

(No Model.)

2 Sheets—Sheet 1.

W. S. STUYVESANT.

APPARATUS FOR HEATING AND VENTILATING ROOMS.

No. 495,528.

Patented Apr. 18, 1893.

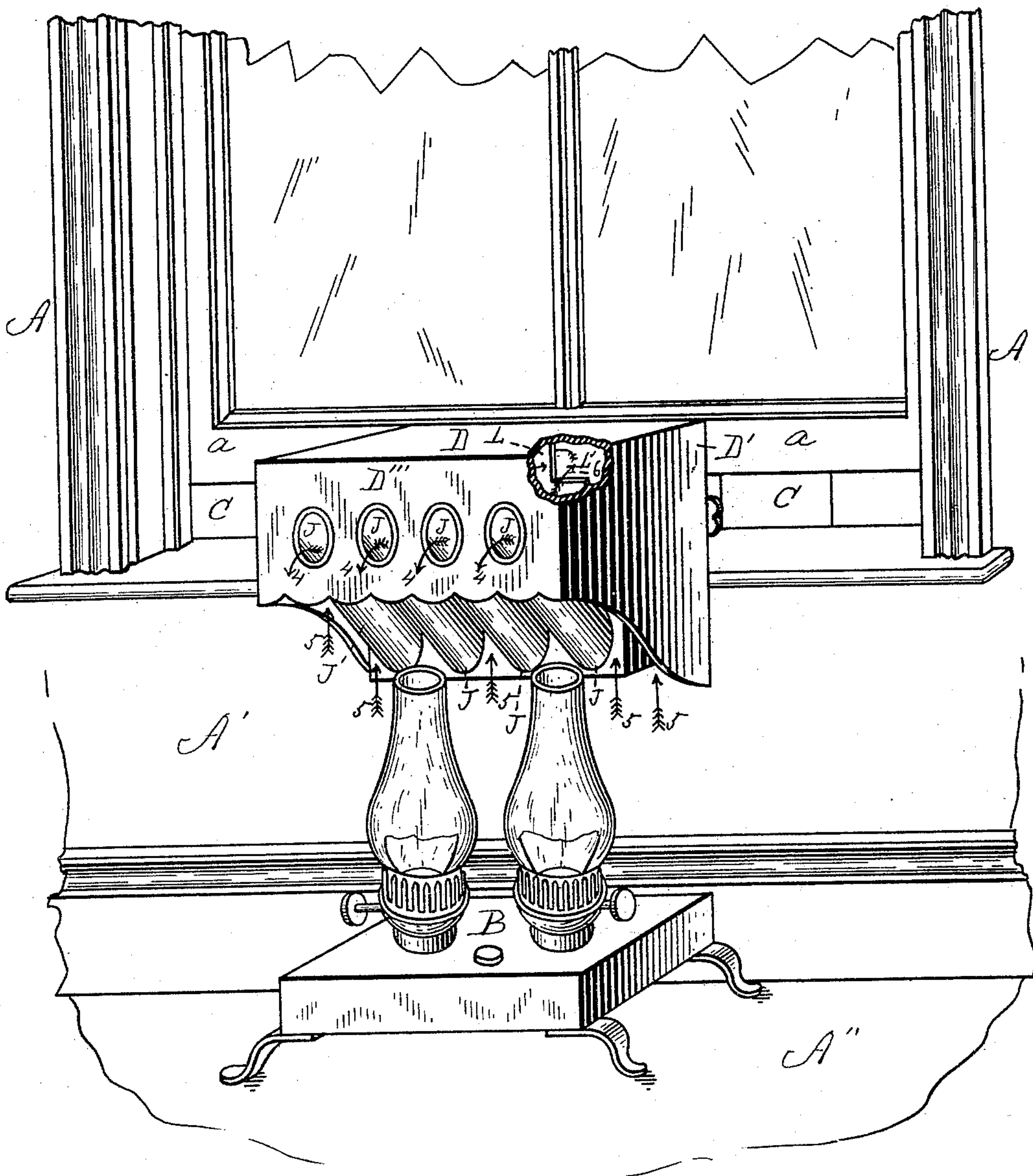


FIG. 1.

WITNESSES

Frank G. Parker.

