

(No Model.)

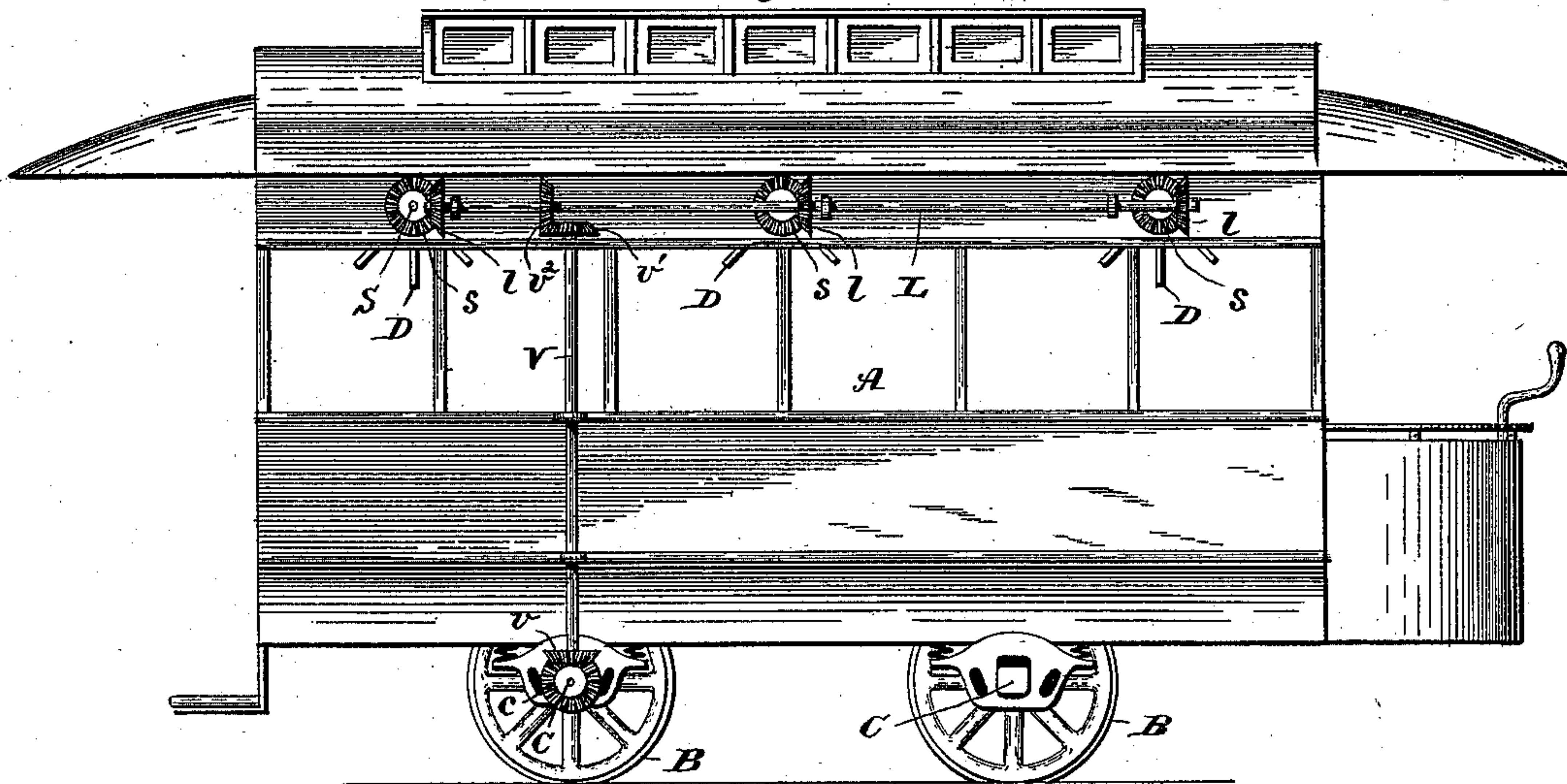
2 Sheets—Sheet 1.

J. J. GERAGHTY.  
VENTILATING APPARATUS FOR VEHICLES.

No. 400,559.

