

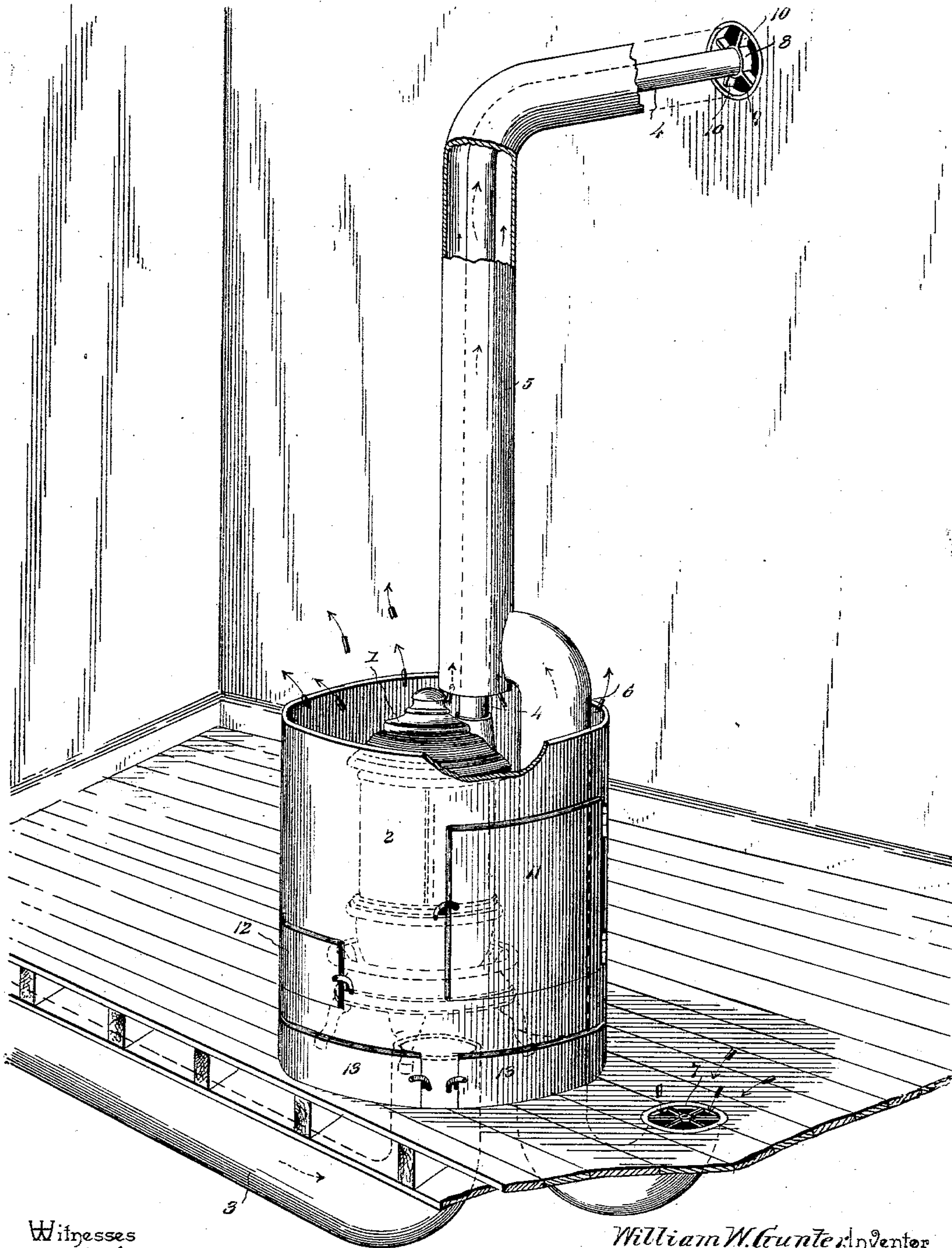
No. 629,961.

Patented Aug. 1, 1899.

W. W. GUNTER.  
COMBINED VENTILATOR AND HEATING DRUM.

(Application filed Jan. 21, 1898.)

(No Model.)



Witnesses

E. F. Stewart.

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# UNITED STATES PATENT OFFICE.

WILLIAM WALLACE GUNTER, OF STANBERRY, MISSOURI.

## COMBINED VENTILATOR AND HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 629,961, dated August 1, 1899.

Application filed January 21, 1898. Serial No. 667,471. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WALLACE GUNTER, a citizen of the United States, residing at Stanberry, in the county of Gentry and State of Missouri, have invented a new and useful Combined Ventilator and Heating-Drum, of which the following is a specification.

