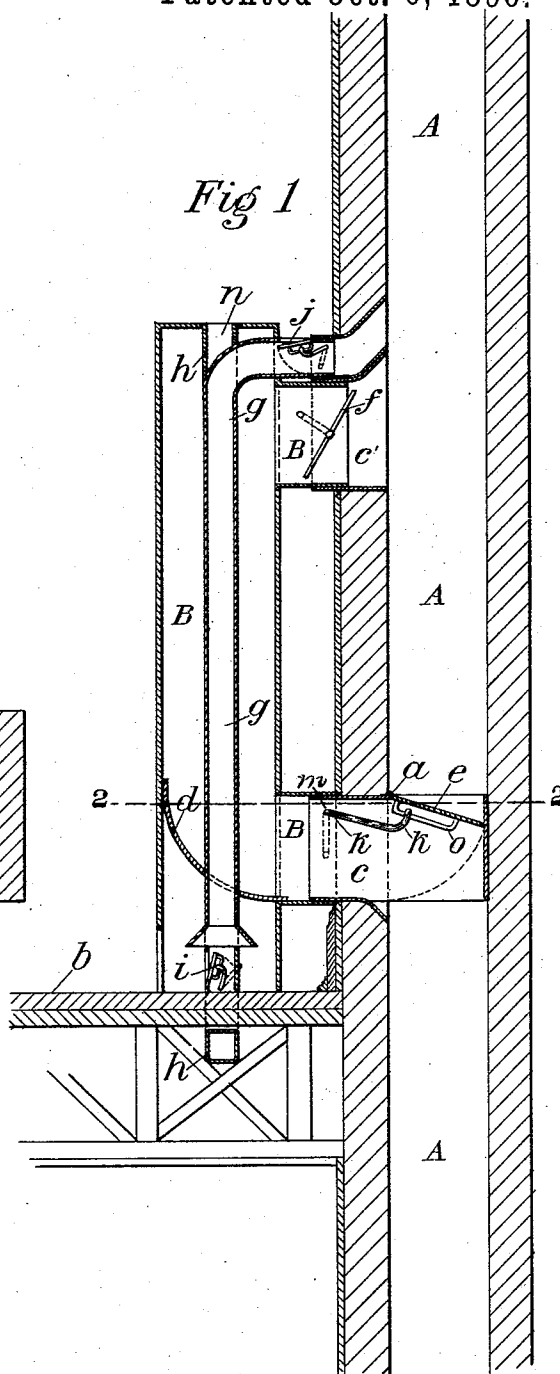
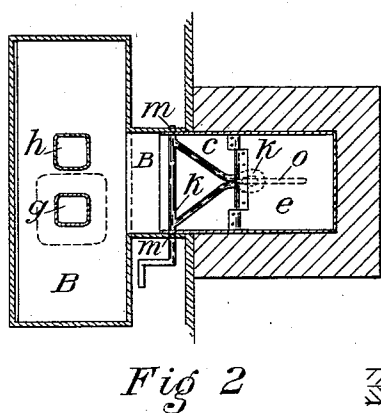
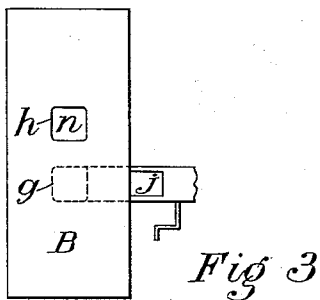


(No Model.)

G. L. MARBLE.
HEATING AND VENTILATING APPARATUS.

No. 568,954.

Patented Oct. 6, 1896.



Witnesses.

Arson Holmes Foot.

Adelbert Warren Shafer.

Inventor.

Inventor.
Galeth Lincoln Marble

per Edward Lyster M. Laughlin

Charles Edward Remsburg.
John A. Atkinson, Attorney

Attorneys.

UNITED STATES PATENT OFFICE.

GALETT LINCOLN MARBLE, OF SEATTLE, WASHINGTON.

HEATING AND VENTILATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 568,954, dated October 6, 1896.

