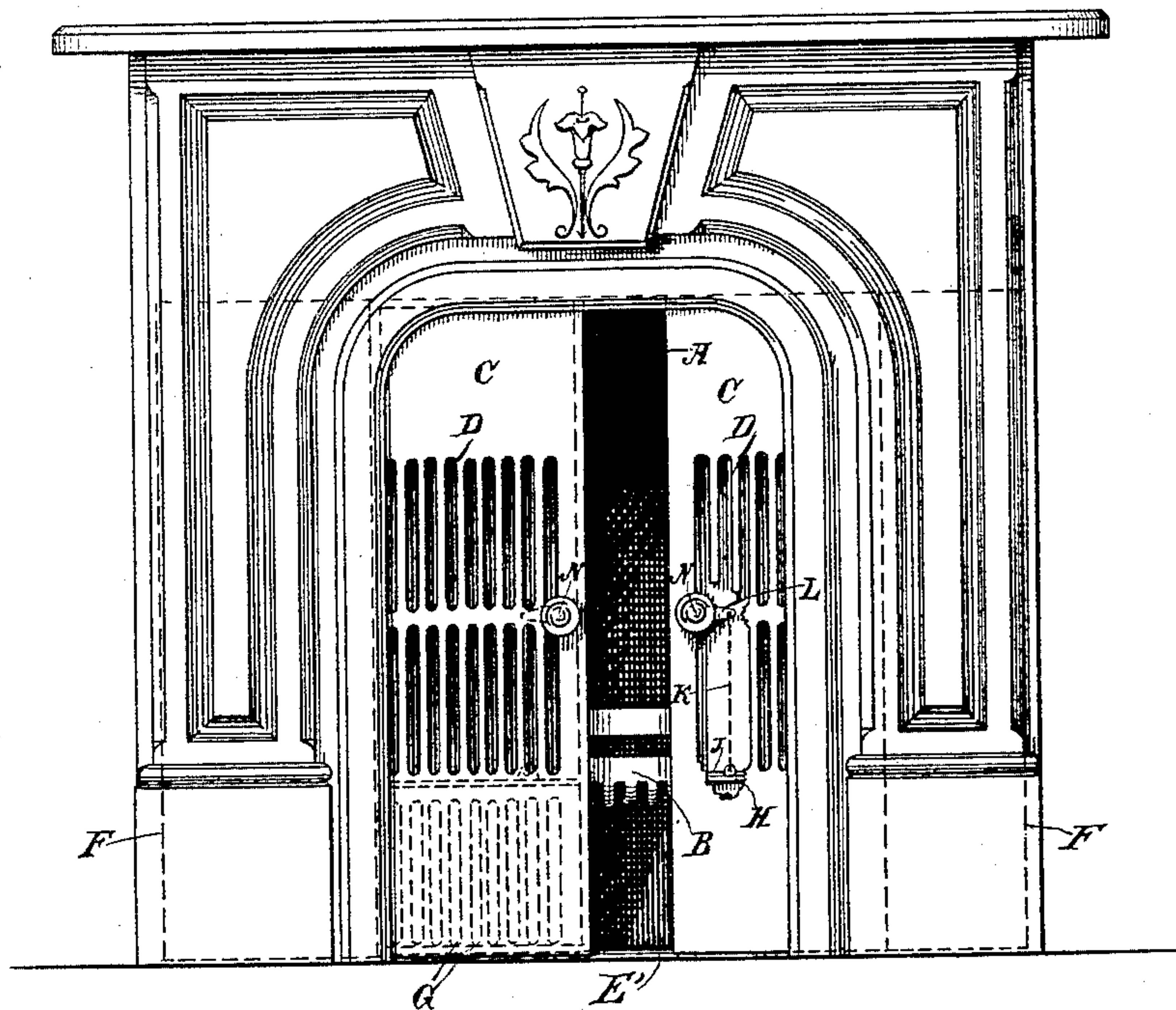
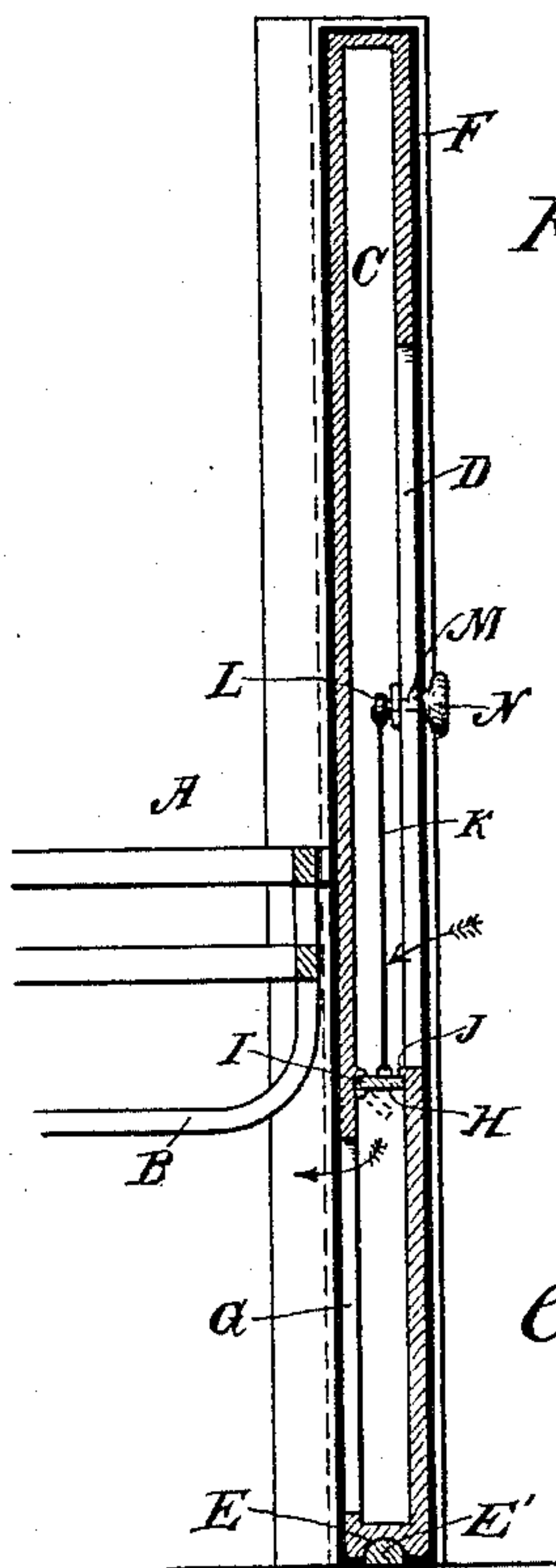


