

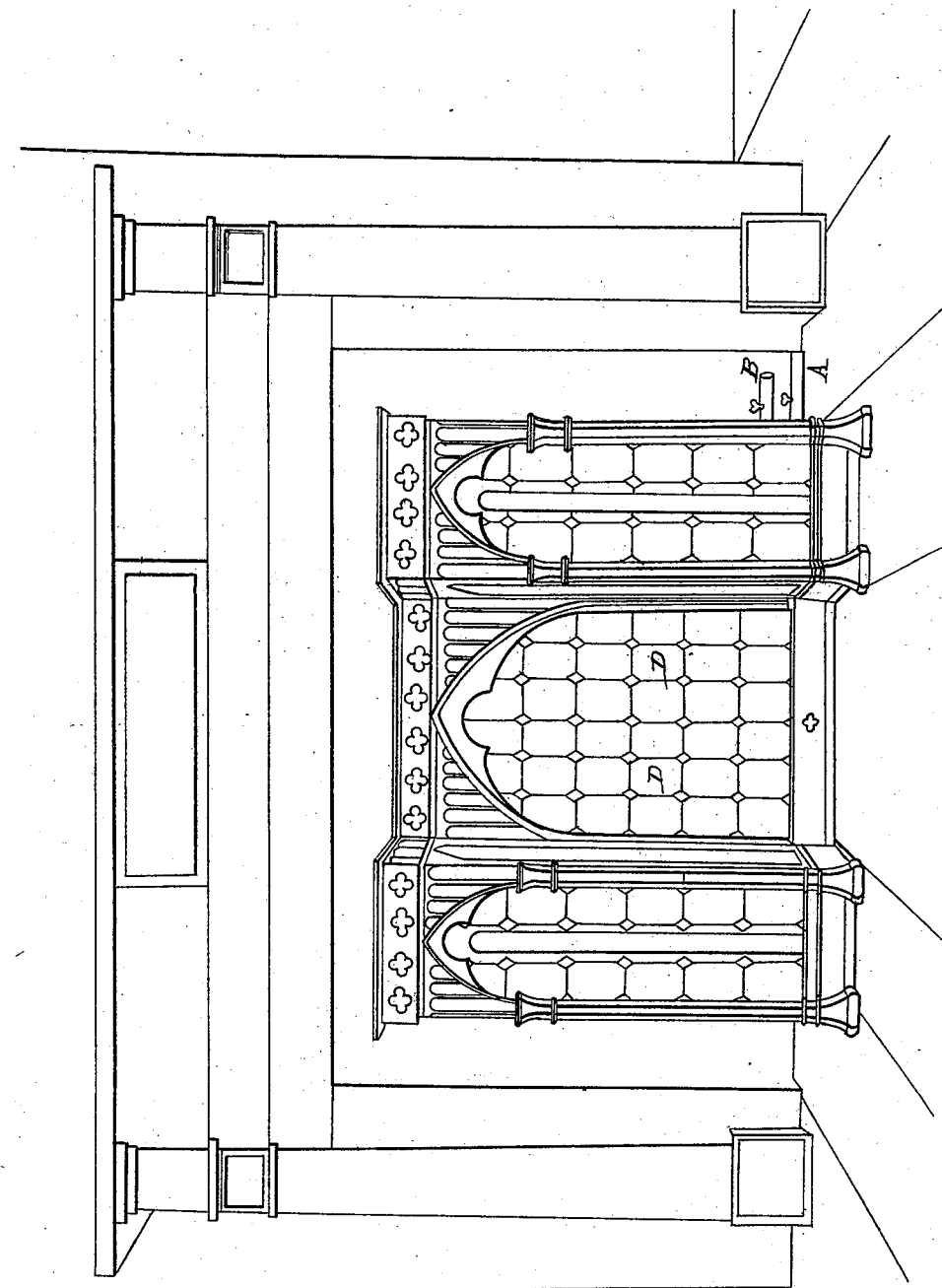
E. H. DIXON.

2 Sheets—Sheet 1.

Fire Place.

No. 347.

Patented Aug. 8, 1837.



Witnesses  
A. J. Hamilton  
J. H. Mutton

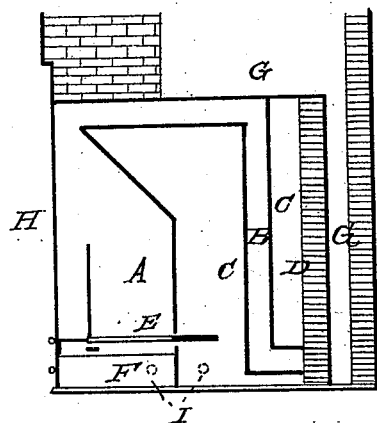
Inventor  
Edward H. Dixon

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A. J. Hamilton  
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# UNITED STATES PATENT OFFICE.

