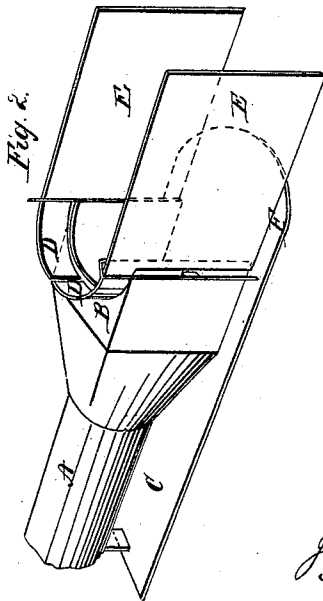
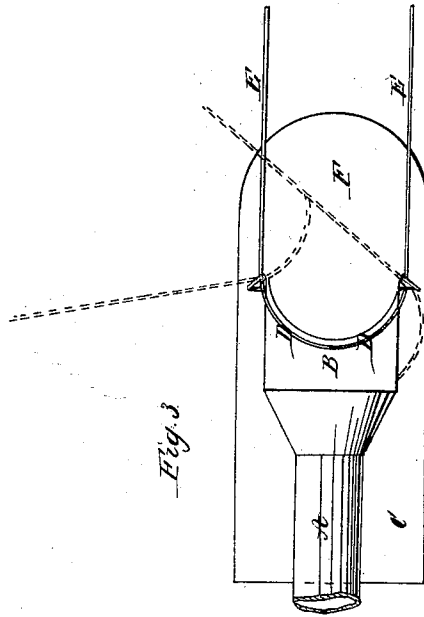
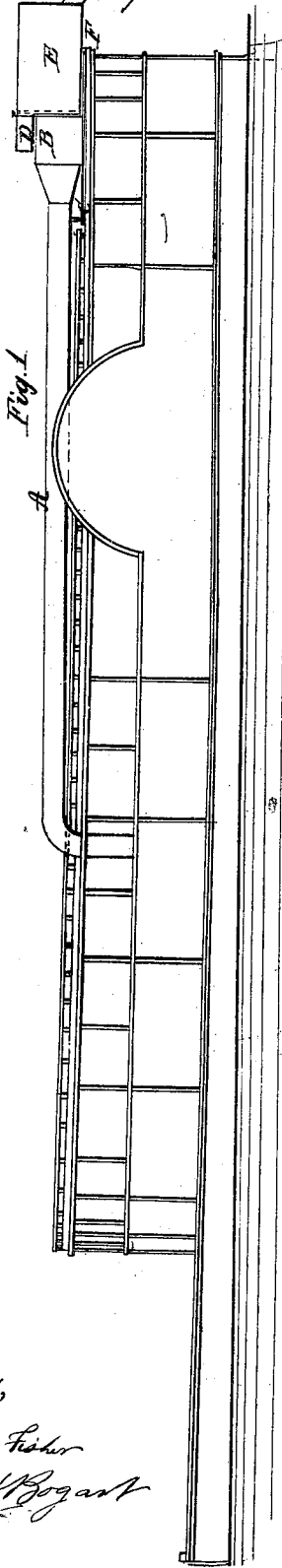


J. B. Campbell.
Steamboat Chimney.
Patented Mar. 19, 1867.

No. 937.



Witnesses,
Charles L. Fisher
John H. Bogart

Inventor,

J. B. Campbell

UNITED STATES PATENT OFFICE.

J. B. CAMPBELL, M. D., OF CINCINNATI, OHIO.

APPARATUS FOR REGULATING DRAFT IN STEAMBOAT AND OTHER CHIMNEYS.

Specification forming part of Letters Patent No. 62,937, dated March 19, 1867.

To all whom it may concern:

Be it known that I, J. B. CAMPBELL, of the city of Cincinnati, in the county of Hamilton, in the State of Ohio, have invented a new and useful Mode of Increasing and Regulating the Draft in Chimneys; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

Figure 1 shows the horizontal position of the smoke-pipe on the top of the steamboat. Letter A, the horizontal chimney-pipe; letter B, the enlarged end of the smoke-pipe, terminating in a square shape, and about twice the capacity of the smoke-pipe at A; letter C is the top of the boat; letters E E are two wings or wind-guards; letters D D are each half-curbs on the end of each wing E E. Fig. 2 is a perspective view. Fig. 3 is a top view.

My invention consists in, first, the enlarged square end of the smoke-pipe, as at B, giving a large vacuum and increased draft; second, two swinging wings, E E, hung on iron rod or wire hinges; (shown at the perpendicular black line on the outside of the wing;) third, two segments of curbs, an extension of part of the wings E E, and shown at D and D, and running each half-way across on the top of the enlarged end of the pipe B, and meeting together in the middle. Letter F is the apron under the wings.

Operation of the invention: When there is a head wind, the wings E E hang at ease, as in Figs. 1 and 2, and as at the black lines at Fig. 3, and the curbs D D turn the wind off each side, and leave the large free space between the wings E E for the smoke to pass out and up unobstructed. The apron F prevents the cold air from rising up to interfere with the smoke. When there is a stern wind the wind then strikes against the inside of the curbs D D, and pushes them open to let the wind pass, and in pushing the curbs open the same stern wind closes the wings E E, the end of each wing meeting in the middle and effectually closing the stern end of the wings, and turning the wind off to each side and leaving a large vacuum, free from wind, for the smoke to escape up through. When there

is a side wind the wings E E and curbs D D swing around on their hinges as far as they can go, as shown in Fig. 3, keeping all wind away from the end of the smoke-pipe, and letting the smoke escape out, in direction with the wind, under the curb and between the two wings, and also up between the wing and curb and the two circular black lines near letter B in Fig. 3. When the wind is from the other side, the wings and curbs will change as the wind changes, and the whole thing is under complete control. Any mechanic skilled in working heavy sheet iron can easily construct it.

In applying the improvement to a steamboat or vessel, it may be built smooth, low, and flat on the top, as at Fig. 1, enabling the boat to run faster and safer in storms, and to run under low bridges and tree-tops on small rivers, and to gain in speed by the increased draft of the smoke caused by the vacuum in the enlarged end of the smoke-pipe at B, and by the wing being kept from the end of the pipe by the wind-guards E E, and by the curbs D D. The enlarged end of the horizontal smoke-pipe increases draft by vacuum, and the wings, swinging on hinges as the wind turns them, keep off the wind, no matter how it blows, or how often it or the boat may turn. And thus the draft is increased and the smoke regulated, and the safety and speed of the boat greatly increased, and the improvement may be arranged to any kind of a chimney.

I do not claim anything on merely the horizontal position of the smoke-pipe, as the invention (smoke-regulator and draft-increaser) may be put to a chimney in any position modified to suit.

What I claim is—

1. The enlarged end of the smoke-pipe B, provided with the wings E E and with the curbs D D, constructed and used in the manner above described.

2. The wings E E, hinged and adapted to the purpose described.

J. B. CAMPBELL.

Witnesses:

J. W. MASON,
SAML. PEEL.