

T. W. BRACHER.
Ventilators.

No. 157,148.

Patented Nov. 24, 1874.

Fig. 1.

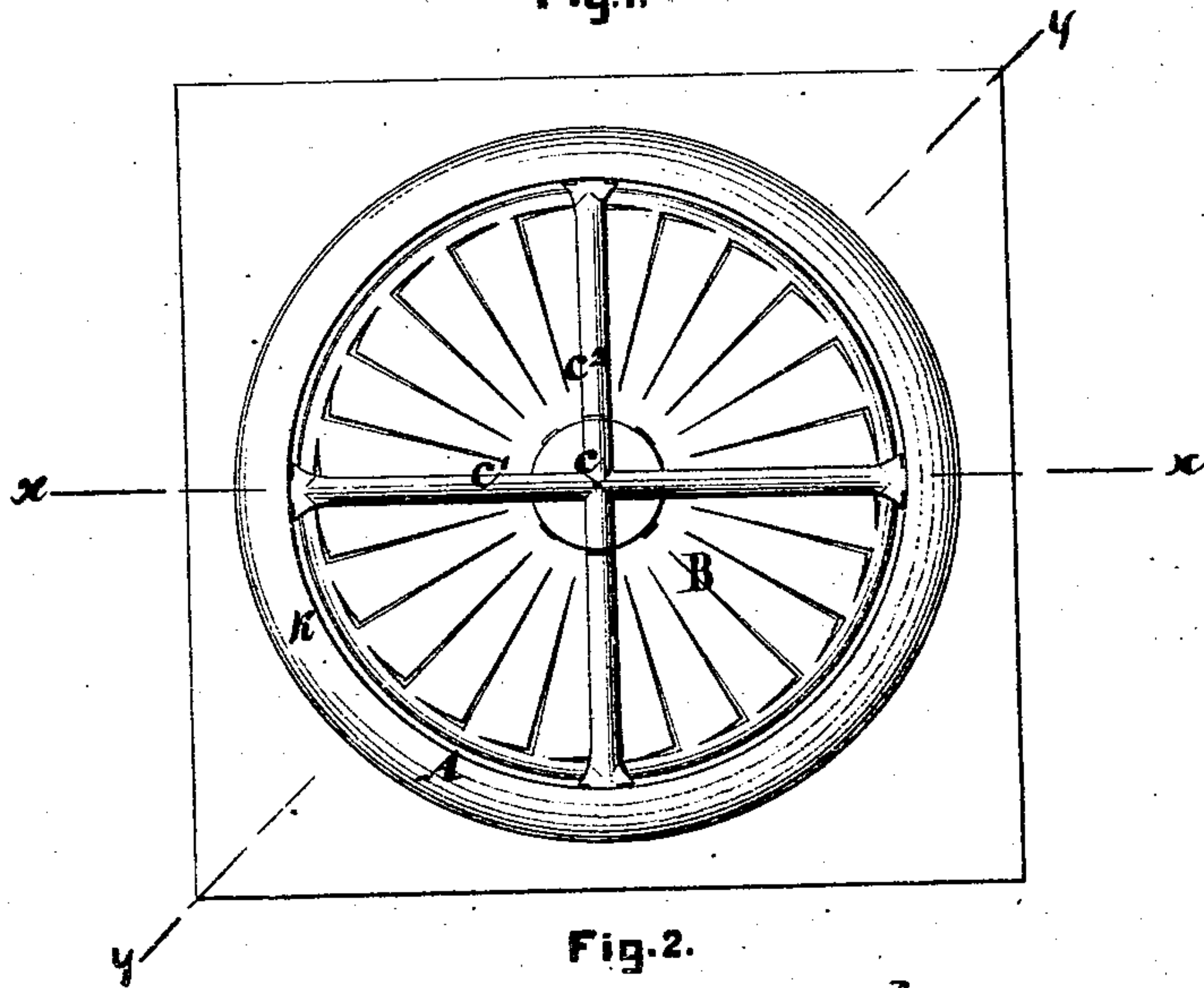


Fig. 2.

