

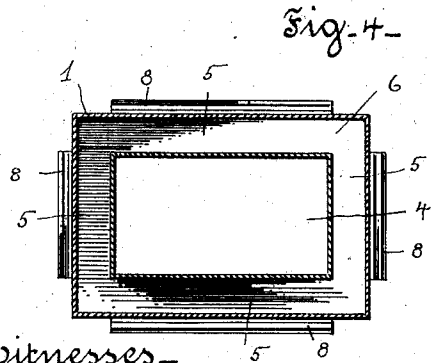
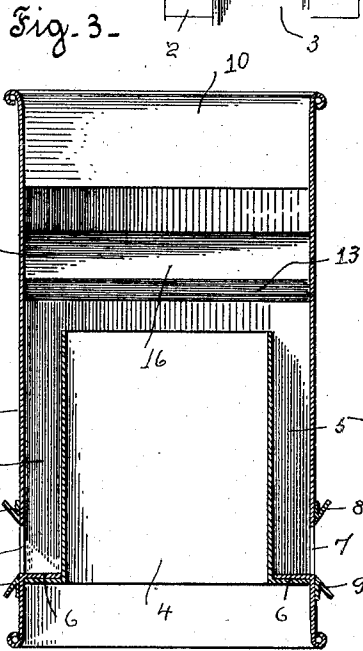
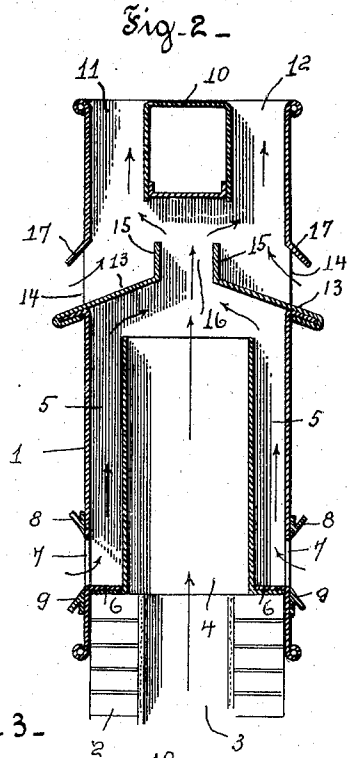
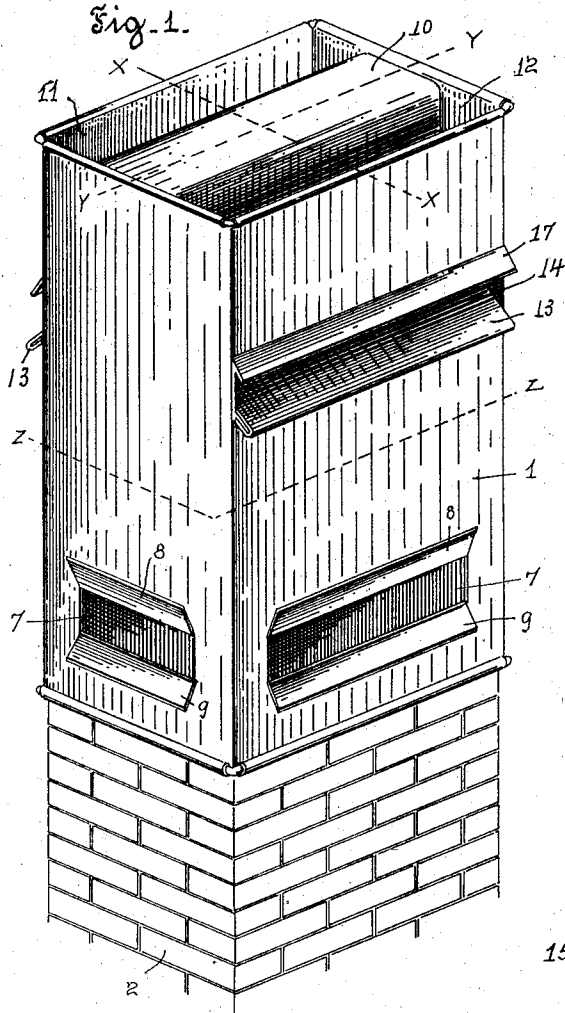
No. 736,748.

PATENTED AUG. 18, 1903.

J. F. LE BEAU. CHIMNEY TOP AND VENTILATOR.

APPLICATION FILED APR. 14, 1902.

NO MODEL.



Witnesses—
Chas. A. Rose
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UNITED STATES PATENT OFFICE.

JOHN F. LE BEAU, OF TOLEDO, OHIO, ASSIGNOR TO CARL H. A. BECKMAN,
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CHIMNEY-TOP AND VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 736,748, dated August 18, 1903.

Application filed April 14, 1902. Serial No. 102,742. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. LE BEAU, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Chimney-Tops and Ventilators, of which the following is a specification.

My invention relates to a chimney-top and ventilator, and has for its object to provide a device of the above character adapted to prevent downdraft through chimneys and ventilating-shafts under all conditions established by the different directions of wind-currents and offering no resistance to the exit of gases or air when the atmosphere is undisturbed.

