Bassett & Smith,

Steam Blower.

No. 71,569. Patented Dec. 3, 1867.

Fig. 3

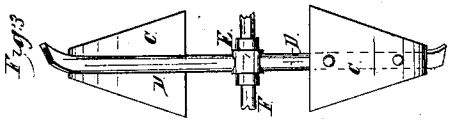


Fig. 2

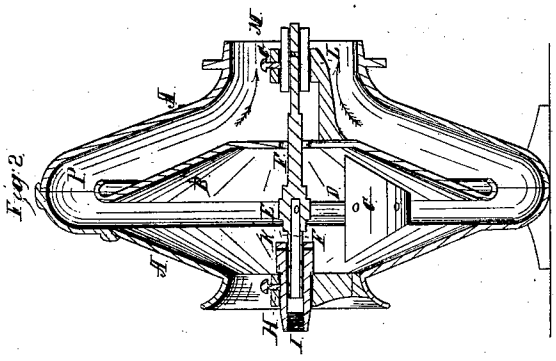
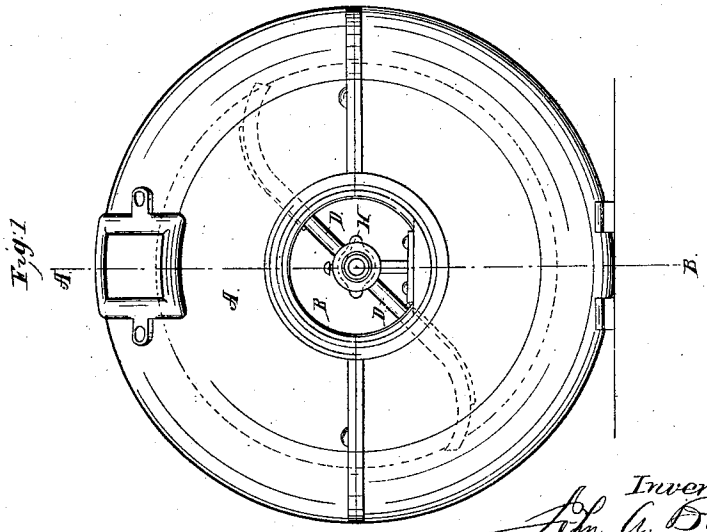


Fig. 1



Witnesses.
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JOHN A. BASSETT AND OLIVER C. SMITH, OF SALEM, MASSACHUSETTS.

Letters Patent No. 71,569, *dated December* 3, 1867.

IMPROVEMENT IN STEAM-BLOWERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JOHN A. BASSETT and OLIVER C. SMITH, of Salem, in the county of Essex, and State of Massachusetts, have invented a new and useful Improvement in Blast-Apparatus; and we do hereby declare that the following is a full, clear, and exact description of the same with reference to the accompanying drawings.

The nature of our invention consists in an arrangement of a fan-blower for producing an air-blast combined with steam; and the method of operation is to inject compressed air by means of steam-jets issuing from apertures in the outer ends of revolving arms of the fan-blower; the air being compressed by fans fastened to the revolving steam-pipes or arms; the revolution of such fans being produced by the reactive effect of the jets of steam; the injective force being imparted to the compressed air by the direct force of the same jets.

The object of the invention being to produce a greater pressure of the blast, and to utilize, as nearly as possible, the whole force of the steam, and accomplish the result in the most economical manner.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation. In the drawings—

Figure 1 represents an elevation.

Figure 2, a vertical section, through the line A B of fig. 1.

Figure 3 is a plan view of the hub, steam-arms, and fan.

The same letters of reference refer to like parts in all the figures.

A represents the outside casing or shell of the blower. B is a partition enclosed within the casing A, and dividing it into two chambers, on one side of which are the fans C, which are affixed to the steam-pipes D. The steam-pipes are screwed into the hub E. F is a shaft to which the hub E is affixed, the shaft being hollow from one end to the centre of the hub E, through which are openings connecting the steam-pipes D with the opening in the shaft F. The solid end of the shaft F revolves in the adjustable bearing G. The hollow end of the shaft runs in the bearing H, one end of which is fitted to receive the steam-pipe at I, and the other end has a stuffing-box, K, through which the hollow shaft passes. The steam-pipe I is connected with a boiler. The adjustable bearing G is supported by a standard, L, which is fastened to the partition B, and is furnished with a step on one end, opposite to that which the shaft enters, and against which the shaft F is forced by the pressure of the steam on the opposite end; the bearing being made adjustable so that in case the end of the shaft is worn away the step can be moved towards it, and thus keep the fans in the proper position. The chamber O, on this side of the partition B, forms a passage for the air to the outlet M, in the direction of the arrows. The ends of the steam-pipes D are contracted to a narrow, oblong opening, through which the steam is forced in a thin sheet, causing the fans C to revolve with great velocity, compressing the air in the chamber X, and forcing it to the circular opening P, between the diaphragm B and casing A, the steam-jets issuing from the outlets injecting the compressed air through the opening into the opposite chamber to the outlet M.

Having thus fully described the nature of our invention, what we claim as new, and desire to secure by Letters Patent, is—

The arrangement of the several parts herein shown and described, or their equivalents, whereby is produced a blast of commingled air and steam, the air being previously compressed by the fans C and injected by the steam-jets D, the whole operating together in the manner and for the purpose as herein described and set forth.

JOHN A. BASSETT,
OLIVER C. SMITH.

Witnesses:
M. B. MANSFIELD,
DANIEL W. LORD.