

P. A. SCHWENZFEIER.

FAN AND BLOWER.

No. 171,872.

Patented Jan. 4, 1876.

Fig. 1.

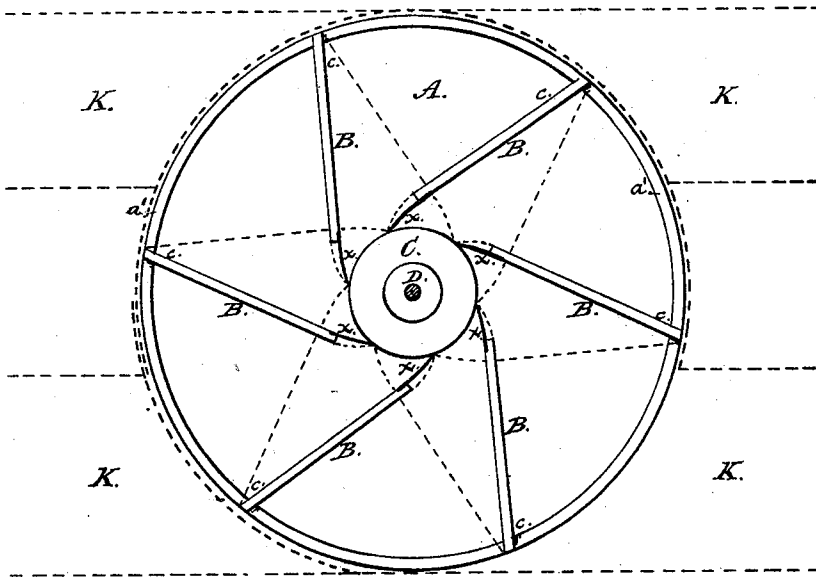
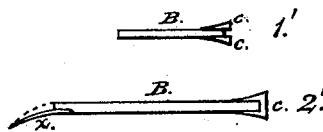


Fig. 2.



Witnesses;
Fritz Wittingel
Albert Baker

Inventor;

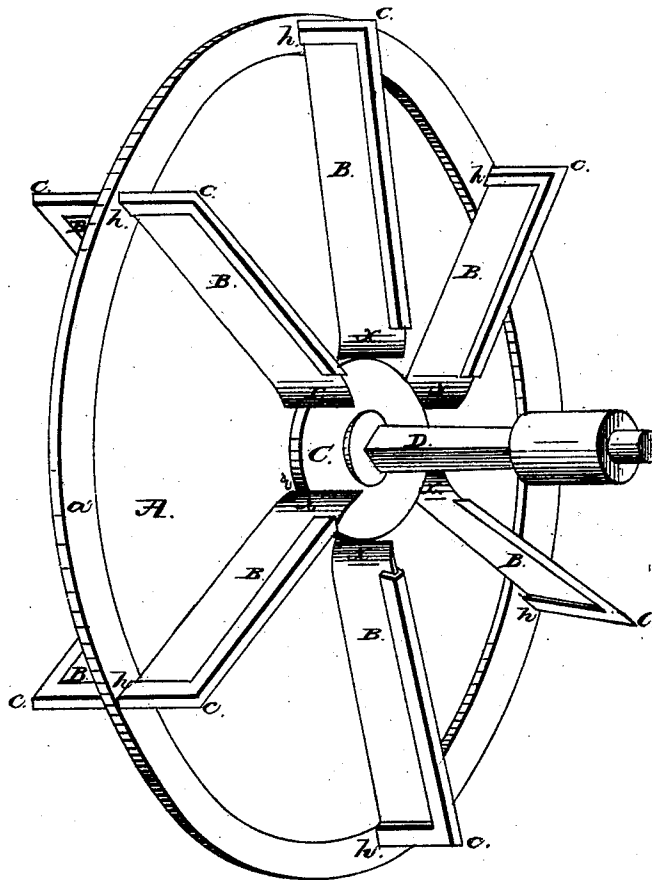
Peter August Schwenzfeier

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Fig. 3.



Witnesses:

Fritz Wettersel.
Albert Baker.

Inventor:

Peter August Schwenzfeier.

UNITED STATES PATENT OFFICE.

PETER AUGUST SCHWENZFEIER, OF APPLETON, WISCONSIN.

IMPROVEMENT IN FANS AND BLOWERS.