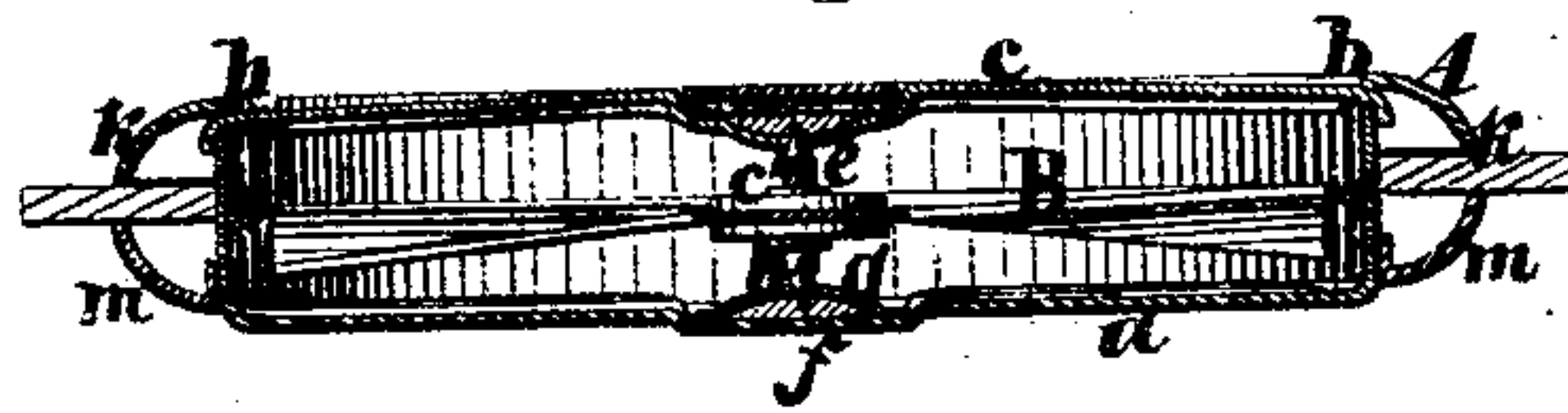


Fig. 3.



Fig. 4.