EDWARD H. DIXON, OF NEW YORK, N. Y.

## GRATE AND STOVE FOR WARMING APARTMENTS.

Specification of Letters Patent No. 347, dated August 8, 1837.

*To all whom it may concern:*

Be it known that I, EDWARD H. DIXON, of the city, county, and State of New York, have invented a new combination of improvements of the common method of warming apartments by grates and stoves without the evils appertaining to those at present in use—viz, the escape of sulfurous gas with ashes and other impurities, the absorption of heat by the bricks surrounding the fire, the necessity of obtaining air for a draft from the room thus producing currents of cold from the doors and windows, which by converging at the fire render it a precarious situation for invalids, the impossibility of consuming an amount of fuel sufficiently small to insure comfort in mild weather without a draft that can be concentrated beneath the fire, so as to insure combustion to the smallest quantity of fuel, the impossibility of lowering the temperature of the room when too warm without opening a door or window and other evils that will appear in my specification, to which is attached drawings and references by letters.

The nature of my invention consists in forming the entire internal superpieces of my grate A or stove of cast iron, fire brick, or any other suitable material in form like those in ordinary use with this exception—viz., the flue B in place of a simple horizontal course to its entrance into the chimney or pipe shall descend after four or six inches such course vertically to the bottom of the fire place or stove and again assuming the horizontal course for an inch or two, be received into a brick partition D of the fire place communicating with the chimney G or stove pipe thus forming the back and top of a chamber C whose front is formed by the back of the grate and sides by the ends of the same, the outside of this chamber being formed either by the ordinary jambs of the fire place if a grate, or a proper iron or tin exterior if a stove. This chamber after encircling the fire is to open on both sides thereof in front in the form of two gothic windows contained in towers of the same order of architecture—projecting slightly beyond the fire which is covered by mica or plate glass in form of the ordinary grand window peculiar to that order.

The two side windows furnish exit for the heat radiating from the back and ends of the fire chamber and descending flue into this chamber I introduce a pipe I from with-

out and another directly under the fire having no connection with the chamber—or its tube. The first is designed to regulate the temperature of the apartment as well as to supply fresh air in greater quantity than it can be consumed by the deoxidizing power of hot iron thus destroying the only objection to the quality of heat transmitted through iron; the second pipe secures a constant draft without exposing the front of the fire to the room, thus preventing the evils enumerated in the commencement of this specification. Each of these pipes is furnished with a damper to regulate the amount of air required by the apartment or fire.

All communication between the fire and apartment is prevented by means of sliding-doors H of iron frames containing mica or glass frames allowing the entire front of the fire to be visible and answering the purpose of a constant or occasional blower and effectually preventing a draft in front as they slide on a line with the ash pan. They must of course effectually prevent the escape of gas and ashes. These doors are divided vertically in the middle each half sliding on a smooth rod through perforations at top for its reception: they are received behind the tower on either side the fire when desirable to expose the same. When this window is applied to stoves as is necessary in the smaller sizes to avoid much breadth the door or window may be made without division and slide on vertical rods on either side thereof.

The ashes are sifted from the fire by means of a grate E sliding on two flanges from before backward. The grate forms the bottom of the fire chamber and is moved by a handle projecting from the front directly over the ash pan.

I do not claim as my invention separately and apart from said combination the introduction of air from without into a chamber having any connection with the grate for that has long since been done neither is air introduced for the purpose of warming the apartment for that it is evident would be sufficiently done by a radiating surface around the entire mass of fuel instead of the front alone hitherto the only source for such radiation, my object is to counteract the injurious quality of heat when transmitted through iron when that material is used for the fire chamber and to supply a constantly

renewed atmosphere for respiration without the evils consequent on the ordinary mode of introducing it from doors, windows &c.

What I claim as my invention is—

5 The combination of the glass or mica door as applied to grates and stoves sliding on rods or flanges either vertically entire or divided and receive behind the towers on either side the fire substantially as above de-  
10 scribed, with the bottom grate substantially as above described, together with the two

pipes and their valves as aforesaid arranged with the various parts together substantially as above described to attain the effect of warming the apartment with constant venti- 15  
lation—preventing currents of air and the escape of gas and ashes into the apartment.

EDWARD H. DIXON.

Witnesses:

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