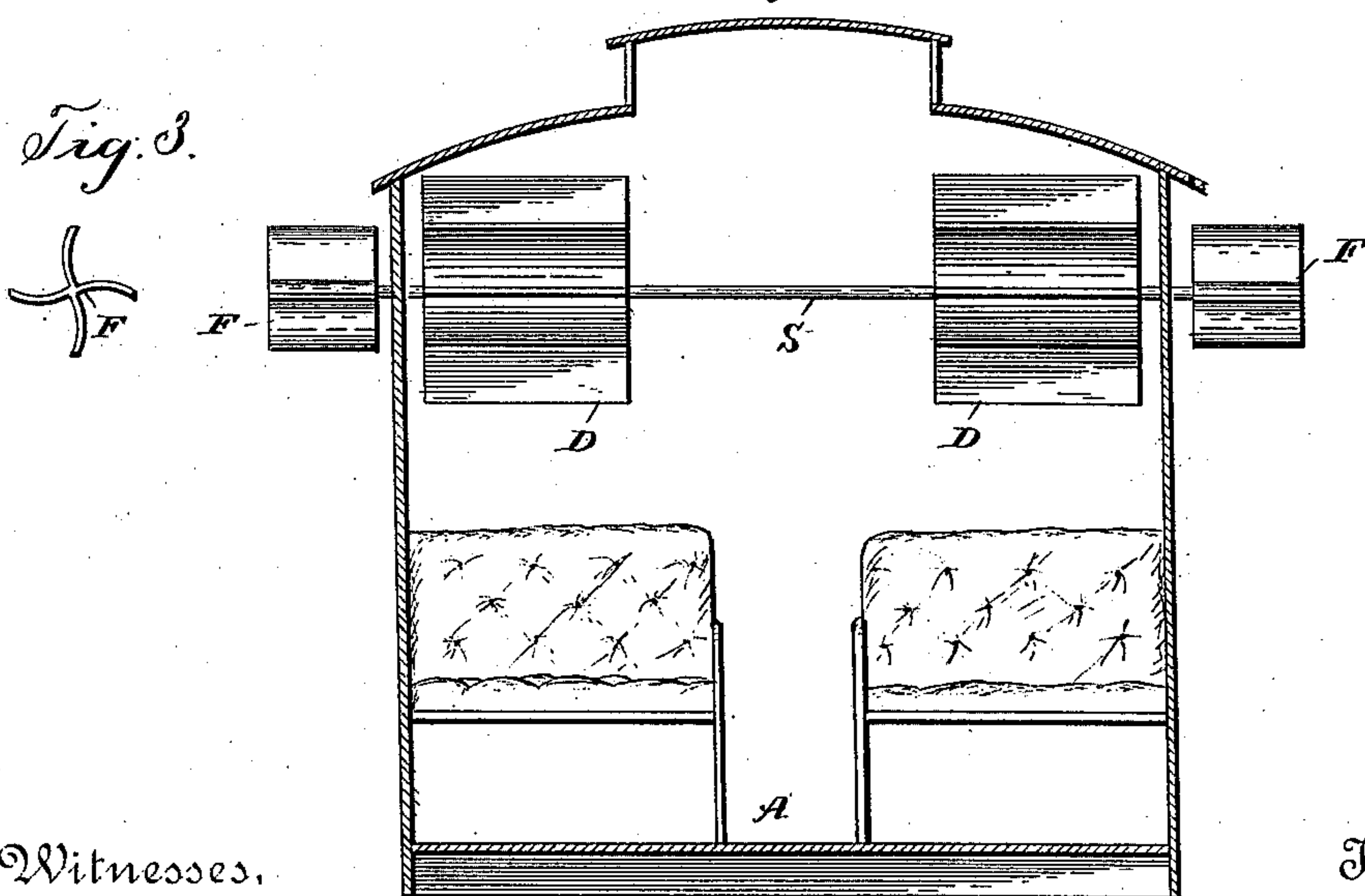
Patented Apr. 2, 1889.

*Fig. 1.*



*Fig. 2.*

*Fig. 3.*



Witnesses,

W. M. Boyden

Charles J. Stockman

Inventor,

John J. Geraghty

By his Attorney in fact

Chas. A. Barber

(No Model.)