Fig. 2.



Witnesses,
J. H. Vance
H. C. Lee.

Inventor,
William H. Vance
By *Dewey & Co.*
Attys

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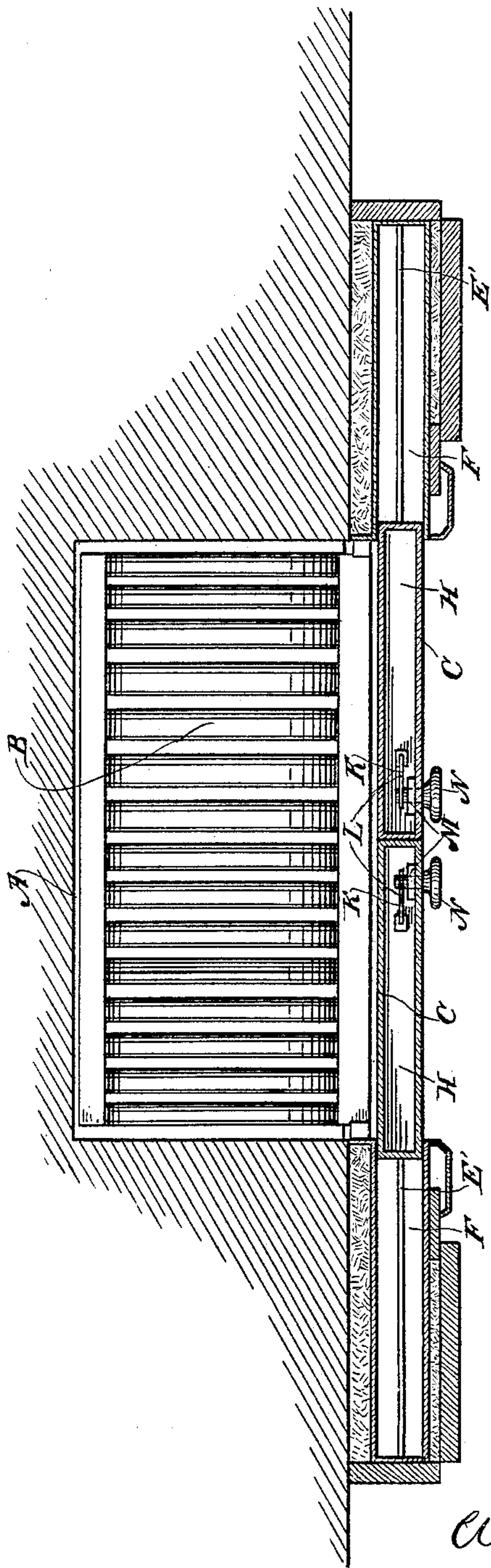


Fig. 3.

Witnesses,
J. H. Hourse
H. C. Lee.

Inventor,
William H. Vance
By Dewey & Co.
attys.

UNITED STATES PATENT OFFICE.

WILLIAM H. VANCE, OF SAN FRANCISCO, CALIFORNIA.

SHUTTER FOR FIRE-GRATES.

SPECIFICATION forming part of Letters Patent No. 453,765, dated June 9, 1891.

