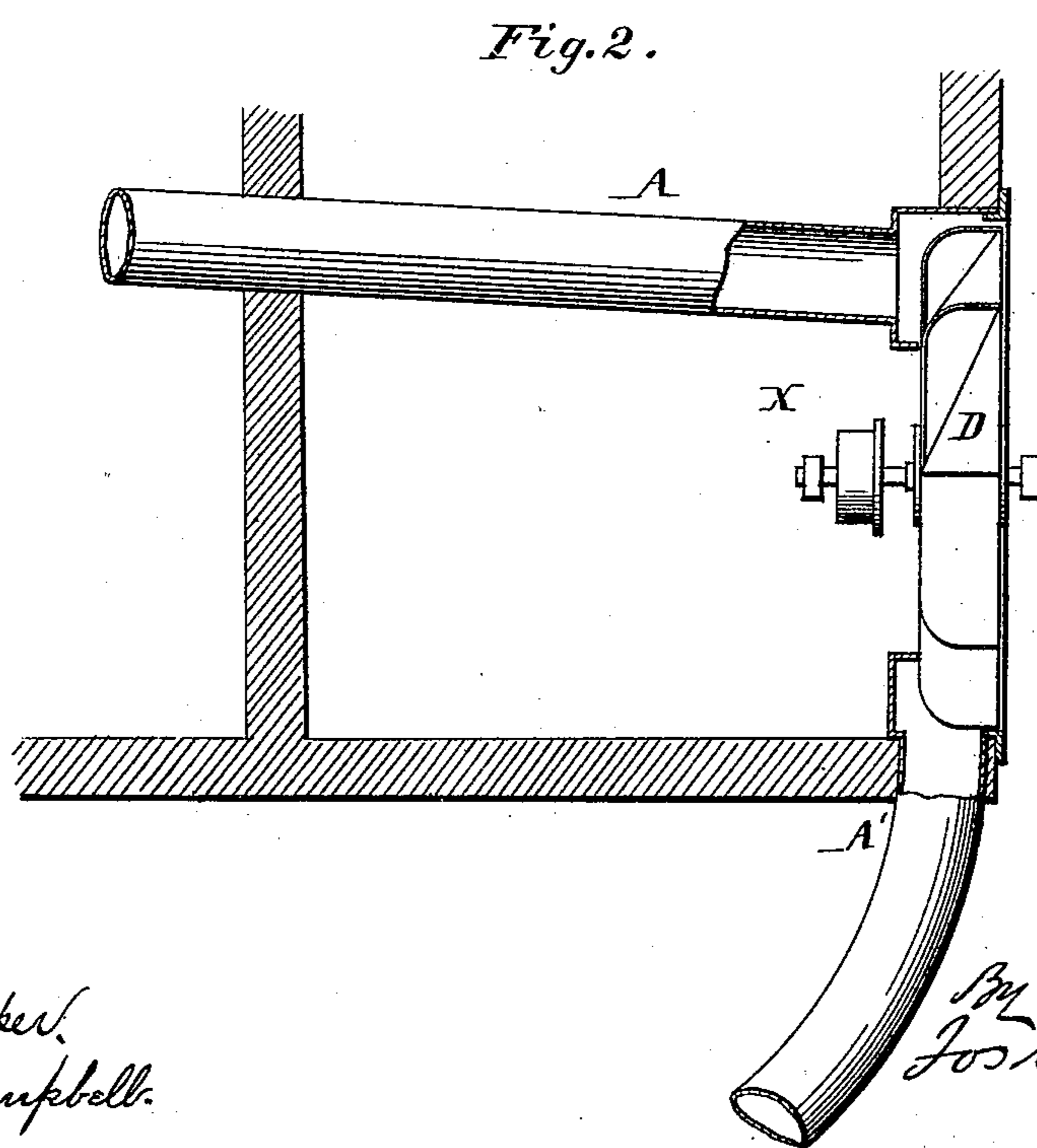
