A. UNGER.
Ventilator.

No. 207,373 Patented Aug. 27, 1878.

Fig. 1.

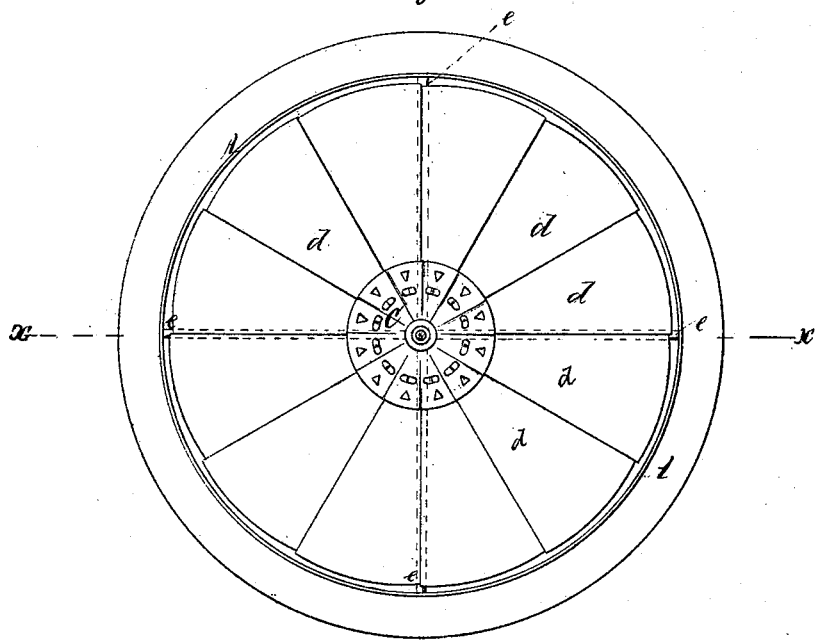


Fig. 2

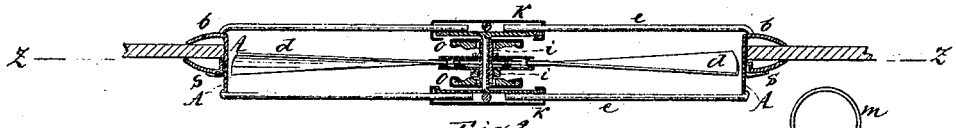


Fig 3

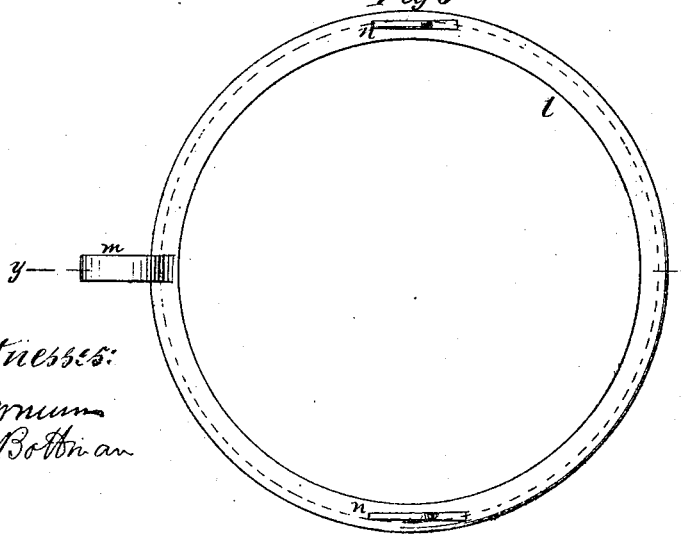
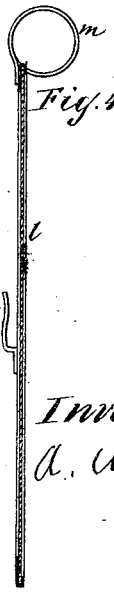


Fig. 4



Witnesses:
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UNITED STATES PATENT OFFICE.