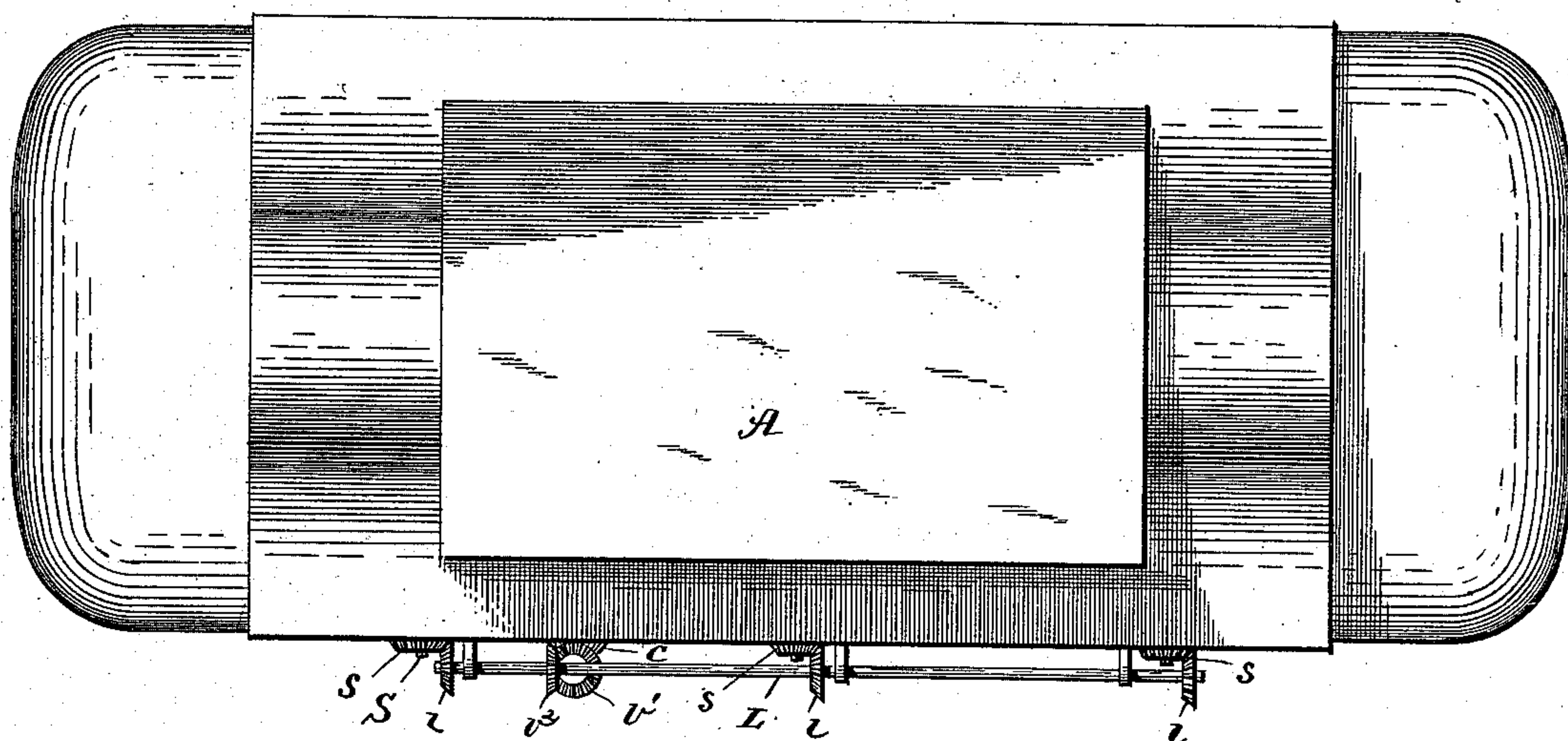
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*Fig. 4.*



Witnesses,

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# UNITED STATES PATENT OFFICE.

JOHN J. GERAGHTY, OF STREATOR, ILLINOIS.

## VENTILATING APPARATUS FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 400,559, dated April 2, 1889.

Application filed June 29, 1888. Serial No. 278,547. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN J. GERAGHTY, a citizen of the United States, residing at Streator, La Salle county, State of Illinois, have invented certain new and useful Improvements in Ventilating Apparatus for Vehicles, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a car provided with my improved ventilating apparatus. Fig. 2 is a transverse vertical section of a car, showing the ventilating apparatus constructed to be operated by the action of the air while the train is in motion. Fig. 3 is an end view of the propeller shown in Fig. 2. Fig. 4 is a top plan view of a car, showing in detail the manner of arranging the bevel-gear to operate the various fans.

The same letters of reference have been applied to corresponding parts throughout the several views.

The object of this invention is to construct a railroad-car or other wheeled vehicle provided with rotary fans located at suitable points overhead throughout its length and means for revolving such fans either when the car is in motion or at rest, or both. I attain this object by means of mechanism suitable for effecting the desired end, and the accompanying specification describes and the drawings illustrate what I consider the best means of carrying out my invention.