John T. Middleton

INVENTOR

William S. Stuyvesant,

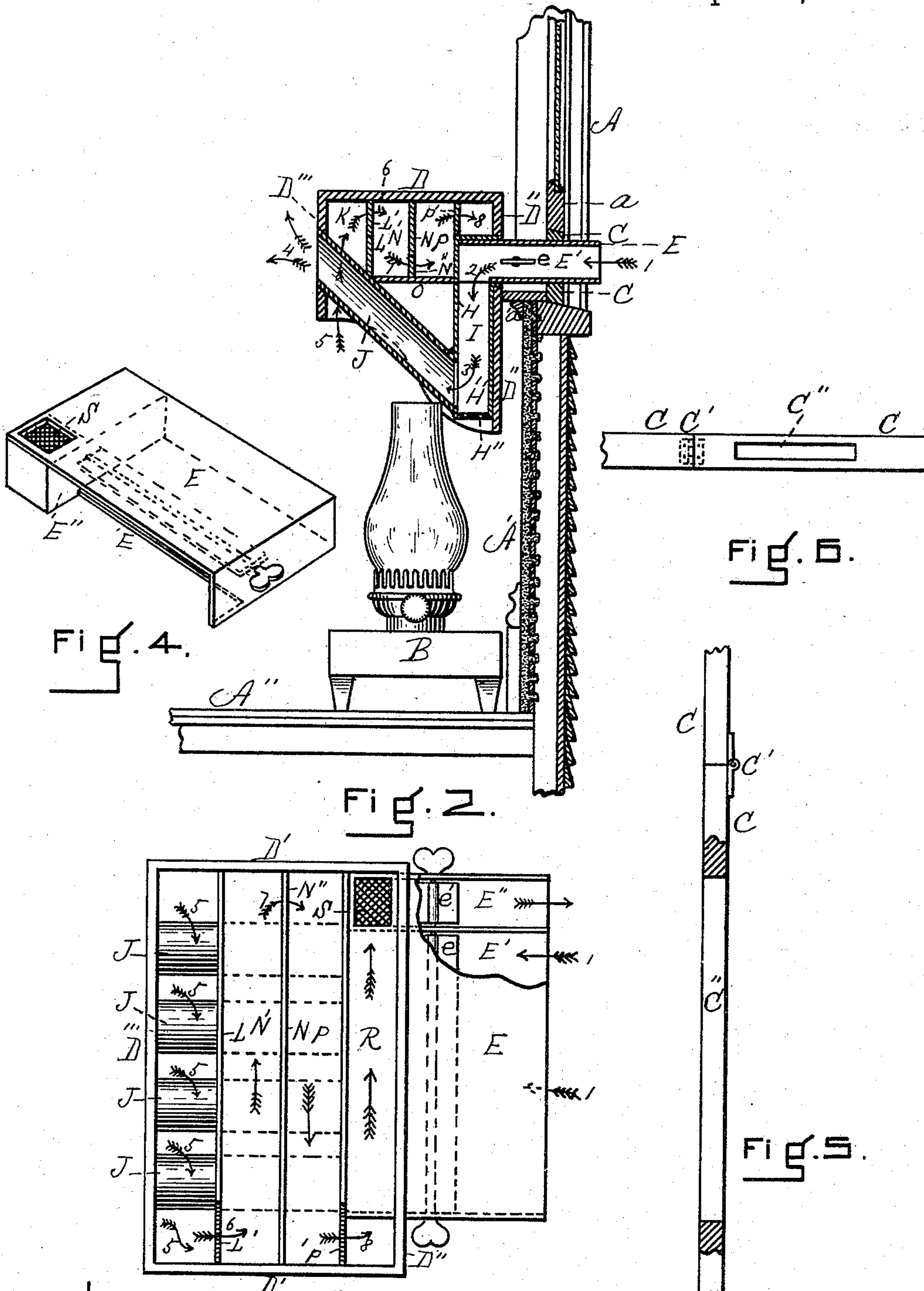
By his Atty

Henry Williams

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WITNESSES FIG. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM S. STUYVESANT, OF BROOKLINE, MASSACHUSETTS.

APPARATUS FOR HEATING AND VENTILATING ROOMS.

SPECIFICATION forming part of Letters Patent No. 495,528, dated April 18, 1893.

Application filed January 9, 1893. Serial No. 457,711. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. STUYVESANT, a citizen of the United States, residing at Brookline, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Apparatus for Heating and Ventilating Rooms, of which the following is a specification.

This is a combined heater and ventilator for heating and ventilating rooms. It is intended to be placed next a window or other aperture, and in operation it introduces warmed pure air from outside into the room, without interfering with the use of the window, and at the same time conducts foul air from the floor of the room, together with the products of combustion, to the outside. As will readily be seen, this device possesses the great advantage over oil and gas stoves of not vitiating the air in the room, as the air which is heated is pure outside air, and all the time that air is being introduced into the room, air is being conducted from it. Again, this apparatus heats the air next the floor, in its immediate vicinity, very quickly, and as the device is next a window, it heats that portion first which is usually heated last.