My invention relates to heating-drums, and particularly to an apparatus designed for promoting a circulation of air in an apartment and inducing ventilation, whereby pure air is supplied and impure air is withdrawn.

The object of the invention is to induce a positive draft through the impure-air duct or conveyer, whereby foul air is positively drawn from the room which is being ventilated, and, furthermore, to provide such a construction and arrangement of parts as to adapt the apparatus to be applied to a heating device, such as a stove, of any ordinary construction.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawing the figure represents a heating apparatus constructed in accordance with my invention applied in the operative position to a stove, the drum of the apparatus being partly broken away.

It will be understood that the heating apparatus may be arranged for communicating heat to and ventilating either the room in which the stove or heating device is arranged or another or a series of apartments different from that in which the stove is located; but for the purpose of illustration it will be sufficient to show the apparatus as adapted for heating the apartment in which it is located.

Resting upon the floor and surrounding the stove or other heating device 1 is a cylindrical drum 2, open at its upper end to allow the escape of heated air at that point, as indicated by the arrows, and communicating with the drum at its bottom, and preferably below the bottom of the stove, is a pure-air-inlet conveyer or induction-pipe 3. The draft or smoke pipe 4 of the stove extends vertically upward through the drum and is incased from a point contiguous to the stove to its point of communication with the chimney-flue by an eduction-conveyer or vent-pipe 5,

located concentrically with relation thereto and also having communication with the chimney-flue. This eduction-pipe is provided with a branch 6, also extending through the drum and having an inlet end protected by a suitable register 7, located outside of and preferably contiguous to the drum in the floor of the apartment in which the stove is located. To facilitate the fixing of the upper extremities of the smoke-pipe and eduction-pipe, the former is fitted in a collar 8, concentric with the flue-opening 9 and spaced from the walls thereof by means of suitable radial braces, which, with the collar, form a spider. The end of the eduction-pipe is adapted to fit in the flue-opening, while the smoke-pipe is seated in the collar to maintain said parts in the desired relative positions.

The drum is provided with suitable coal and ash doors 11 and 12, adapted to give access to the corresponding doors of the heating device or stove, and contiguous to the bottom of the drum I have shown air-inlet openings fitted with doors 13.

When the apartment in which the apparatus is located is to be heated, it is preferable to open the doors 13 in order that the air necessary to allow an updraft or circulation through the drum may be drawn from the room; but subsequently these doors should be closed to insure the induction of pure air through the pipe 3, of which the outer extremity is preferably located without the building. The heat radiated from the stove causes an updraft through the drum and the discharge of heated air into the room, while at the same time the heating of the eduction-pipe both by the hot air of the drum entering the lower open end thereof and the heat radiated from the smoke-pipe causes an upward tendency of the air in the eduction-pipe, and hence a suction at the inlet end 7 of the branch, which has the effect of removing impure air from the apartment at a point contiguous to the heating device, where the greatest accumulation of such air is found.

In addition to the fact that the body portion of the eduction-tube incloses the smoke-flue from its point of communication with the heating device to the chimney-opening it will be seen that a branch of said eduction-tube extends downwardly through the drum adja-



cent to the heating device, where it is exposed to the radiant heat thereof, and thus serves, both by conduction and by convection of the heat through the agency of the upwardly-moving column of air, to heat the wall of the eduction-tube throughout its length. Hence, in addition to inducing a ventilating current of air through the eduction-tube, the above-described arrangement of said tube adapts it to perform the function of a radiator, by means of which a portion at least of the heat which would otherwise be lost is radiated and assists in raising the temperature of the apartment.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

A heater, and a smoke-pipe connecting the heater with the chimney-flue, in combination with a vent-pipe inclosing the smoke-pipe throughout its length and connecting at its

upper end with the said chimney-flue and having its lower end portion vertically disposed, open and terminating short of the juncture of the smoke-pipe with the heater, a vertical branch pipe arranged close to a side of the heater and communicating at its upper end with the vent-pipe above the open lower end of the latter, and having its lower end communicating with the lowest portion of the room in which the heater is placed, a drum incasing the heater and branch pipe and closed and supported at its lower end by the floor, and having its upper end open, and substantially on a level with the lower open end of said vent-pipe, and means for supplying fresh air to the lower end of the drum, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM WALLACE GUNTER.

Witnesses:

JOHN H. SCHWALM,  
E. E. LAWRENCE.