ABRAHAM UNGER, OF NEW YORK, N. Y.

IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **207,373**, dated August 27, 1878; application filed November 14, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM UNGER, of the city, county, and State of New York, have invented new and useful Improvements in Ventilators; and that the following is a specification thereof, reference being had to the accompanying drawings, wherein—

Figure 1 is a sectional view upon the plane *z z*, Fig. 2. Fig. 2 is a transverse section upon the plane *x x*, Fig. 1. Fig. 3 is a plan view of the cover; and Fig. 4 is a transverse section of the cover on the plane *y y*, Fig. 3.

Similar letters indicate similar parts.

The object of my invention is to make a noiseless ventilator to insert in window-glass, window-shutters, walls, partitions, or other appropriate places, which shall also be transparent or translucent.

My invention consists, first, in the use of oblique vanes, radiating from the center, consisting of mica or other material transparent or translucent; second, in a cover, also transparent or translucent, to be placed over the ventilator; and, third, in various details of the construction of the ventilator.

In the drawing, A is a cylindrical frame, within which the vanes revolve, on one edge of which is attached a flange, *b*, extending outwardly, opposed to which and fitting round the frame A is a ring, *s*, similar in shape to the said flange, the flange and ring being designed to operate as a clamping device.

At the intersection of the flange and frame A, on the outside, are attached narrow spring-fingers, sprung outward to hold the ring in position.

From the circumference of this frame A, on both edges, to disks in the center, extend rods or arms *e e*, four on each side, soldered or securely fastened to both the edge of the frame and the outside of each disk. Over these disks, on the outside, there are placed metal caps *k k*, with lugs, to be bent over the under side of the disk. These disks are punched in the center to provide bearings for a shaft or pin extending from one to the other. On the extremities of this pin, inside the bearing, are placed lubricating-cups *o o*, made of thin metal, struck up on the edges, with lugs to hold in position in the cups packing, to be saturated with oil. Between these cups a hub, *i*, is fitted to run upon the pin or shaft. This hub *i* is formed, like a hollow screw-bolt, with head and collar, and is provided with a nut. Upon this hub is closely fitted the ventilator-wheel between two washers, and held in position by the collar and nut of the hub. This wheel is constructed by striking up two circular sheets, C, of brass, in corresponding oblique segments, between each pair of which opposing segments is inserted a radiating vane, *d*, which I prefer to make of mica, secured by rivets or clips passed through or struck up from the sheets C, as shown in Fig. 1.

When applied to a window-pane for use, a circular hole is cut in the glass, into which the frame A passes until its flange rests against the glass, and the ring is then sprung on the other side of the glass to hold the ventilator in its position.

When it is not desired to use the ventilator I employ a cover. (Shown in Fig. 3.) This consists of a ring of metal, *l*, with a flange on its outer edge, so as make a gutter to hold a sheet of mica or similar material. Opposite each other on the ring I attach ears *n n*, to pass over and behind the arms *e e*, to support it in position, and on the edge a thimble, *m*, to lift it by.

By this arrangement the ventilator, whether in use or not, will not obstruct to any appreciable extent the admission of light.

I know that glass has been used in register-ventilators, as shown in Prosser's patent, February 24, 1863; but I do not claim as new a transparent or translucent material, except as shown, described, and claimed herein.

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

1. A revolving ventilating-wheel, substantially as described, with oblique vanes of mica or other transparent or translucent material, held in position between clamps and fastened by rivets or clips, substantially as described.

2. A cover to a ventilator, constructed of mica or other transparent or translucent material, secured in a suitable frame, substantially as described.

3. In combination with a revolving venti-

lator-wheel, the hub *i*, constructed as a hollow screw bolt and nut, substantially as described.

4. In a ventilator, the combination of the lubricating-cups *o o* with the hub *i*, the shaft or pin, and revolving vane, substantially as described.

5. A ventilating-wheel constructed and arranged substantially as described, so that the vanes may be held between diagonal clamps to facilitate their separate attachment and detachment.

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Witnesses:
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