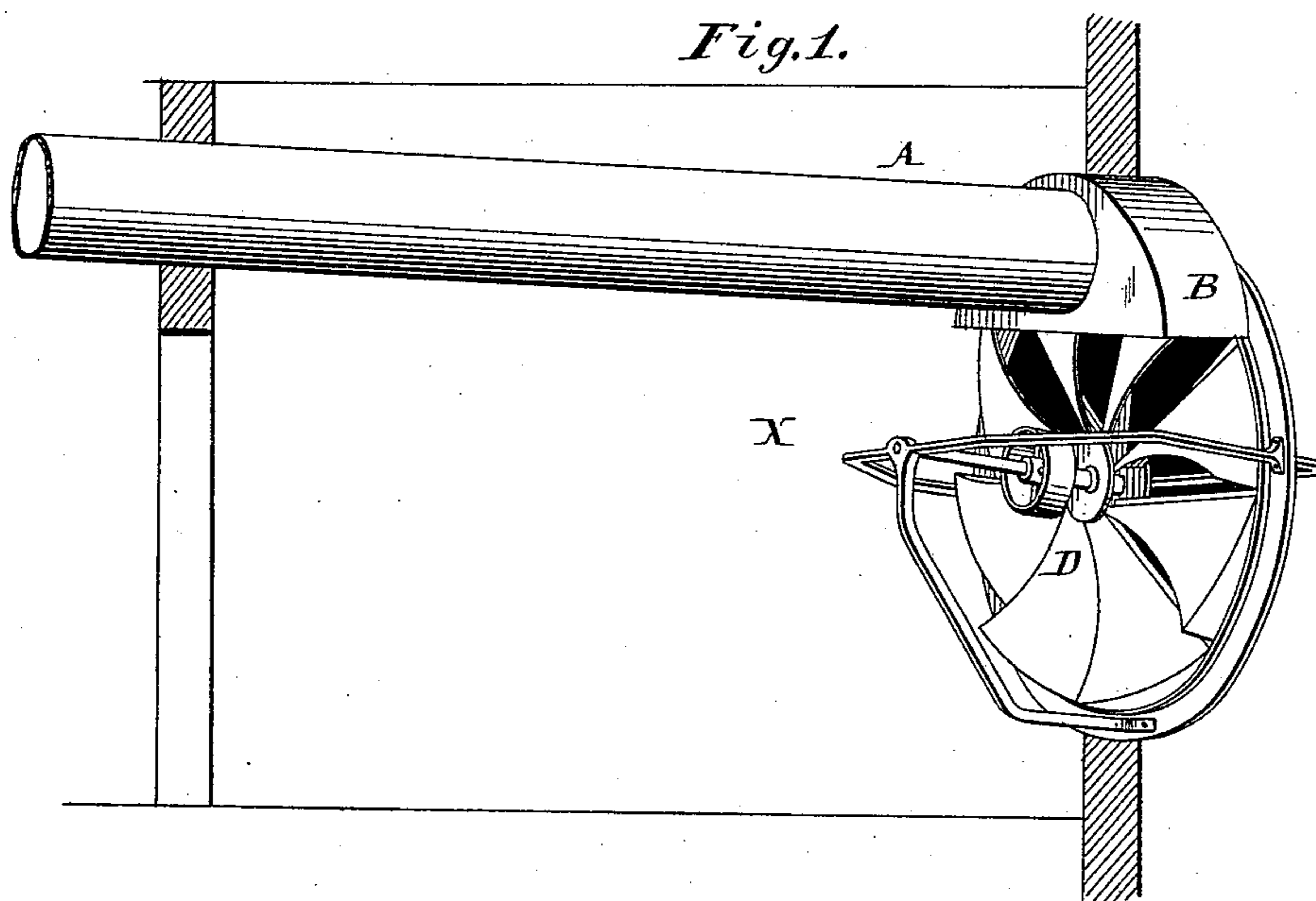


