

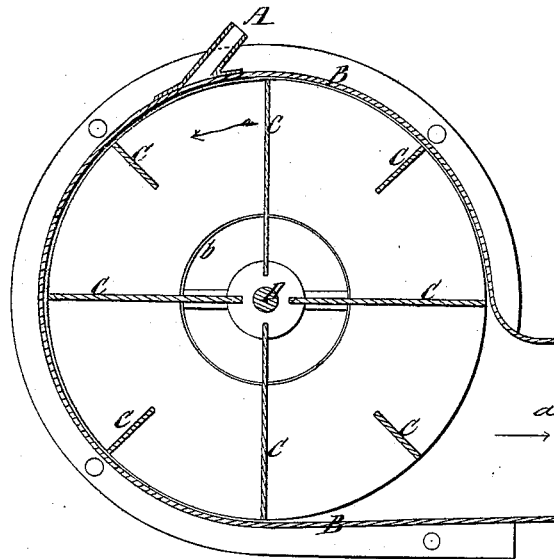
*A.K. Rider,*

*Blast Machine,*

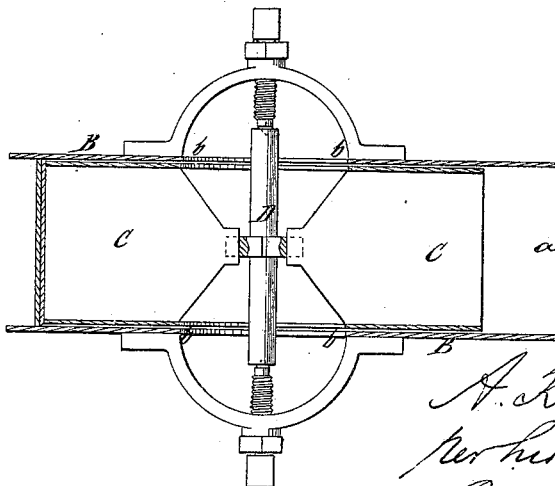
*N<sup>o</sup> 52,206.*

*Patented Jan. 23, 1866.*

*Fig. 1.*



*Fig. 2.*



*Witnesses*  
*J. W. Coombs*  
*A. S. Clere*

*Inventor*  
*A. K. Rider*  
*per his attorneys*  
*Brown Coombs & Co.*

# UNITED STATES PATENT OFFICE.

ALEXANDER K. RIDER, OF HYDEVILLE, VERMONT.

## IMPROVEMENT IN STEAM-BLOWERS.

Specification forming part of Letters Patent No. 52,206, dated January 23, 1866.

*To all whom it may concern:*

Be it known that I, ALEXANDER K. RIDER, of Hydeville, in the county of Rutland and State of Vermont, have invented a new and Improved Steam-Blower for Furnaces; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of the blower, and Fig. 2 is a horizontal section of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in so combining a steam pipe or pipes with a rotary fan-blower that the fans are driven by the direct impingement of steam upon their surfaces, and that the steam, mixing with or being diffused among the air which is drawn into the blower by the rotary motion of its fans, issues from the blower with such air and passes with it into the furnace.

To enable others skilled in the art to make and apply my invention, I will proceed to describe its construction and operation.

The rotary fan-blower employed may be of any known construction; but for the purpose of illustrating my invention I have represented one of the construction in most common use, as that serves the purpose of such illustration as well as any other.

A is the steam jet-pipe, having a direction tangential to the circular portion of the casing B of the blower at its connection with such

portion of the casing, its point of connection being at such distance from the outlet-spout *a* that the fans C C make a portion of a revolution in passing from such point to the spout.

The steam entering the casing by this pipe impinges directly upon the faces of the fans, and so produces their rotary motion, by which the air is drawn into the blower through the openings *b b* in the sides of the casing around the fan-shaft D, and is forced out through the spout *a* into the furnace. After having thus acted upon the fans the steam passes out along with the air through the spout *a* and into the furnace, and on its way to the said spout it is mixed intimately with or diffused among the air, so that it is introduced into the furnace in the most effective manner.

The steam employed may be taken direct from the boiler or from the exhaust-pipe of a steam-engine.

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

So applying one or more steam-pipes in connection with a rotary fan-blower that the rotary motion will be produced by the impingement of the steam upon its fans, and that such steam, mixing with or being diffused among the air entering the blower, will be delivered along with said air into a furnace, substantially as herein described.

ALEXR. K. RIDER.

Witnesses:

F. BROCKWAY,  
J. JONES.