Application filed January 31, 1895. Serial No. 536,876. (No model.)

To all whom it may concern:

Be it known that I, GALETT LINCOLN MARBLE, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Heating and Ventilating Apparatus, of which the following is a specification.

My invention relates to improvements in heating and ventilating apparatus which heat and ventilate a room or apartment by connection with a furnace, stove, fireplace, or grate, or flue or chimney through which the products of combustion pass to the outer atmosphere.

The objects of my invention are to utilize and radiate heat from a stove, furnace, fireplace, or grate, and especially to utilize and radiate heat which usually passes off through a chimney or flue to the outer atmosphere. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire apparatus. Fig. 2 is a horizontal cross-section of the apparatus, taken on the line 2 2, Fig. 1. Fig. 3 is a top view of drum, showing opening of fresh-air conductor.

Similar letters refer to similar parts throughout the several views.

In Fig. 1, A is a flue. B is a metal drum or heater. *c* and *c'* are flues connecting drum B to flue A. *e* is a valve or damper hinged at *a* and operated by lever *k*, by which the products of combustion are regulated to either pass entirely up the flue A or through drum B, passing thence through flue *c'* and out through flue A. *f* is a damper by which the products of combustion passing out from drum B to flue A may be regulated. *g* is a ventilating-flue or foul-air conductor extending from near the surface of the floor *b*, through bottom *d* of drum B, and passing to near the top of said drum B, thence out into flue A or any other foul-air conductor. *j* is a valve or damper similar in construction to valve *e*, by means of which the air passing up through flue *g* may be made to pass back into the room or apartment or be exhausted into flue A, as may be desired. *h* is a fresh-air flue or conductor extending from any convenient fresh-air supply through bottom *d* of

drum B, passing through the entire length and forming an opening *n* at top of said drum B, by means of which the fresh air, while passing through flue *h*, becomes heated and circulates through the room or apartment. *i* is a valve or damper similar in construction to valve *e*, by means of which the supply of fresh air may be entirely cut off and air taken from the room or apartment instead.

In Fig. 2, *k* is a triangular-shaped lever, with bearings at *m*, by means of which damper *e* is regulated. *o* is a rod fastened to damper *e* and passing through lever *k*, allowing a reciprocating motion as damper *e* is opened or shut.

The operation of my invention is as follows: The heat and other products of combustion pass from a stove, fireplace, furnace, or grate, or from a flue or chimney A, through flue *c*, into B, around both fresh-air conductor *h* and foul-air conductor *g*, both in B, through flue *c'*, again into A, thereby utilizing and radiating heat by means of its passing through the drum B, further thereby ventilating the room or apartment by the fresh air passing into the room or apartment through the conductor *h* being heated and by the foul air being allowed to escape through conductor *g*.

The amount of heat passing into the drum B may be regulated by the damper *e*. The amount of heat in drum may be also further regulated by opening or closing the damper *f*.

I claim as my invention—

1. A heating-drum comprising an inlet-flue, an outlet-flue, a fresh-air flue extending through the drum having an inlet-opening from the room at its lower end, and an outlet-opening discharging into the room at its upper end, a damper located within the fresh-air flue adjacent to and controlling the inlet-opening within the room, and the supply of fresh air from the outside; substantially as described.

2. The heating-drum B, provided with a ventilating air-flue *g* having a valve *j* by means of which the air passing up the air-flue is admitted into the room or apartment or may be caused to pass into the main flue as may be desired; substantially as described.

3. A heating-drum comprising an inlet-flue

c, an outlet-flue *c'*, a fresh-air flue *h* extending through the drum having an inlet-opening at its lower end outside of the room and an outlet-opening discharging into the room
5 at its upper end, and a ventilating-flue *g* extending through the drum having an inlet-opening from the room at its lower end and

an outlet-opening discharging outside of the room at its upper end; substantially as described.

GALETT LINCOLN MARBLE.

Witnesses:

AARON HOLMES FOOTE,
ADELBERT WARREN SHAFER.