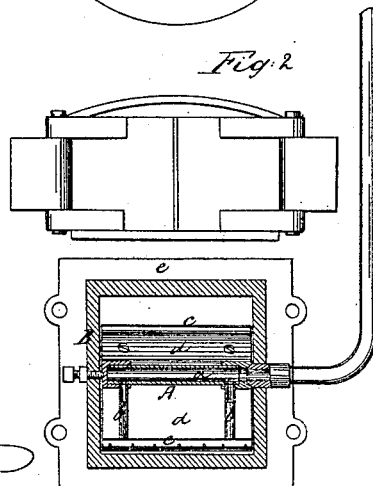
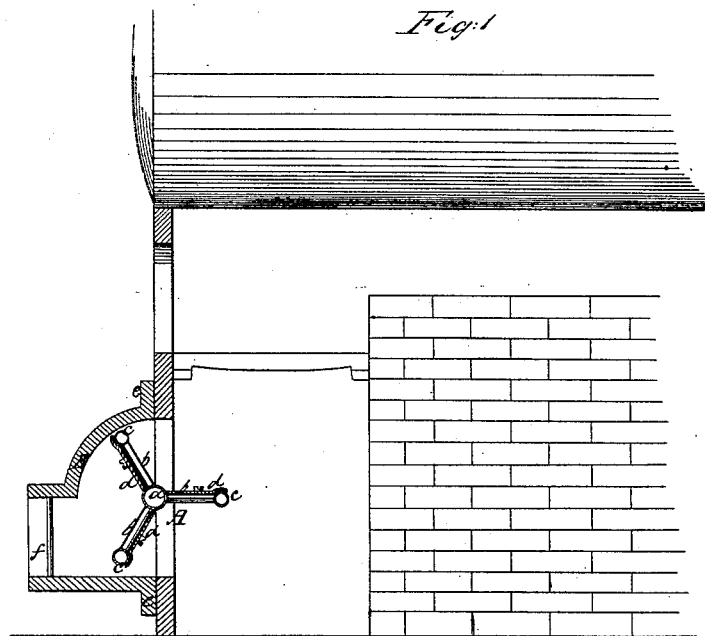


J. Simmonds

Air Blast,

N^o 53,087.

Patented Mar. 6, 1866.



Witnesses.

J. M. Thompson
Wm. Freeman

Inventor
Joseph Simmonds
Per Minn. & Co.
Attys

UNITED STATES PATENT OFFICE.

JOSEPH SIMMONDS, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF AND
SAML. G. LAW, OF SAME PLACE.

IMPROVEMENT IN STEAM-BLOWERS.

Specification forming part of Letters Patent No. 53,087, dated March 6, 1866.

To all whom it may concern:

Be it known that I, JOSEPH SIMMONDS, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Steam Blower and Ventilator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of the specification, in which—

Figure 1 represents a longitudinal vertical section of this invention. Fig. 2 is a transverse vertical section of the same.

Similar letters of reference indicate like parts.

This invention relates to the arrangement of a steam blower or ventilator constructed on the principle of a Scotch turbine wheel, and to which motion is imparted by the action of steam let in through its hollow shaft and discharging through a series of arms which are connected by perforated pipes running parallel with the shaft, and also by plates of sheet metal which fill up the space between said arms, the wheel being made to revolve in a segmental chamber in such a manner that by the action of the steam a rapid revolving motion is imparted to the wheel or blower and a mixed current of steam and air is created which can be employed with good advantage under a furnace or for ventilating purposes.

A represents my steam blower or ventilator, which is composed of the hollow shaft *a*, from which projects one or more arms, *b*, as shown in the drawings. The outer ends of each pair

of these arms are connected by pipes *C*, which run parallel to the shaft *a*, and the spaces between the arms *b*, pipes *C*, and shaft *a* are filled in by plates *d*, of sheet metal or other suitable material. The pipes *C* are perforated with a large number of holes, and when steam is let in through the hollow shaft it discharges with great force through these holes and imparts to the blower a rapid revolving motion.

The shaft *a* has its bearings in the ends of a segmental chamber, *B*, which is provided with a flange, *e*, for the purpose of receiving it in the desired spot, and from which extends a channel, *f*, through which air passes when the blower begins to revolve.

By this arrangement a powerful current of air mixed with steam is created, and if the chamber is secured to the front plate of a boiler-furnace below the grate, as shown in the drawings, or under any other furnace, it tends to promote combustion much more than a common blower.

What I claim as new, and desire to secure by Letters Patent, is—

1. A steam-blower constructed of a hollow shaft, *a*, with radiating arms *b*, and connecting-pipes *C*, in combination with wings *d*, substantially as and for the purpose desired.

2. The segmental chamber *B*, in combination with a steam-blower constructed as and for the purposes set forth.

JOSEPH SIMMONDS.

Witnesses:

R. W. DOCKSON,
EDWARD BOSTON.