

(No Model.)

2 Sheets—Sheet 1.

A. BELL.
CAR VENTILATION.

No. 325,040.

Patented Aug. 25, 1885.

Fig. 1.

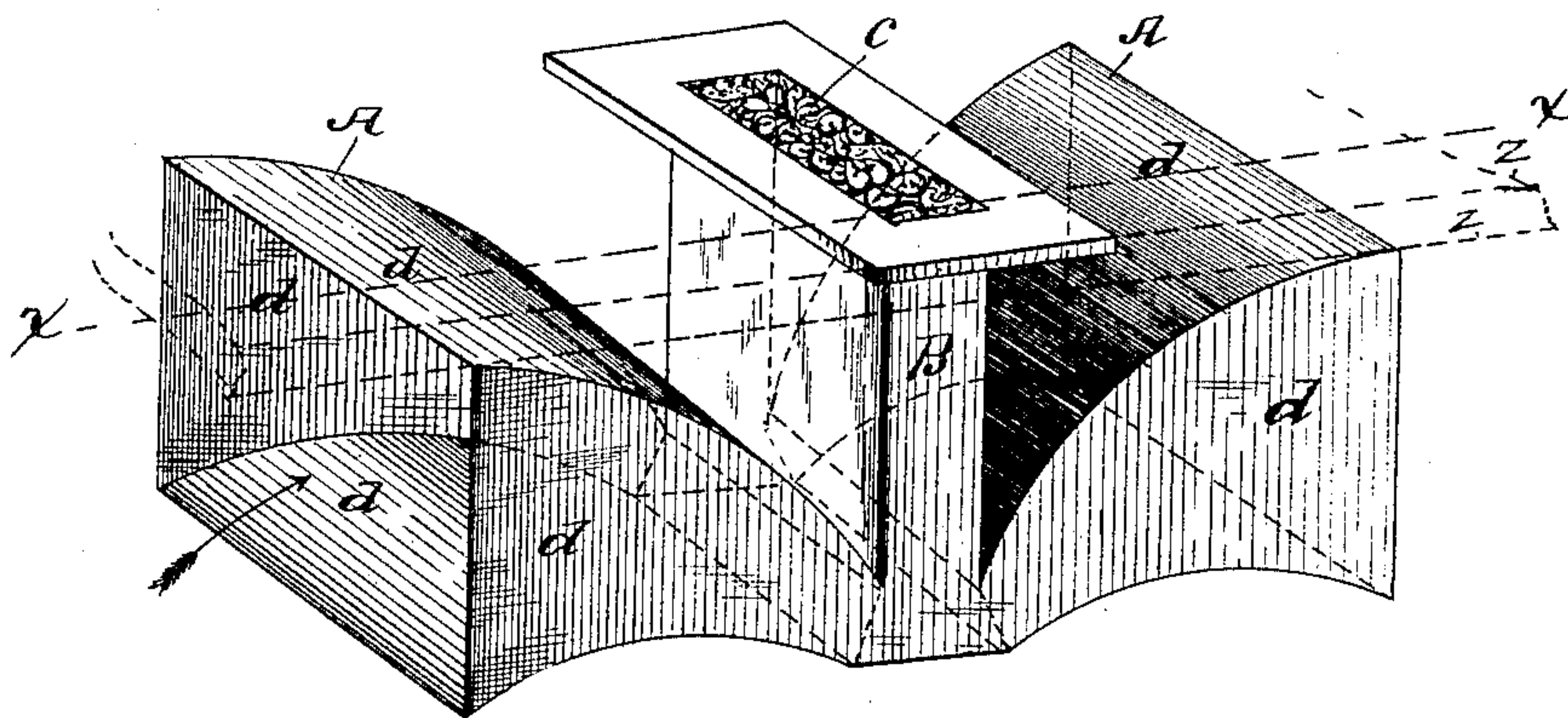
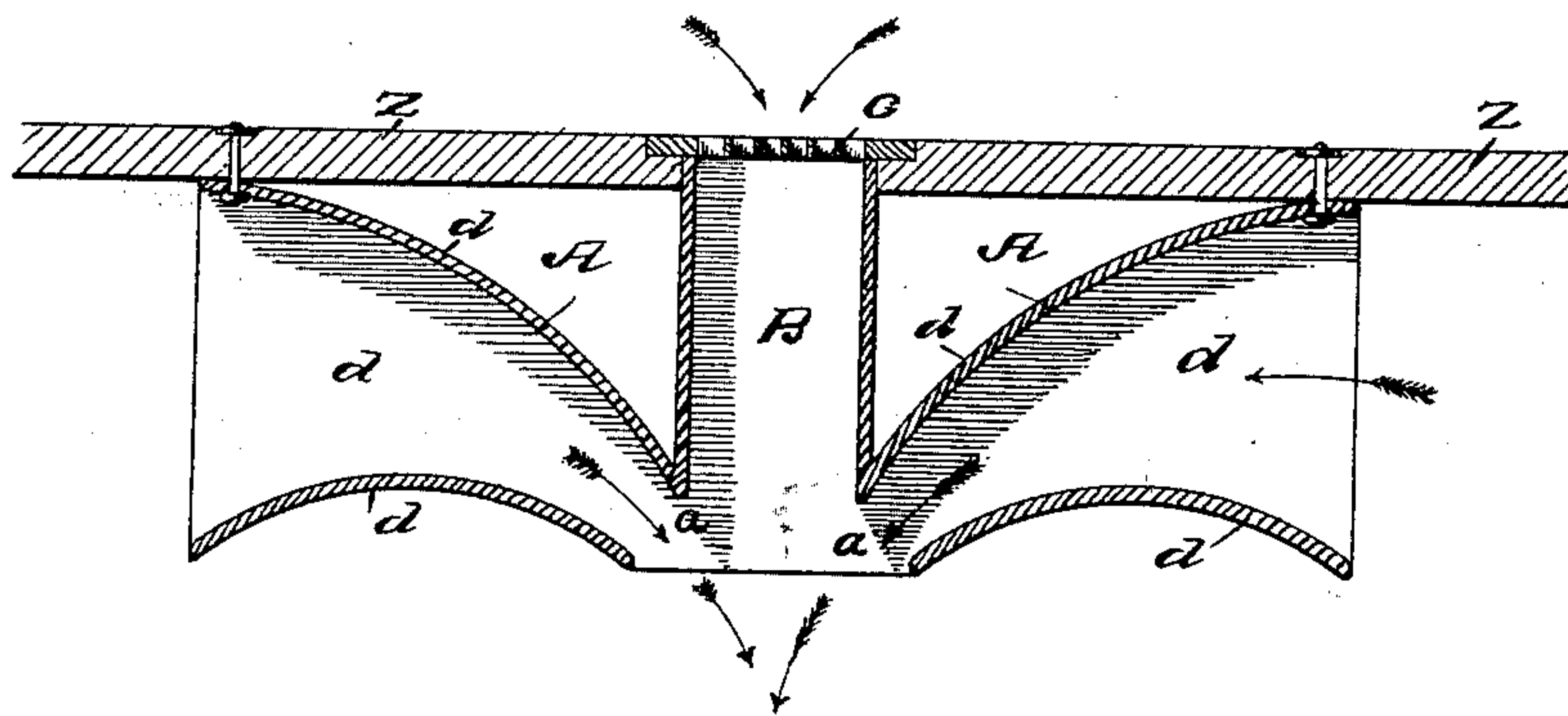