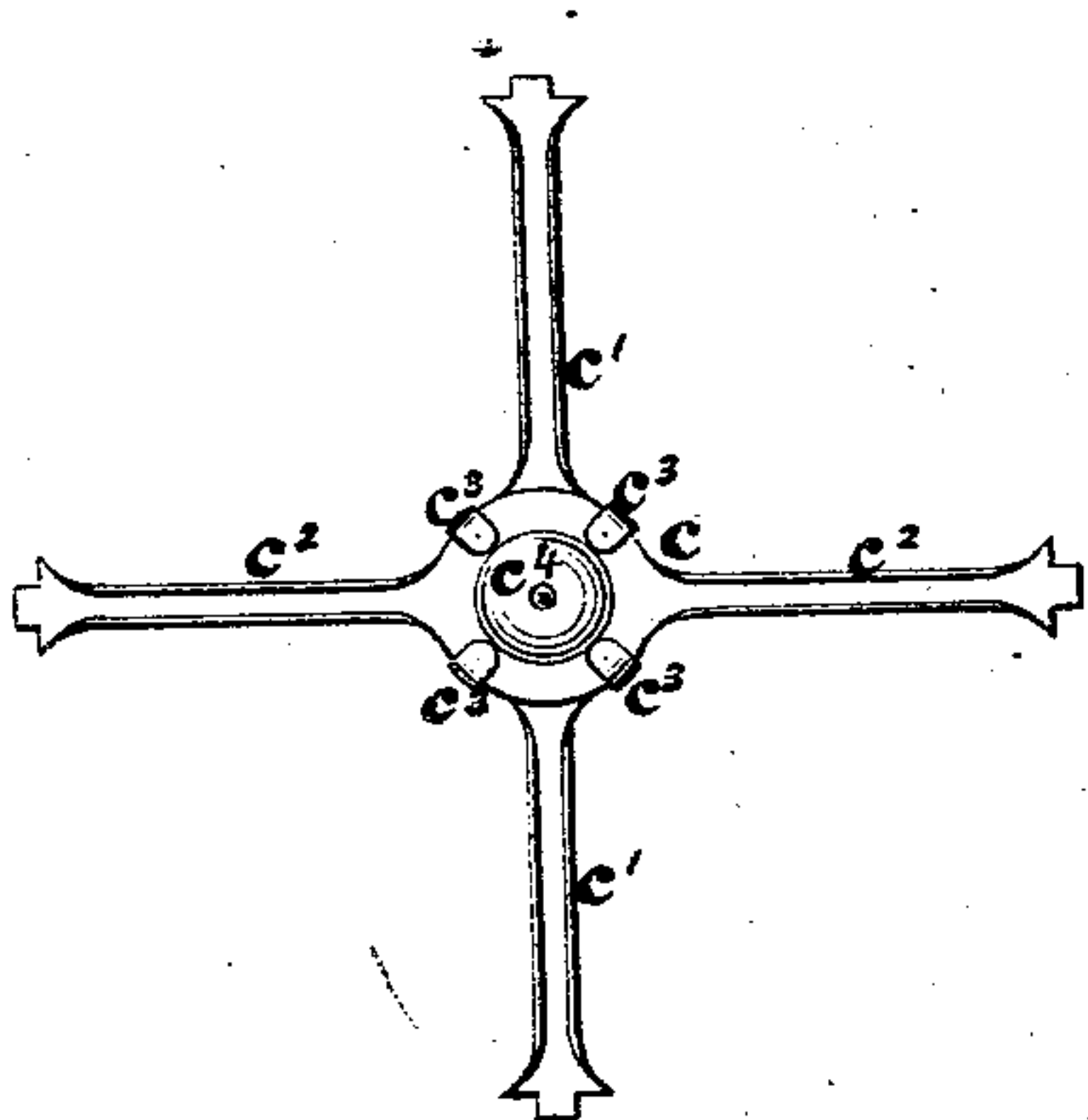


Fig. 5.

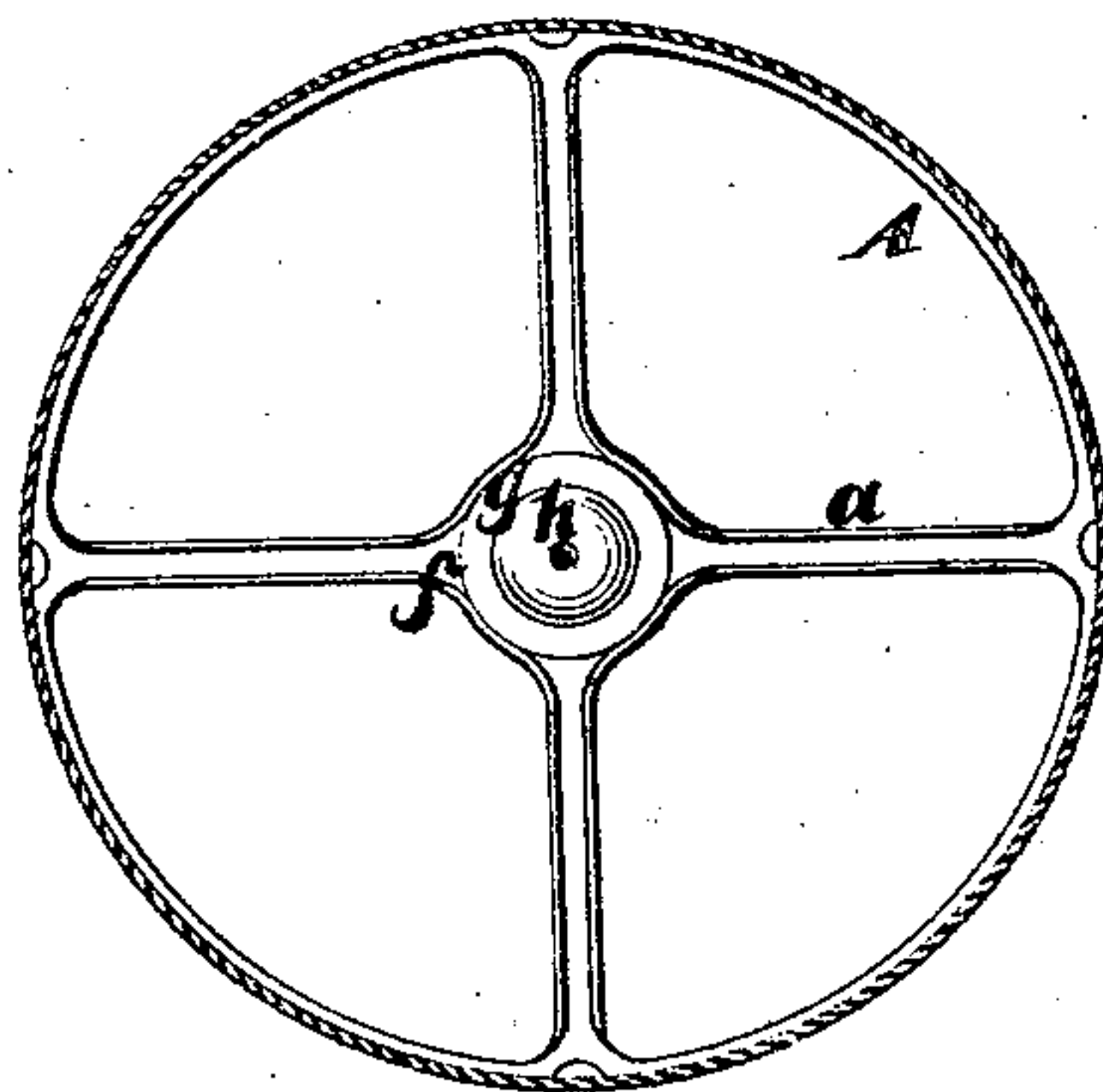


Fig. 6.