(No Model.)

T. C. PERRY.
EXHAUSTING APPARATUS.

No. 304,356.

Patented Sept. 2, 1884.



Attest:
Court A. Cooper.
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Attys.

UNITED STATES PATENT OFFICE.

THEODORE C. PERRY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE EXHAUST VENTILATOR COMPANY, OF SAME PLACE.

EXHAUSTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 304,356, dated September 2, 1884.

Application filed June 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, THEODORE C. PERRY, a citizen of the United States, and a resident of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Exhausting Apparatus, of which the following is a specification.

My invention relates to that class of ventilating or exhausting apparatus in which a fan or wheel provided with radial blades is caused to revolve, and which, by the action of the blades, carries a volume of air through it from one apartment upon one side to another upon the opposite side thereof, or discharges it into the external atmosphere; and my invention consists in means whereby, without interfering with the above-described operation of the fan, I can exhaust the air from different separated compartments or different points in the same apartment.

In the drawings, Figure 1 is a perspective view showing an exhausting-fan and illustrating my improvement as applied to ventilating an apartment separated from that in which the fan is situated. Fig. 2 is a plan view in section, showing the fan with means whereby the same may be employed for exhausting the air at the same time from three different apartments.

Heretofore, in the use of revolving fans or wheels for ventilating or exhausting purposes, it has been common, when more than one apartment requires to be exhausted or ventilated, to place the fan in a box or casing, to which the various pipes or conduits leading from the different compartments are conducted. This necessarily prevents the flow of air to many portions of the fan and greatly reduces its efficiency.

In carrying out my invention I withdraw the air from the main compartment, in which the fan is situated, by arranging the fan as usual, without inclosing it in the opening in the wall through which the air is to be discharged, and so that the air will flow freely from the rear to the main body of the fan, and outward through the said opening. In connection with this arrangement I employ one or more conduits, each leading from a compartment or space to be ventilated, separated from the main compartment X, to a point at the periphery of the

fan, where the conduit is enlarged or expanded, so as to form an expanded mouth or hood, which occupies a position at the periphery of the fan, covering a portion thereof but little larger than the diameter of the conduit itself.

According to the construction of the fan, the terminal portion of the conduit will extend over the edge of the fan, or to the rear of the same near the periphery thereof, in any case the arrangement being such that the air which flows through the conduit shall be brought to that portion of the fan which travels at the greatest speed, and which is expelling the air with the greatest rapidity, care being taken to expand the mouth of the conduit to the least possible extent. I have found that with this arrangement I am able to secure a powerful exhausting effect in proportion to the diameter of the conduit, carrying the air long distances from separate apartments without in the least interfering with the efficiency of the fan in its action upon the air within the apartment in which it is situated.

I have shown in the drawings my invention in connection with what is known as the "Blackman Fan," Fig. 1 illustrating the conduit A as terminating in a hood, B, covering a portion of the periphery and the rear of the fan D.

In Fig. 2 the arrangement shown in Fig. 1 is illustrated in section in connection with the conduit A, and is also illustrated with a second conduit, A', the mouth of which is solely opposite the periphery of the fan. In this manner conduits may be extended from various apartments and places, and caused to deliver the air therefrom to the periphery of the fan, while the body thereof operates in the ordinary manner to exhaust the air from the room in which it is placed.

It will be apparent that where the fans do not take the air at the extreme periphery, as in the case of the Blackman fan, the conduits will extend to the back of the fan as near the extreme periphery as possible.

I do not claim a casing inclosing a fan with a conduit leading to the casing from the place from which air is to be exhausted, my invention being distinguished by the fact that the conduit or conduits extend to a fan which is not covered or inclosed by a casing.

I claim—

1. The combination, with an exhaust-fan, of a conduit extending from the place from which the air is to be exhausted, and arranged
5 with its end in close proximity to the periphery of the fan, the remaining portion of which is uncovered, substantially as set forth.

2. The combination, with a revolving fan arranged within an opening to withdraw the
10 air from a compartment communicating with said opening, of a conduit leading to another

apartment, and provided with an expanded end inclosing a portion of the fan at or near the periphery thereof, substantially as set forth.

In testimony whereof I have signed my name 15 to this specification in the presence of two subscribing witnesses.

T. C. PERRY.

Witnesses:

CHARLES E. FOSTER,
L. C. YOUNG.