Specification forming part of Letters Patent No. 171,872, dated January 4, 1876; application filed May 3, 1875.

To all whom it may concern:

Be it known that I, PETER AUGUST SCHWENZFEIER, of the city of Appleton, Outagamie county, Wisconsin, have invented a new and useful Improvement in Fans and Blowers, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of my invention is economically to furnish a more complete regulation of parts and currents in rotary fans and blowers, by the use of the fan-wheel shown in Figures 1 and 3, constructed of suitable materials and composed of partition A, having packing a^1 , carrying upon one or both sides, secured by fastenings h and e , fanners or blades B, with packing c , flexible termination x , and the washers C. The fan-wheel is rotated by shaft D. The partition A is constructed of one or more plates, secured by washers C upon shaft D, and upon its periphery and outer edge or edges carries packing a^1 , to permit ready extension and regulation of the distance between the plate or plates of the partition A and the fan or blower case, by removal and substitution of the packing required, or by addition to its surface, and thus divide the case into two chambers, and may also by its form assist in converging and otherwise modifying the outgoing currents generated in the case; and when the machine is used as an exhaust-fan, or for etching and similar purposes, is more readily repaired in case of accident or wear to this part of the wheel; and when constructed of suitable material and appropriately secured upon the partition A, in the form and manner adapted to attain the objects desired by the artisan, is economical and useful. Fanners or blades B, constructed of one or more plates of suitable material and form, when attached to partition A by fastening h , consisting of a bolt, or other convenient device, may hang suspended, till secured in the position shown in Figs. 1 and 3, by fastening e , consisting of a bolt or other convenient device, or may be secured by fastening e so as to occupy the position indicated by the dotted line, according to the direction in which it is intended to revolve—a nut holding it in place till a change to its first position, as shown in Fig. 3, may be desired, in order that the direct current from

the case may be thrown as desired, without change in the position of the case, which is often a matter of importance, where otherwise an abrupt bend in the discharge-pipe would be required, with consequent loss of power and increased expense. The fanners or blades are readily removable from the partition by the removal of the nuts upon fastenings h and e , and can thus readily be replaced, or replace each other, in case of wear, accident, or other inconvenience, and are made with a flexible termination at x , (seen in Figs. 2, 2¹.) in order that this end of the fanner or blade may be readily bent and rebent in such curved form as shall with least obstruction admit the incoming current, whether the fanner is desired to move in one direction or the other, being bent to correspond with the desired direction, and thus aid the passage of the currents through the case. We do not claim the curved form, but the flexible construction of the blade at x , so as readily to assume the form required. From and upon the top and side or sides along these edges, projecting from plate or plates of the fanner or blade B, extends the packing c , composed of suitable material, and adapted to secure the desired regulation of the distance between the plate or plates of the fanner or blade and the top and sides of the case; also such conformation as may assist in converging or otherwise modifying the outgoing currents generated in the case, protecting the fanners or blades when the machine is used as an exhaust-fan, or for etching, or similar purposes; more readily yielding without injury to obstructions; more easily repaired when injured by wear, accident, or other damage; and replaced with addition, subtraction or other conformation, when required to secure the objects of the artisan.

My invention consists in the use of partition A, rotated by washer or washers C and shaft D, to carry fanners or blades B in either direction to produce a direct current at the desired point, without turning the case, and they may be suspended and turn on h till secured in the appropriate position by fastening e , which may be done from the side entrance without opening the case; also making the fanner or blade flexible at x so as readily from the side entrance to bend such curve as

shall offer least resistance to the incoming current, and also in the use of packing a^1 upon partition A and packing c upon fanners B, to protect the plates and regulate the distance between them and the case, and, in connection with the form and arrangement, better to control the current generated, and permit easy repair or rearrangement, all constituting a new and useful fan-wheel.

I claim—

1. The partition A with its packing a^1 , substantially as described, and for the purposes and uses as set forth.

2. The fanner or blade B with its packing

c and flexible termination x , in combination with partition A, substantially as described, and for the purposes and uses as set forth.

3. The fan or blower wheel, composed of partition A with its attachment or packing a^1 , fanners or blades B, with their attachments or packing c , with washer or washers C and shaft D, in combination substantially as described, and for the purposes and uses as set forth.

PETER AUGUST SCHWENZFEIER.

Witnesses:

FRITZ WETTENGEL,
ALBERT BAKER.