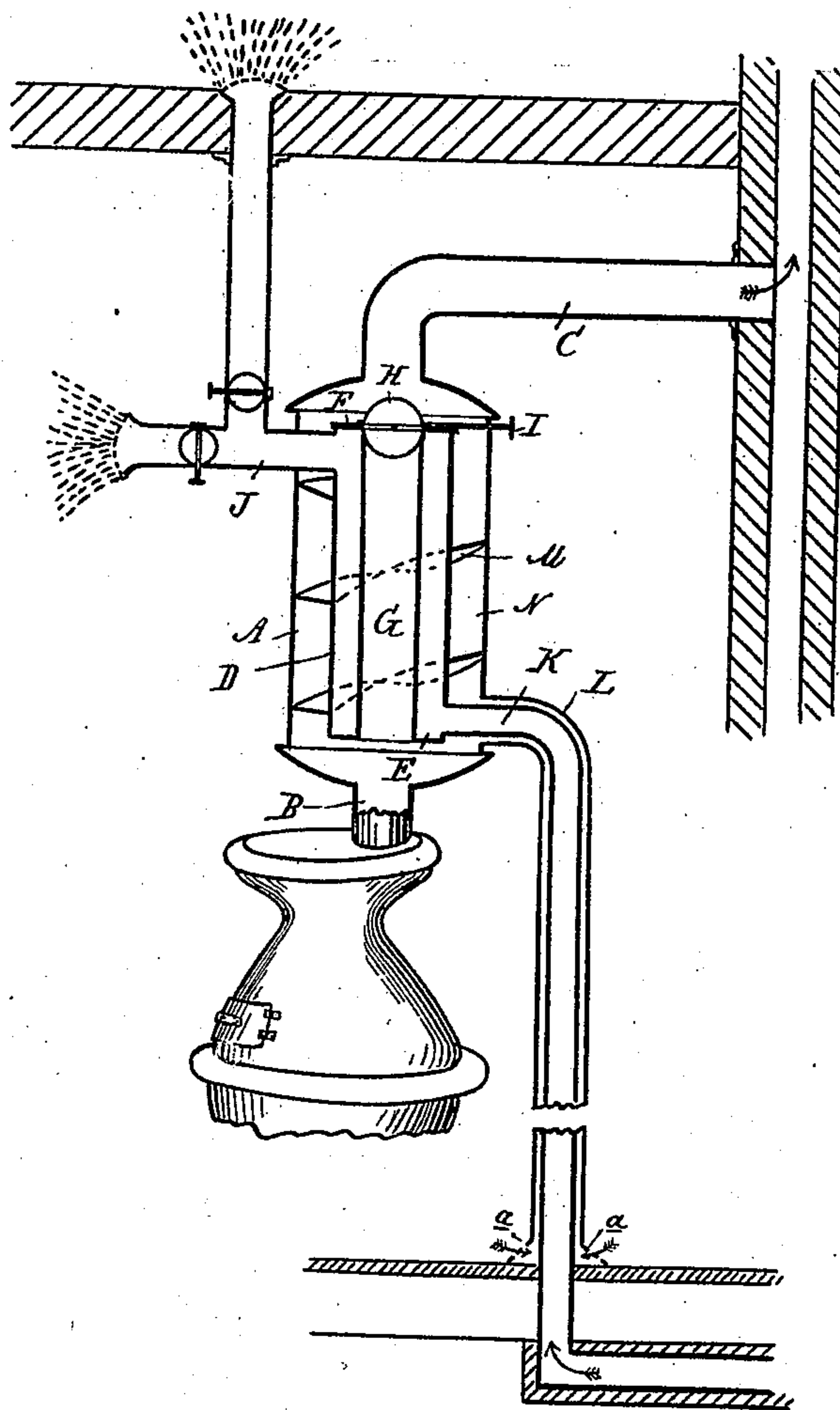


(No Model.)