Application filed October 6, 1890. Serial No. 367,265. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. VANCE, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Shutters for Fire-Grates; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device which I call a "shutter or door for fire-grates," and which is especially adapted to open so as to expose the fire in the grate or to be closed so as to entirely shut it off from the room.

It consists in certain details of construction, which will be more fully explained in the following specification.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a front view showing one of the shutters partially open, so as to expose the grate. Fig. 2 is a vertical section taken in a plane from front to rear of the grate and device. Fig. 3 is a horizontal section.

A is a fire-place, having a basket or grate B, which may be constructed in the usual or any convenient form. In connection with this I employ a mantel or any other desired form of front.

C C are the sliding doors or shutters, which are made of any shape to suit the form of the grate front, either straight or curved. In the present case I have shown these doors as being made straight; but it will be manifest that the same construction can be applied to curved doors to suit the convexity of grates which may be made in that form. These doors are made of any suitable material, as iron, brass, phosphor-bronze, or other ornamental metal, and they are made double—that is, having front and back plates with an interior open space between the front and back, and flanges or edges, which close them all round the periphery.

Through the front of each of the doors I make any suitable ornamental openings or spaces D, through which air may find ingress into the space between the walls of the door, and this air serves the purpose of keeping the door cool and preventing its being injured by the heat from the grate, and also for the purpose of supplying a sufficient amount of

air to keep up the combustion within the grate when the doors are closed.

In the present case I have shown two of these doors, the lower edges of which are grooved or channeled, as shown at E, and these channels are fitted to travel upon a rail E', which is suitably fixed at the bottom and in line with the lower edges of the doors, so that the latter may be moved backward or forward upon this rail.

Upon each side of the fire-place and in line with the doors I form an open space or channel F, which is in line with the travel of the doors and above the rails E. This channel extends far enough back to allow the doors to slide into it when open, and thus expose the whole front of the grate. When closed, the doors are drawn forward, sliding upon the guideway E' until they meet in the center, and thus cutoff the whole interior of the grate from view of the room.

The channels F, in which the doors slide, may be formed in any suitable manner at each side of the grate, and may be either built into the stone, brick, or other work of the fire-place or may consist, simply, of light iron work sufficient to receive and conceal the doors when they are open.

The openings and gratings D are made only through the front of the door C, while the back plate has openings, as shown at G, made in the lower part and beneath the grate or basket B, so that when there is no obstruction air will enter through the openings or gratings D and pass downward through the space between the front and back plates of the door, and will thence pass into the space beneath the grate, so as to serve as a draft for the fire when the doors are entirely closed. It will be manifest at the same time that this current of air will, as before described, assist in keeping the door-plates cool and prevent their being injured by the heat from the fire which is behind them.

In order to regulate the draft which passes to the fire, I have shown a damper H, one edge of which is hinged, as shown at I, and the other edge is adapted to close against a ledge or stop J. A rod or chain K connects this swinging damper H with a crank-arm L, which is fixed upon the inner end of a shaft M.

This shaft is journaled in the front plate of the door, preferably at one side, and at the outer end it is provided with a handle N, by which the shaft may be turned. One of these dampers is fitted into each of the doors C, and it will be manifest that either or both of them may be opened by turning the handle N, so as to allow a full supply of air to pass through the openings D and G to the grate. Either or both of them may be partially or wholly closed, so as to cut off the air-supply. By this means the rate of combustion of fuel within the grate may be easily regulated, and at the same time the heat of the room can be increased or decreased at will by opening or closing these doors. When they are closed, they present an ornamental appearance by reason of the material of which they are made and the ornamentation of the gratings D, and in summer, or whenever the fire-place is not in use, the doors may be closed, thus entirely cutting the fire-place off and leaving an ornamental front.

These doors make it possible to leave the room when the fire is burning without danger of its falling out and causing an accident.

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

1. In combination with a grate or fire-place, sliding doors or shutters movable across the front thereof, guides upon which they are supported and travel, chambers into which the shutters may be retracted, double walls and air-spaces within said walls, and air-passages through the front and rear walls with

relation to each other, substantially as herein described.

2. The combination, with a fire-place or grate, of shutters adapted to slide in front of the grate, so as to close or open the space, said shutters being composed of front and back plates with an air-space between them, gratings or openings formed in the upper portion of the front plate, and openings in the lower portion of the rear plate, so as to deliver air beneath the grate, in combination with a damper so disposed as to cut off the supply of air between the two sets of openings, and a means whereby said damper is operated, substantially as herein described.

3. Doors or shutters adapted to slide in guides or chambers in front of a fire-place or grate, said doors having front and back plates and an air-space between said plates, openings or gratings formed through the front plate above the bottom of the grate, openings formed through the rear plate beneath the bottom of the grate, a damper journaled or suspended between the front and back plates, so as to cut off the supply of air between the two sets of openings, and a device connected with said damper and having an exterior handle or means whereby the dampers may be opened or closed, substantially as herein described.

In witness whereof I have hereunto set my hand.

WILLIAM H. VANCE.

Witnesses:

S. H. NOURSE,
H. C. LEE.