The letter A designates a wheeled vehicle (in this case an ordinary street-car) supported upon wheels B on axles C. Within the body of the car, and extending, preferably, transversely across the upper portion thereof, are a series of shafts, S, journaled in the sides of the car in any suitable manner. Upon each of these shafts is keyed one or more fans, D. In the present instance I have shown two fans upon each shaft, one over each longitudinal row of seats along the sides of the car, although it will be understood one continuous longer fan would answer equally as well, and in some cases perhaps better. These fans, with the shafts supporting them, are capable of rotation, and when so rotated will direct a gentle

draft of air, in this instance upon the heads of the passengers seated in the seats; but where the device is used in connection with a stock or refrigerator car or other wheeled vehicle the draft of air will of course be directed upon the cattle, fowls, butter, or whatever other freight may be contained within the car.

I have shown in the accompanying drawings two arrangements of devices for imparting rotary motion to the fans, and each is especially adapted for use under particular circumstances. For instance, that shown in Fig. 1 will only cause the fans to rotate while the car is in motion, which would be especially applicable to railroad-cars in through-freight or express trains. On the contrary, that shown in Fig. 2 would under certain circumstances cause the fans to rotate at all times, whether the car was stationary or not, and at other times only while the car was in motion, which is especially applicable to street-cars.

In Fig. 1 each transverse shaft S carries a bevel gear-wheel, s, and a longitudinal shaft, L, carries other bevel gear-wheels, l, intermeshing with each of the bevel gear-wheels s, whereby the several shafts and fans will be caused to rotate simultaneously. Preferably located upon the longitudinal shaft L is a bevel gear-wheel,  $v^2$ , which intermeshes with another bevel gear-wheel,  $v'$ , keyed upon the upper end of a vertical shaft, V, the lower end of which carries a bevel gear-wheel, v. Upon one of the axles C is keyed a bevel gear-wheel, c, intermeshing with said bevel-gear v, whereby when the car is in motion and the axle C revolving in its bearings rotary motion will be communicated to the vertical shaft V, thence to the longitudinal shaft L, and thence to the several transverse shafts S. It will be understood, however, that the bevel-gear  $v'$  may be caused to mesh directly with one of the bevel-gears s upon a transverse shaft, S, if desired, thus dispensing with a portion of the mechanism.

In the construction just above described the fans D will be rotated only while the car is in motion, and by regulating the relative sizes of the several intermeshing bevel-gears they will be given a greater or less speed in their rotation, according to how much draft is de-



sired and how swiftly the car may be moving, it being understood that this applies to the use of my device upon the cars of a railroad-train which carries freight.

5 In Fig. 2 each transverse shaft S (or, if preferred, the forward one of the series) is extended through its bearings in the sides of the car, and at each end carries a wheel, F, which is shown in end elevation in Fig. 3.  
10 The flukes or blades of these wheels are struck on an arc of a curve from the center, and when the car is moved forward in still weather the concave face of each blade will receive power from the air through which the car is passing,  
15 which power will cause the wheel to rotate, and with it the fans. In windy weather, however, when the car is moving with the wind, yet with not as much speed as that of the wind, the wheels F will be driven by the force  
20 of the wind from the rear of the car. When the car is moving against the wind, it will be readily understood that the wheels will be driven by the combined force of the wind and the moving car. I desire it distinctly understood,  
25 however, that I do not limit myself to any particular form of the wheels F, nor to any particular form of the fans D. The former should be so constructed that the desired end will be accomplished—viz., the imparting of  
30 rotary power to the transverse shafts S. The

latter will be constructed with more or less and broader or narrower blades, according as the use to which the car is put may demand.

Having thus described my invention, what I claim as new, and desire to secure by Letters 35 Patent of the United States, is—

In a wheeled vehicle, two or more horizontal shafts journaled in bearings near the top thereof and in parallelism with each other, fans keyed upon each of said shafts, a longitudinal shaft, bevel-gears on each of said 40 transverse shafts, and bevel-gears on said longitudinal shaft intermeshing therewith, in combination with a bevel-gear upon one of the axles of the vehicle, a vertical shaft, a 45 bevel-gear at the lower end of said shaft intermeshing with that on the axle, a bevel-gear at the upper end of said vertical shaft, and a bevel-gear upon said longitudinal shaft, intermeshing with that at the upper end of said 50 vertical shaft, for conveying rotary motion from the axle to the longitudinal shaft, and thence to the several fans, substantially as described.

In testimony whereof I affix my signature in 55 the presence of two witnesses.

JOHN J. GERAGHTY.

Witnesses:

CHAS. DIETMAN,

CLIFF BERTIAN.