

C. R. PATTERSON.

Improvement in Blowers.

No. 120,317.

Patented Oct. 24, 1871.

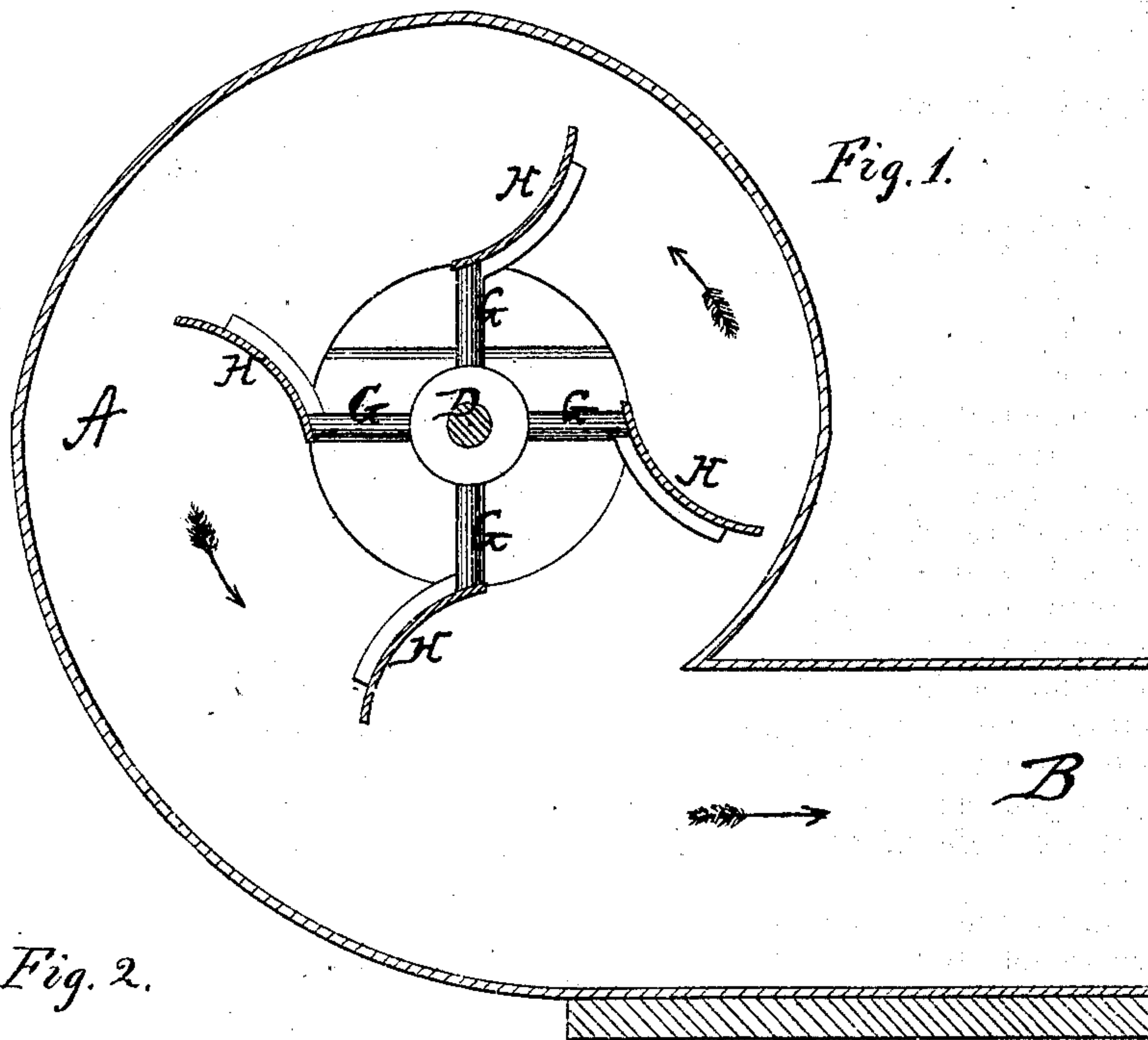
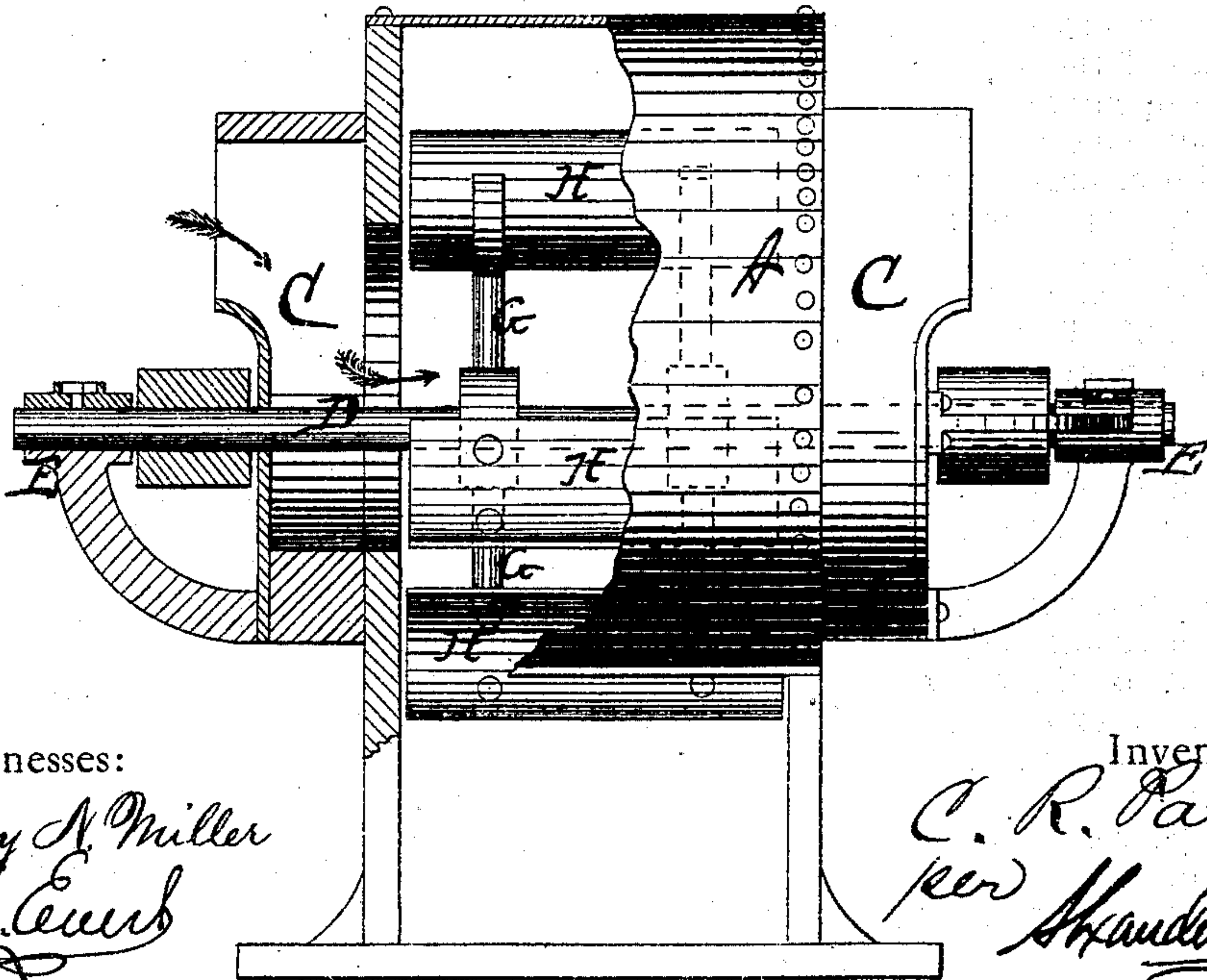


