O. Slagle,

Car Ventilator.

No. 98201. Patented Dec. 21. 1869.

Fig. 1.

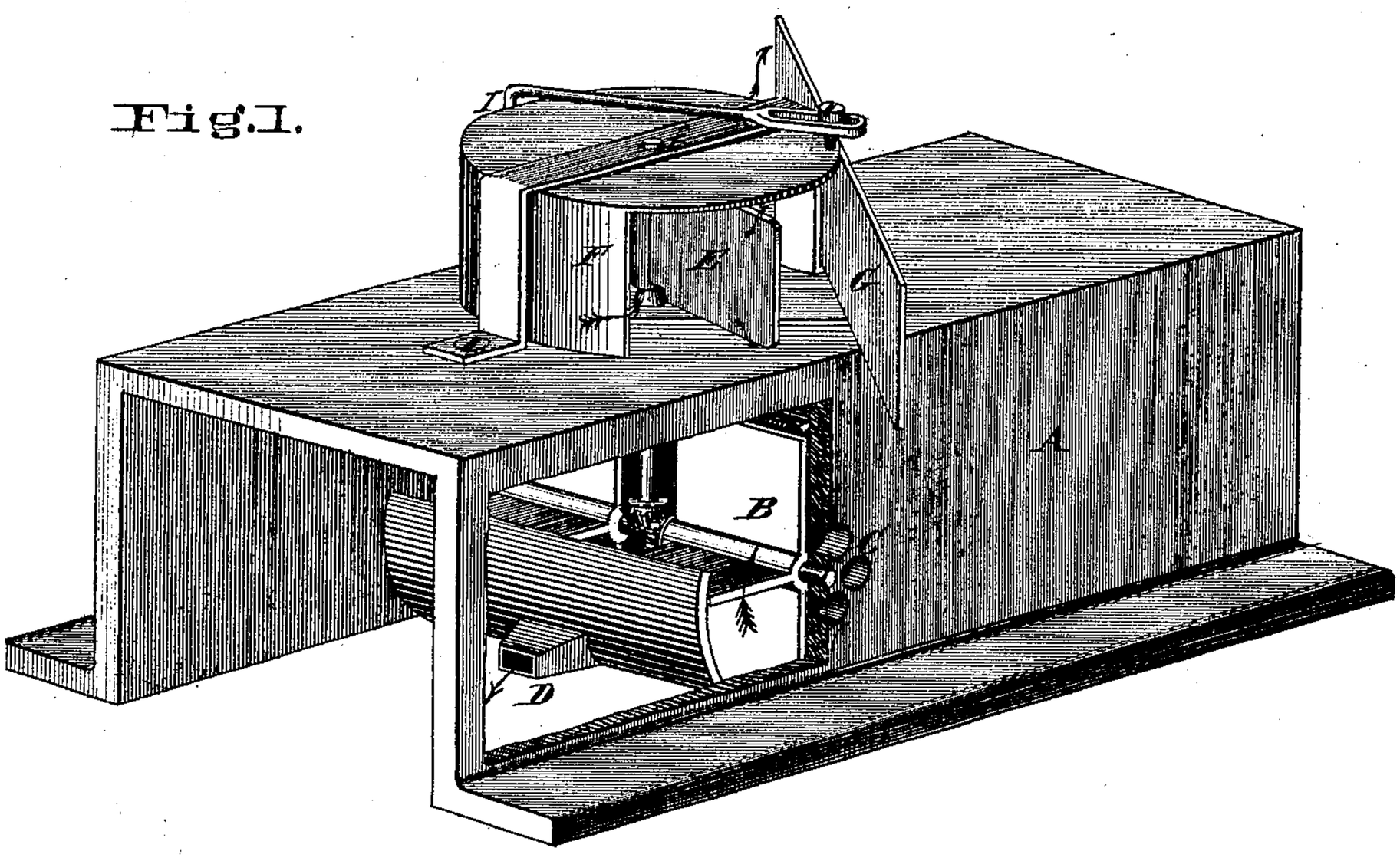


Fig. 2.