The quickness of its operation, the amount of heat thrown out and the cheapness of its construction are additional advantages possessed by the invention.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which,

Figure 1 is a perspective view of my device in position for use. A small portion is represented as broken out in order to better illustrate the invention. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a plan view of the apparatus with the top removed, a small portion being represented as broken out. Fig. 4 is a perspective view of the flue-box removed. Fig. 5 is a plan view of a portion of the window-board placed beneath the lower sash of the window with a part broken out so as to show the position of the opening therein. Fig. 6 is an elevation of a portion of the same.

Similar letters of reference indicate corresponding parts.

A represents a window in a room, A' the

wall below the window, and A'' the floor. In place of this window, any aperture or opening may be used, and in some cases it may be considered advisable to produce openings especially adapted for my apparatus.

α is the window sash.

B is a kerosene oil stove. Any heating apparatus or fuel, however of any description may be employed in its place. This stove is placed on the floor, or at any convenient height therefrom next and under the window. The window sash α is slightly raised and rests on a window board C preferably hinged at C' in order that it may be conveniently inserted in the "run" of the window as shown and laid on the sill. This window-board is provided with the opening C'', (see Figs. 5 and 6.)

D is the top wall, D' D' the side walls, D'' the rear or outer wall, (next the window) and D''' the front or inner wall of my apparatus, which is constructed of metal, and is set over the kerosene stove B as shown. It is supported in any desired manner, but particularly by a flue-box E which extends from it through the opening C'' in the window board C, and by the sill α' —or a board lying on it if desired—against which the wall D'' rests. The flue-box contains two flues, the broad, fresh air or inlet flue E', and the smaller foul air or outlet flue E'' both of which are provided with suitable dampers $e e'$ (Figs. 1, 2, and 3). The upper wall of the flue E extends in under the horizontal partition F to the vertical partition H, but the lower wall is cut off as shown in Figs. 2 and 4, so as to allow the fresh air to pass from the flue E down the broad vertical passage or flue I formed by the partitions H H' and having the closed bottom H''. A number of flues J extend from corresponding perforations in the lower portion of the wall H diagonally up through openings in the wall D''' and thus lead into the room. The fresh air therefore, passes in through the flue E', down through the passage I and up into the room through the flues J, as clearly shown by the arrows 1, 2, 3, 4, in Figs. 1, 2 and 3. These flues J are subjected to the direct heat from the chimneys of the lamps B, and the air in them is very quickly heated as it passes through. Moreover, the heat is radiated or reflected from the flues J and from

the adjacent parts of the apparatus in the direction of the floor so that the temperature near the floor quickly becomes very high.

The hot air containing the products of combustion starts to pass out by rising from the flames into the apparatus as shown by arrows 5, Figs. 1, 2, and 3, and passes up by the flues J into a horizontal passage or chamber K formed by the wall D''' and the partition L, thence the air passes through an opening L' in the upper right hand corner of the partition L (see arrow 6, Figs. 1 and 2), into a passage or chamber N' formed by the partition L partition N and bottom plate O. The air passes horizontally along the passage and through an opening N'' (see arrow 7) in the lower left hand corner of the partition N into the similar passage P which is formed by the partitions N and H and bottom plate O, and thence through an opening P' in the upper right hand corner of the partition H (see arrow 8) into the passage R, and thence through the grating or netting S into the flue E'' and thence into the outside air. Thus the hot air from the flames is retarded and helps to heat the room and the foul air follows it out into the open air. A constant circulation is thus produced, with the effect of keeping the air in the room both pure and warm.

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

1. An apparatus for heating and ventilating rooms, comprising an inlet flue as E' connect-

ing with the outer air, distributing flues as J opening into the room for introducing fresh air, a flue as I connecting said flues E' J, a series of connected flues or passages K N' P and outlet flue E'' whereby the air from the room and the products of combustion are circuitously conducted to the outer air, and a heater as B, substantially as set forth.

2. In an apparatus for heating and ventilating rooms, the combination of the flue-box E provided with the inlet flue E' and extending from the outer air into the apparatus, the down flue I, the diagonally placed up flues J, and a heater placed beneath the flues J, substantially as described.

3. In an apparatus for heating and ventilating rooms, the combination of the top plate D, side walls D', rear and front walls D'', bottom plate O, partitions L N H producing passages K N' P, said passages being connected by non-coincident openings L' N'' P', the outlet flue E'', and a heater whereby the warm air is conducted circuitously to the outer air, substantially as set forth.

4. In an apparatus for heating and ventilating rooms, the combination of the flue-box E and the window-board C jointed at C' and provided with the opening C'', substantially as described.

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Witnesses:

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