Fig. 2.



Witnesses:

Henry A. Miller  
C. L. Evers

Inventor

C. R. Patterson.  
per *Shaudin & Mason*  
Attorneys.

# UNITED STATES PATENT OFFICE.

CHESTER R. PATTERSON, OF PITSTON, PENNSYLVANIA.

## IMPROVEMENT IN SUCTION-AND-BLAST FANS.

Specification forming part of Letters Patent No. 120,317, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, CHESTER R. PATTERSON, of Pittston, in the county of Luzerne and in the State of Pennsylvania, have invented certain new and useful Improvements in Suction-and-Blast Fan; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a suction-and-blast fan, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal vertical section, and Fig. 2 is a rear elevation, part in section, of my fan.

A represents the casing, and B the mouth thereof, constructed in any of the known and usual ways, the sides of the casing having the usual circular center openings. On one or both sides of the casing surrounding the central opening is a box, C, the lower part of which is curved to correspond with the opening in the casing, while the upper end is square or of other suitable shape, and projects outward beyond the lower part, as shown in Fig. 2. The upper part of the box C is open on the outside for the passage of the shavings, pieces of wood, &c. D represents the fan-shaft which passes through the casing A and boxes C C, and has its bearings in suitable journal-boxes E E attached on the outside of the boxes C C.

By arranging the bearings of the fan-shaft outside of the entire casing they can be oiled with less trouble than in those now in use. If the journals should become heated they can readily be got at, and they are also protected from dust and dirt, thus lessening the liability of getting heated. By means of the boxes C C the draught is carried into the center, carrying with it the shavings, dirt, &c., away from the journal-bearings.

In a full-sized fan it is my intention to have a metal cover above the bearings, so that, in case they should become heated and burn, there will be no danger from the shavings, &c., catching fire.

The casing A and boxes C C may be made separate or cast together in any desired manner; and I do not confine myself to any particular form or shape of said boxes, as they may be made of various forms to suit the purposes for which the fan is to be used.

Within the casing A, from the shaft D, project radial arms G G, to which the wings H H are attached, as shown in Fig. 1. These wings are set backward and curved forward, which gives more force to the blast as they press the air out quicker than the ordinary wings; also, if any hard substances, such as blocks of wood, should be carried into the fan, these substances will not strike the wings with such a hard blow as they do on the straight fans or wings, because the force of the blast is so much stronger, and, also, because of the peculiar position of the wings, the blow is not straight onto the wings, but rather slanting.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A suction-and-blast fan, having a box, C, on either or both sides of the casing, and the fan-shaft bearings on the outside of the entire casing, all substantially as and for the purposes herein set forth.

2. The curved wings H H set backward from the arms of the fan-shaft and concave on their fronts, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of October, 1871.

CHESTER R. PATTERSON.

Witnesses:

J. E. PATTERSON,  
S. T. WILSON.

(12)