The object of my invention is accomplished by providing a super imposable top for chimneys and ventilating-shafts having a flue centrally housed therein adapted to extend the chimney-flue, said extension-flue being surrounded by an air-chamber provided with wind-openings at the base of the chamber on all sides of the ventilator to accelerate the updraft of the chimney when the wind is blown against the chimney in a horizontal direction and by providing means to effect the escape of the gases from the chimney when the wind blows downward thereon, comprising a separator and deflecting-diaphragms arranged to direct and intercept a downward draft and discharge it with the gases through side openings formed in opposite walls of the ventilator-top.

In the drawings, Figure 1 is an isometric view of a chimney-top and ventilator constructed in accordance with my invention. Fig. 2 is a transverse vertical section through the same on the line X X of Fig. 1. Fig. 3 is a longitudinal vertical section through the same on the line Y Y of Fig. 1, and Fig. 4 is a horizontal section on the line Z Z of Fig. 1.

In the drawings, 1 designates a rectangular ventilator-casing of sheet metal having a base arranged to inclose and telescope over a brick stack 2, which is provided with a central flue 3 for the exit of gases of combustion or ventilation. In the lower end of the casing 1 there is located a flue 4, continuing for a distance the chimney or ventilating-flue and forming

a continuous air-chamber 5 between the walls of the casing and the walls of the extension-flue 4. The chamber thus formed is suitably closed at the bottom to provide a base-ledge 6, adapted to support the ventilator-casing upon the chimney. Directly above the ledge 6 there are formed in all of the walls of the casing suitable openings 7, provided with oppositely-deflected plates 8 and 9, respectively arranged at the top and bottom of the openings, and the plates may comprise portions of the casing-walls cut through to form the openings 7, or separate plates may be suitably attached to the walls to operate as funnels for the openings. The flue 4 extends from the base-ledge a suitable distance toward the top of the casing to direct upward air-currents blown into the chamber 5 through any of the openings 7, and thereby operate to accelerate updraft in the chimney or ventilating-flue when wind-currents blow against the casing in a horizontal direction. In order to prevent downdraft through the flue when wind blows down the chimney, I have provided a separator 10, of suitable width and depth, arranged centrally and lengthwise in the top of the casing to divide the outlet into separate flues 11 and 12 and operating as a hood over the extension-flue 4. The downdraft through flues 11 and 12 is intercepted by diaphragms 13, which extend in reversely-declined positions from under the separator toward the opposite side walls of the casing and project through openings 14, formed in each side wall for the exit of the intercepted downdraft and the outflow of smoke or other gases from flue 4 induced by the downdraft. The diaphragms 13 also operate as hoods over the side portions of the air-chamber 5 and overlap the sides of the flue 4 and are formed with integral vertical bent portions 15, underlapping the separator and forming a throat 16, extending from end wall to end wall of the casing in free communication with the flue 4, the surrounding air-chamber 5, and the flues 11 and 12. The tops of the side openings 14 are provided with plates 17, arranged to deflect down currents of wind and produce a siphonic action to draw both the downdraft and the updraft through openings 14.

- In operation a chimney or ventilating top constructed in accordance with my invention and mounted upon a chimney or ventilating-shaft is adapted to accelerate updraft in the
- 5 flue whatever may be the direction of the air-currents. The openings 7, located at the base, one on each side of the air-chamber 5, are adapted to admit horizontal currents of wind into the chamber from whatever direction
- 10 they may come, where they are directed upward along the walls of the flue 4 and deflected by diaphragms 13 through the throat 16, thereby increasing the draft through flue 4 to the outlet-flues 11 and 12.
- 15 Under certain conditions a chimney or ventilating-shaft located beside tall buildings is inoperative by reason of induced currents of air that blow down into the flue-openings and check the updraft, which is also obviated by
- 20 mounting thereon a ventilator of my construction. In such case when the wind blows down upon the outlet of flues 11 and 12 the diaphragms 13 deflect the downdraft through the side openings 14, which forms a suction
- 25 that draws through the side openings, the gases passing upward through the throat 16, thereby assisting the draft in the flue 3 under down currents of air as well as under horizontal currents.
- 30 By use of the plates 8 and 9 at the base-openings 7 the openings are made funnel-shaped, thereby increasing the force and velocity of the up currents. Horizontal currents directed against a side of the ventilator

will be deflected upward through both open- 35
ings 7 and 14 of that side.

What I claim to be new is—

In a chimney-top and ventilator an extension-flue for the chimney, a casing arranged to house and surround the extension-flue 40
with side and end air-chambers closed at the bottom and open at the top and having lower inlet-openings formed thereto in the sides and end walls of the casing; upper inlet-openings and deflector-plates extending inward there- 45
from with an upward pitch from end wall to end wall from opposite sides of the casing having a width to project over the side air-
chambers to partially hood the flue-opening and form for the updraft from the chimney- 50
flue and the air-chamber, a contracted outlet-throat extending from end wall to end wall of the casing, a separator extending lengthwise through the area of the top open- 55
ing of the casing having a width to act as an eave for the outlet-throat and the end air-chambers and having a depth to form side
flues to direct downdraft upon the pitched deflector-plates, the upper outlet-openings 60
protected by top and bottom deflector-plates.

In witness whereof I have hereunto set my hand this 9th day of April, A. D. 1902.

JOHN F. LE BEAU.

Witnesses:

F. S. MACOMBER,
S. E. MACOMBER.