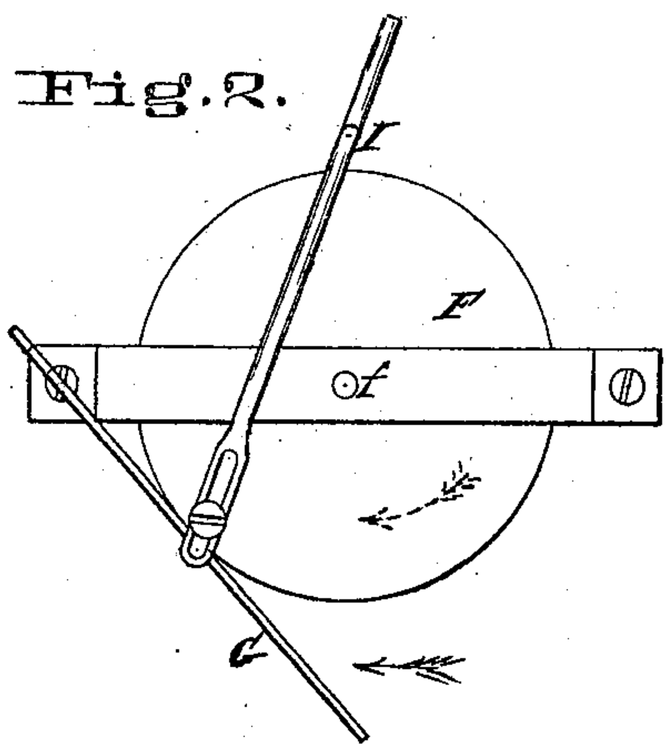
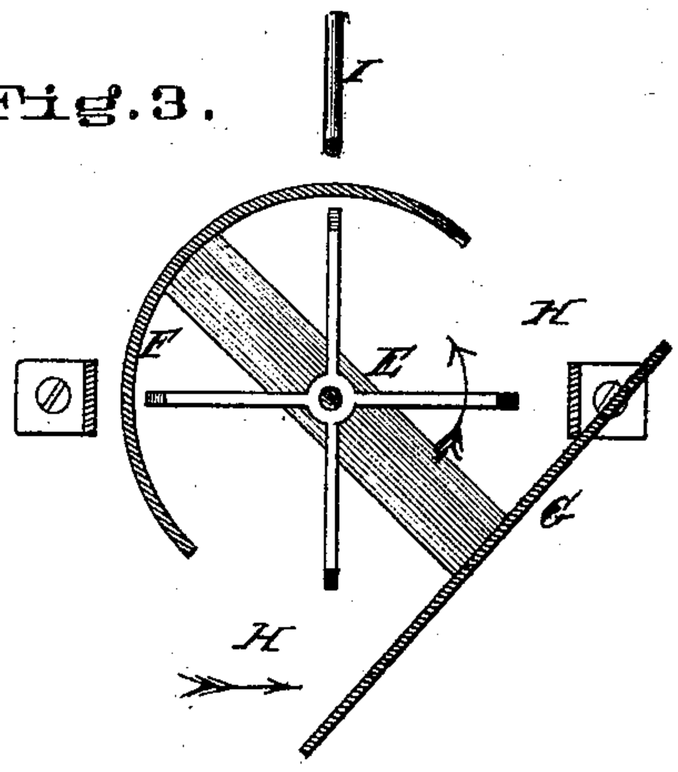


Fig. 3.



Attest

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OLIVER SLAGLE, OF LONDON, ASSIGNOR TO HIMSELF AND THOMAS H. FOULDS, OF CINCINNATI, OHIO.

Letters Patent No. 98,201, *dated December* 21, 1869.

RAILROAD-CAR VENTILATOR.

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

To all whom it may concern:

Be it known that I, OLIVER SLAGLE, of London, Madison county, State of Ohio, have invented a certain new and useful Improvement in Car-Ventilators; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof, to enable one skilled in the art to which my invention appertains, to make and use it, reference being had to the accompanying drawings, making part of this specification.

