

J. F. Collins,
Rotary Blower.

No. 110,828.

Patented Jan. 10. 1871.

Fig. 1.

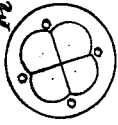


Fig. 2.

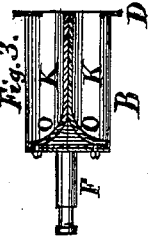


Fig. 3.

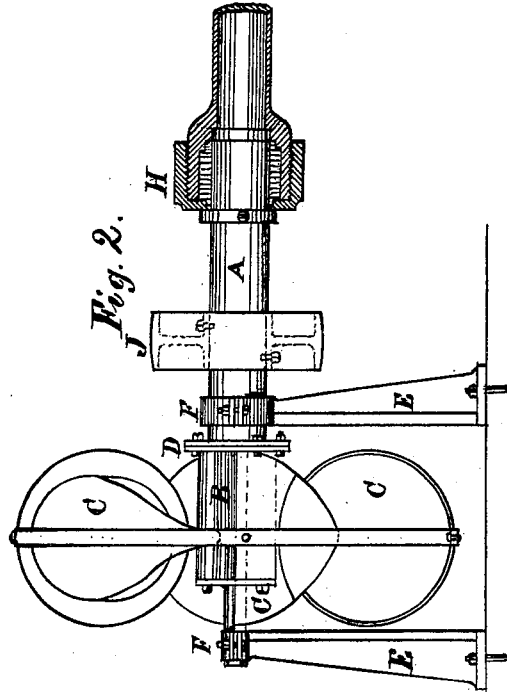


Fig. 4.

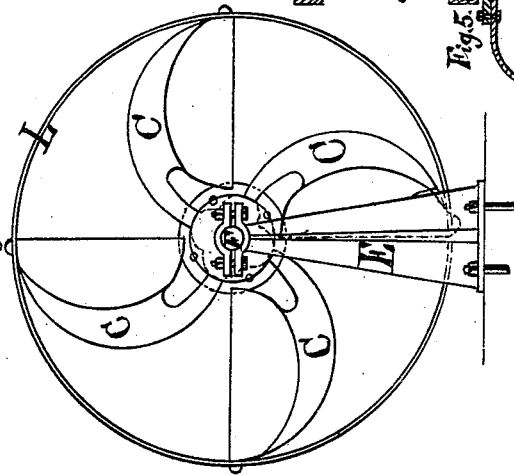
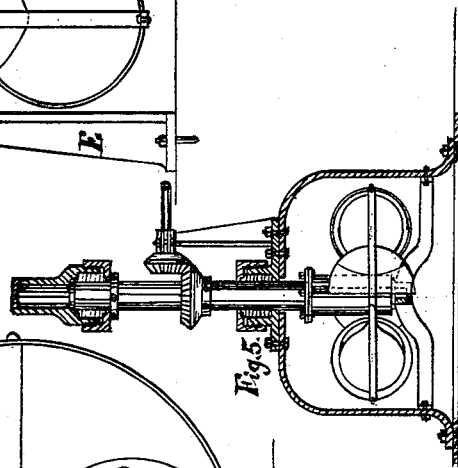


Fig. 5.



Witnesses;
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JOHN F. COLLINS, OF NEW YORK, N. Y.

Letters Patent No. 110,898, dated January 10, 1871.

IMPROVEMENT IN VENTILATORS OR BLOWERS.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN F. COLLINS, of the city of New York, county of New York and State of New York, have invented certain Improvements in Ventilators or Blowers, of which the following is a specification.

This invention relates to a novel device for withdrawing the air from or for forcing the same into buildings, for a blast for furnaces, for blacksmiths' forges, or for withdrawing the vapors from sugar, molasses, glue, dyes, dye-woods, &c., while being boiled under a partial vacuum, for the purpose of refining or crystalizing, for withdrawing vapors lighter than water, or having a lower boiling point, as alcohol, &c., and for other similar purposes.

In the accompanying drawing—

Figure 1 represents an end view.

Figure 2, a side view.

Figure 3, a sectional view of the base-piece below the flange D.

Figure 4, a top view of fig. 3 at flange D.

Figure 5, a view of the device standing perpendicular, as placed when used to produce a partial vacuum.

The device consists of a hollow shaft or tube, A, connecting with the base-piece B by the flange D and the conduit at the coupling-joint H, and having upon it a fixed pulley, J.

C C C C are hollow trumpet or semicircular funnel-shaped arms, connecting with B at the points O O. These may be increased or diminished in number, as desired.

The base-piece B contains four compartments, two of which are shown in fig. 3, K K, a plan view at flange D being shown in fig. 4. These compartments may also be increased or diminished as desired.

E E are standards to support the device, terminating in bearings at F F.

L, fig. 1, is a strap securely binding the arms C C C C together for additional strength.

H is a packing-joint, the shaft A being movable to that point, while the conduit beyond is stationary.

The operation of my invention is very simple and as follows:

Power being applied by a belt on the pulley J, which, as before stated, is fastened to the hollow shaft A, the whole is rapidly revolved, taking up the air

through the hollow arms C C C C, and forcing it into the compartments of the base-piece B; thence out through the hollow shaft A, and, by means of the conduit, beyond the packing-joint H, conveying it to any desired point or place. In this manner air may be forced down into a building by placing the device in the upper stories, or up into the same, by placing it in the lowest portion.

In using the device for blast furnaces, blacksmiths' forges, &c., the conduit is simply entered at the point where the air current is desired.

In using it for the withdrawal of vapors in refining, concentrating, or crystalizing, it is to be inverted or placed perpendicular within the vacuum-pan or other vessel used, as shown in fig. 5.

I have also found that this device is specially adapted to raising water where large quantities are required at a moderate elevation, and that it also answers admirably as an ordinary well-pump when placed at the bottom of a well, the hollow shaft A being lengthened as required.

It is also adapted to the ventilation of railway and street-cars when suspended inside from the roof, and attached to any form of windmill above the roof to be propelled by the motion of the car.

There are several other purposes for which the device may be used with profit, but the foregoing are the principal ones to which I have applied it.

Having described my invention,

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

1. The base-piece B, divided into compartments K, one for each arm, so that the current of one arm cannot counteract that of the others, substantially as set forth.

2. The combination of the hollow arms C C C C, the base-piece B, divided into compartments K, the hollow driving-shaft A, and the packing-joint H, combined, constructed, and operating together substantially as described, and for the purposes set forth.

JOHN F. COLLINS.

Witnesses:

BENJ. N. ANDERSON,
HENRY DALE.