J. SPRINGER.
HEATING DRUM AND VENTILATOR.

No. 330,633.

Patented Nov. 17, 1885.



Inventor:

John Springer.

by his Atty

Thos. J. Sprague

UNITED STATES PATENT OFFICE.

JOHN SPRINGER, OF CLINTON, WISCONSIN.

HEATING-DRUM AND VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 330,633, dated November 17, 1885.

Application filed April 29, 1885. Serial No. 163,806. (No model.)

To all whom it may concern:

Be it known that I, JOHN SPRINGER, of Clinton, in the county of Rock and State of Wisconsin, having invented new and useful
5 Improvements in Heater-Drums and Ventilators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this
10 specification.

This invention relates to certain new and useful improvements in stove-pipe drums and ventilators; and the invention consists in the peculiar construction and arrangement of an
15 outer and inner drum, between which is located a spiral flue, while through the center of the inner drum is arranged a direct-draft smoke-flue; in the peculiar arrangement of air pipes and passages, and in the combinations of the various parts, all as more fully
20 hereinafter set forth.

In the accompanying drawings, which form a part of this specification, and in which my improved drum is shown in central vertical section and mounted upon a stove, A represents
25 an outer shell or drum provided with closed ends, which are in turn provided with smoke inlet and exit pipes B and C, designed to be inserted in the line of stove-piping at the
30 desired point, as in the ordinary manner.

D represents the inner drum, which is provided with the heads E and F. Through this drum is formed the flue G, in line with the inlet and exit pipes B and C, while the upper
35 end of such flue G is provided with a damper, H, adapted to be operated by a damper-handle, I, from the outside of the shell A. At or near the upper end of the drum D, and connecting with the annular space between it and
40 the flue G, is an air-flue, J, which passes through the wall of the outer drum to discharge the heated air into the room, or to a line of piping to deliver the heat to a room above. At the lower end of the inner drum,
45 D, and communicating therewith, is an air-inlet pipe, K, which passes out through the wall of the shell A, and thence to the outer air, so as to deliver fresh air to the device. Surrounding this air-pipe K is a larger pipe, L,
50 which communicates with the drum A, while its opposite end extends to the floor and is provided with a series of holes, a, to admit of

air being drawn into the pipe L from the floor of the room. In the annular space between the inner and outer drums, and about the
55 length of the inner drum, I rigidly secure a spiral flue-strip, M, in any convenient manner, thus converting such annular space into a spiral flue, N.

In practice when the device is mounted
60 upon a stove, as shown, when a direct draft is desired, as in starting a fire, the damper H is opened, allowing the smoke and products of combustion to pass directly to the exit-pipe through the flue G, and thence to the chimney. By turning the damper H so as to close
65 the upper end of the flue G the products of combustion are compelled to find exit by passing up the spiral flue N, and in its passage throwing off a portion of its heat by radiation
70 from the outer drum, A, while it also heats the air contained in the inner drum, causing it to discharge the heated air into the compartment through the pipe J. This creates a
75 draft through the pipe K from the outside, thereby furnishing the room continuously with a fresh supply of heated air from the outside, forcing the cold air to the floor, where it is drawn into the pipe L and discharged
80 through the drum A with the products of combustion.

The heads E and F of the inner drum I prefer to make of cast-iron with flanges upon which to secure the ends of the drum and
85 flue G.

What I claim as my invention is—

1. In a combined heater-drum and ventilator, the combination, with the drums A D and flue G, arranged within the drum D, of the
90 flue L, communicating with the drum A, and the flue K, arranged within the flue L and communicating with the drum D, substantially in the manner and for the purposes specified.

2. In a combined heater-drum and ventilator, the combination of the drums A D, smoke-flues B, C, and G, air-flues J, K, and L, damper H, and spiral flue-strip M, when constructed,
95 arranged, and operating substantially in the manner and for the purposes specified.

JOHN SPRINGER.

Witnesses:

ALB. TUTTLE,
E. PREBLE