Witnesses.

Ernst Bilfinger.
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THOMAS W. BRACHER, OF NEW YORK, N. Y.

IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **157,148**, dated November 24, 1874; application filed November 6, 1874.

To all whom it may concern:

Be it known that I, THOMAS W. BRACHER, of the city, county, and State of New York, have invented a certain new and useful Improvement in Ventilators, of which the following is a specification:

This invention is illustrated in the accompanying drawing, in which Figure 1 represents a plan or face view. Fig. 2 is a transverse section in the plane xx , Fig. 1. Fig. 3 is a similar section in the plane yy , Fig. 1. Fig. 4 is a detached inside view of the removable bridge. Fig. 5 is a sectional plan of the barrel detached. Fig. 6 is a transverse section of the clamping-ring.

Similar letters indicate corresponding parts.

This invention relates to an improvement on that class of ventilators which is described in an application for a patent made by George Havell and myself, which was allowed by the Commissioner of Patents May 9, 1874, and of which I am the sole owner.

My present improvement consists in a ventilator-wheel stamped out of sheet metal, with radiating oblique vanes, which are connected at their outer edges by a ring or flange, said ring and vanes being made of the same piece of sheet metal, in such a manner that the vanes are retained in the proper position, and a light, cheap, and durable ventilator-wheel is obtained. The bearings of the axle of the ventilator-wheel are improved by raising the plates in which the same are formed.

In the drawing, the letter A designates the barrel or casing of my ventilator, which is struck up of sheet metal, and which is provided on one end with a bridge or cross, 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 or cross, c , which is composed of two bars, c^1 c^2 , Fig. 4, each being punched out of sheet metal, and provided with tenons at its ends, to fit the cavities b . Each of the arms c^1 c^2 is made with a circular plate in its center, and the central plate of the arm c^1 is furnished with ears c^3 , which can be turned over the edge of the central plate of the arm c^2 , so that by means of said ears and central

plates, the arms c^1 c^2 can be firmly united to form a cross, the arms of which are at right angles to each other. The central plate of the arm c^2 is convex, and it is provided with a cavity, c^4 , in its center, for the reception of one end of the axle e of the ventilator-wheel B. The bridge a is punched out with a central plate, f , against the inner surface of which is placed a convex circular disk, g , which is held in position by turning down parts of the edges of the plate f , so that they catch over the edge of said disk. In the center of this disk is a cavity, h , which forms the bearing for the other end of the axle e of the ventilator-wheel.

By means of the convex disk g and the convex central plate of the arm c^2 , the bearings of the axle obtain sufficient depth to provide a good hold, and at the same time said bearings are exactly concentric with the barrel, so that the ventilator-wheel revolves with the least possible friction.

The wheel B is stamped out of sheet metal, and it is provided with a series of radiating-vanes, i , which are connected at their outer edges by a ring, j , that is stamped out of the same piece of sheet metal with the body of the wheel. By this ring the vanes are steadied and retained in the proper position, and the ventilator-wheel can be made very light without losing its durability.

The barrel A is provided at one edge with a flange, k , and at its opposite edge with lugs or ears l , Fig. 3. Over the body of said barrel is fitted a flanged ring, m , Fig. 6, and if my ventilator is to be secured to a pane of glass, I cut a hole in the pane large enough to admit the body of the barrel; then I pass this body through said hole, apply the flanged ring m , and, finally, by turning the ears l outward over the flanged ring, the barrel is fastened in the desired position, the edge of the hole in the pane of glass being retained between the flange k and the flanged ring m .

My ventilator runs perfectly noiseless, and it can be applied with great advantage to windows in stores, offices, or dwelling-houses.

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

1. A ventilator-wheel stamped out of sheet metal, with radiating oblique vanes, which are connected at their outer edges by a ring, said ring and the vanes being made of the same piece of sheet metal, substantially as set forth.

2. The raised central plate of the arm c^2 , and the raised or convex disk g on the bridge or cross a , in combination with the axle e of the ventilator-wheel B, and with the barrel A,

all constructed and operating substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of November, 1874.

T. W. BRACHER.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.