My invention consists of an apparatus for creating a strong current of air through railroad-cars, &c., for ventilation, or the prevention of the accumulation of dust in the cars, which apparatus is set forcibly in motion (in order to produce the said current) by the surrounding atmosphere, which resists the motion of the train, the rapid transit of the cars serving, by means of suitable mechanical devices, hereinafter described, to cause a sufficient quantity of air to be collected and passed violently through the apparatus, to give the latter the requisite velocity.

My invention further consists of certain reversible devices, for collecting and discharging the air, which adapt the apparatus for motion of the train in either direction.

In the accompanying drawings—

Figure 1 is a perspective view, partly in section, which exhibits the arrangement and construction of my devices.

Figure 2 is a plan of the apparatus, with the air-collector adjusted for the running of the train in one direction.

Figure 3 is a sectional plan of the same, with the collector adjusted for the opposite direction.

a represents a perspective view of the winged wheel E, and case F, and fan B, with case A attached to the top of any ordinary car-roof; the wind-wheel E being upon the outside of the car, and the fan B and case A being located within the car; the apetures C being in the sides of the fan-case A.

The winged wheel E, on the top of the roof, is connected, in the manner shown, to the fan, for the purpose of driving the same, and the gearing may be constructed so that the fan has a greater velocity than the wheel E.

The wheel E is driven by the air, which is admitted at one side of the same, when the train is under motion, and this is sufficient, when properly geared, to give the fan one thousand revolutions per minute.

The wind-wheel E is propelled by an outside current of air, produced by the locomotion of the car, and should not be admitted into the car, as fine particles of dust and smoke are inevitably admitted with all currents of air that would thus pass into the car.

Fan B, in case A, is located upon the inside of the car, and upon a different shaft from the wind-wheel E, such shaft being horizontal, and propelled by the vertical shaft of the wind-wheel E, united or connected by suitable gearing, which may be varied, to produce any desirable relative speed of the fan.

One thousand revolutions per minute, I deem sufficient to produce the desired current of air within the car, when it is travelling at the rate of twenty miles per hour.

By this arrangement, the air which circulates inside of the car, to produce ventilation, is free from all particles of smoke and dust, or other substances, and a current of air will be produced without reference to the wind-wheel upon the outside of the car.

Any ordinary double-cylinder blower may be used instead of the fan B.

The shield F prevents the air from acting upon but one side of the wheel E, and it carries an air-collector, G, which collects the air and directs it into the wheel.

Sufficient distance is left between the shield, at the sides and the plate G, to form openings, H, for the reception and escape of the air.

The shield is pivoted at *f*, and is adapted to partially rotate, in order to reverse the plate G, as shown in figs. 2 and 3, for the purpose of adapting the apparatus for operation in either direction of the motion of the train.

The plate G is reversed by handle I, which extends inside of the car, convenient to the conductor, brakeman, or passengers.

It is obvious that a rotary blower may be used in place of fan B, if preferred, and many other modifications may be made in the apparatus, without materially changing the operation and result.

The force of air driven into the car by this apparatus is amply sufficient to exclude dust, and the force can be regulated by the adjustment of plate F, so far as to stop the revolution of the wheel entirely, when desirable.

I claim herein as new, and of my invention—

1. The wind-wheel E, located upon the outside of the car-roof, driven by an outside current of air, produced by the locomotion of the car, coming in contact with the same, in combination with the horizontal fan B, located upon a suitable shaft, geared to the vertical shaft of the wind-wheel E, when said blower is located within the dome of the car, substantially as and for the purpose herein specified and shown.

2. In combination with the wind-wheel E and blower B, the adjustable shield F and plate G, constructed and arranged substantially as described, and for the purpose stated.

In testimony of which invention, I hereunto set my hand.

OLIVER SLAGLE.

Witnesses:

FRANK MILLWARD,

E. E. WOOD.