Fig. 2.



Witnesses;
E. F. Muddick
A. J. Willard

Inventor,
Alonzo Bell

(No Model.)

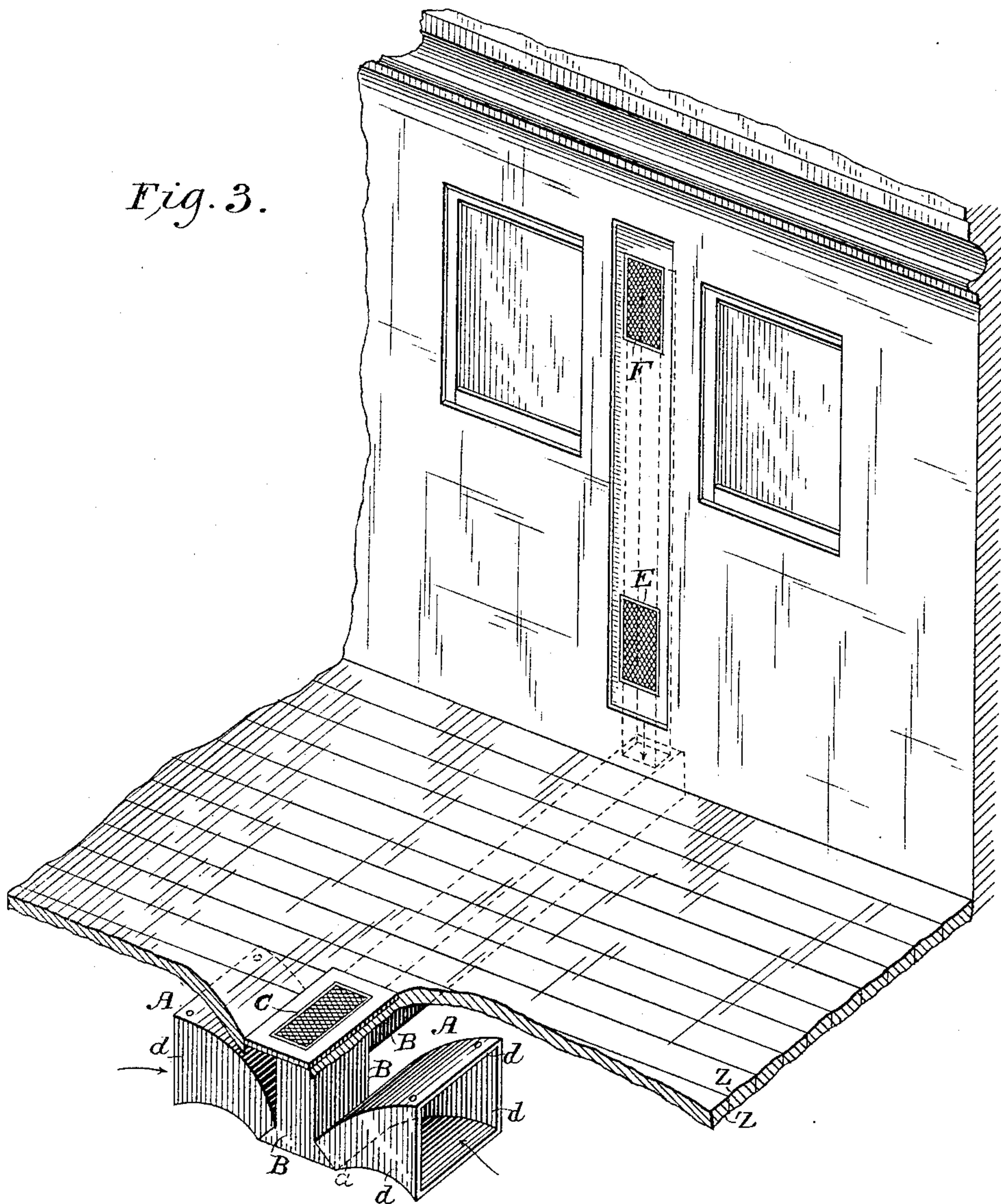
2 Sheets—Sheet 2.

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Fig. 3.



Witnesses

Jos. S. Latimer
Sam. M. Lake

Inventor

Alonzo Bell

UNITED STATES PATENT OFFICE.

ALONZO BELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

CAR-VENTILATION.

SPECIFICATION forming part of Letters Patent No. 325,040, dated August 25, 1885.

