

G. HAVELL & T. W. BRACHER.
Ventilators.

No. 156,791.

Patented Nov. 10, 1874.

Fig. 1.

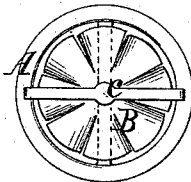


Fig. 2.



Fig. 3.

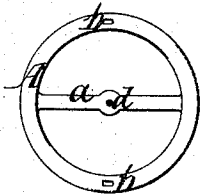


Fig. 4.



Fig. 5.

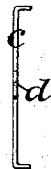
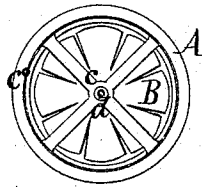


Fig. 6.



Witnesses.

Ernst Dillhuber
Henry Gentner

Inventors.

George Havell
Thomas W. Bracher
per
Van Bentwood & Hauff
attys

UNITED STATES PATENT OFFICE.

GEORGE HAVELL, OF NEWARK, NEW JERSEY, AND THOMAS W. BRACHER,
OF NEW YORK, N. Y.

IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **156,791**, dated November 10, 1874; application filed April 20, 1874.

To all whom it may concern:

Be it known that we, GEORGE HAVELL, of Newark, in the county of Essex and State of New Jersey, and THOMAS W. BRACHER, of the city, county, and State of New York, have invented a new and useful Improvement in Ventilators; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 shows a plan view of our ventilator. Fig. 2 is a cross-section thereof. Fig. 3 is a detail plan view of the barrel. Fig. 4 is a detached sectional view of the ventilating-wheel. Fig. 5 is a detached view of a cross-bar.

Similar letters indicate corresponding parts in the several figures.

This invention consists in a ventilating-wheel, provided with an axle, which is struck up directly upon both sides of said wheel, so as to effect a firm and compact union of these parts, and at the same time form true center-points for the wheel; also, in a barrel or wheel-casing which is provided with bridges, forming the bearings of the wheel-axle, one of the bridges being formed in one piece with said barrel, and the other being inserted in cavities formed therein by the operation of forming the barrel, said bridges being provided with cavities for the points of the axle of the ventilating-wheel, in such a manner that a correct position of the ventilating-wheel, in relation to the barrel, is insured, and the ventilating-wheel will turn with the least possible friction.

This ventilator can be made of various sizes, and it can be used in windows, in walls, hats, and caps, or, in fact, it can be located in any position or point where a ventilator is desired.

In the drawing, the letter A designates the barrel or casing of our ventilator, which is

punched or struck up of sheet metal, and is provided on one end with a bridge, *a*, made of the same piece of metal with the barrel. On the other end of said barrel are formed cavities *b* for the reception of a bridge, *c*, which is punched out of sheet metal, both said bridges being provided with center points or cavities *d*, so that when the loose bridge *c* is secured in position a line drawn through said cavities will coincide exactly with the axis of the barrel. The ventilating-wheel B is punched out of sheet metal, and it is provided with an axis, *d*, which is struck up on both sides of the wheel and made to form sharp points, which form true centers for the wheel.

If the points of the axle *d* are inserted into the cavities of the bridges *a c* of the barrel, and the bridge *c* is secured in position, the ventilating-wheel occupies a position exactly concentric with the barrel, and it rotates on its axis with the least possible friction.

The bridge *c* may also be made in the shape of a cross, secured in a rim, *e*, as shown in Fig. 6, so that by placing this rim into the barrel the central cavity *d* will coincide with the center of the barrel.

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

1. The ventilator-wheel B, punched out of sheet metal, and provided with an axle, *d*, which is struck up upon both sides of the wheel and made to form sharp points, substantially as shown and described.

2. The barrel A, struck up of sheet metal, with a solid bridge, *a*, and cavities *b* for the reception of a bridge, *c*, said bridge being provided with cavities for the reception of the points of the axis of the wheel B, substantially as set forth.

GEORGE HAVELL.

T. W. BRACHER.

Witnesses:

ANDREW J. McMANUS,
SAMUEL B. RICHARDSON.