Application filed October 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALONZO BELL, a citizen of the United States, residing at Washington, District of Columbia, have invented a new and useful Improvement in Car-Ventilators, of which the following is a specification.

The object of my invention is to provide a simple and effective device for facilitating the ventilation and cleansing of a railway-car through an outlet-passage in the bottom thereof. I attain this object by arranging beneath the floor of a car an exhaust-casing or outlet-passage, communicating with the interior of the car through a register or registers in said casing, and communicating with the outer air below the car-floor through the open bottom of a double cowl longitudinally placed at the base of said casing. The forward end relatively to the movement of the car deflects the air, which enters it downward and obliquely across the open bottom of the double cowl, creating a downward draft in the casing or outlet-passage, through which the unobstructed discharge of air and refuse dirt may take place from the body of the car.

Figure 1 represents a perspective view of my device, showing double cowl, the casing forming central passage therein, and register placed over said passage. Fig. 2 represents a longitudinal vertical section of the device drawn on line *xx* of Fig. 1. Fig. 3 represents a perspective elevation of a section of the interior of a car, showing horizontal and vertical extension of the casing or outlet-passage and the floor and side registers placed therein.

Like letters indicate like parts.

A A are the cowls, having deflecting-plates *d d d d*. B is the exhaust-casing or outlet-passage, open at the bottom and communicating with the interior of the car through either of the registers C E F, and with the outer air between the throats *a a* of the two cowls.

It will be seen that these cowls as arranged form a double cowl with an open bottom, the casing B acting as a central passage through which air and dirt may be discharged below the line of the car-floor.

The broken lines Z Z in Fig. 1 indicate the upper and lower surfaces of the car-floor.

In Fig. 3 the exhaust-casing B or outlet-passage is shown by dotted lines extended horizontally and vertically for the ventilation

of the upper and lower portions of the car through registers C, E, and F.

By opening the upper register and closing the lower ones the hot air is drawn from the upper part of the car, while by closing the upper register and opening either of the lower ones the lower portion is ventilated. The impure air found along the line of the floor, as well as the refuse dirt arising from sweepings or other causes, is best discharged by opening the register in the floor and closing those in the side.

It will be seen that the same effect is produced whether the car is moving forward or backward, as the air rushes in the cowl presented to the wind, and is deflected downward at the base of the outlet-passage, causing therein a positive downward draft. In cars already provided with upper ventilators the casing vertically extended on the side and the registers therein may be dispensed with.

It is essential to the perfect operation of my device that the air-currents moving downward through the outlet-passage B and those deflected through either of the cowls A A should encounter nothing tending to obstruct their free flow into the open air below the open bottom of the double cowl and the central outlet-passage therein.

It will be seen that the open bottom of my device permits the free flow downward of the currents passing through both the casing B and the cowl A, thus effectually preventing the accumulation of dirt or refuse at the base of the outlet-passage, or the formation of ice at that point due to driving snow in severe weather.

The cowls A A may be connected with the exhaust-casing in any way best calculated to secure the full force of the deflected currents, either by a direct attachment to the casing itself, or by means of an independent boxing connected therewith.

I am aware that the ventilation of a car by means of outward currents created by cowls arranged on the side or top of a car or at the base of a closet-hopper is not new.

What I claim as new and of my invention is—

1. The car-ventilator herein described, consisting of the double cowl A A, open at the bottom and having central passage, B, arranged

beneath the car and communicating with the interior thereof, and a register placed over the passage B, whereby air and dirt may be discharged from the bottom of the car, as and for
5 the purpose set forth and described.

2. The car-ventilator herein described, consisting of a double cowl, A A, having an open bottom and arranged horizontally beneath a car-floor, exhaust-casing B, forming at its
10 lower end a vertical central passage through said double cowl and communicating with the

interior of the car, a floor-register, and a side register or registers opening into said casing, as shown and described, whereby air and dirt may be discharged from the lower portion, and 15 the hot air removed from the upper portion of the car, substantially as set forth.

ALONZO BELL.

Witnesses:

A. J. WILLARD,
SAM. M. LAKE.