B. F. CARD.

Railway Cars.

No. 206,163. **Patented July 23, 1878.**

Fig. 1.

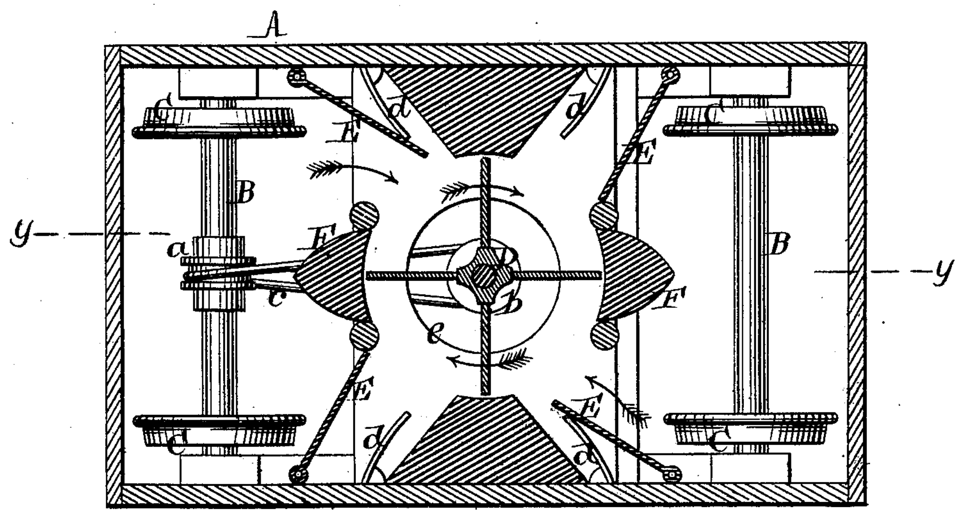
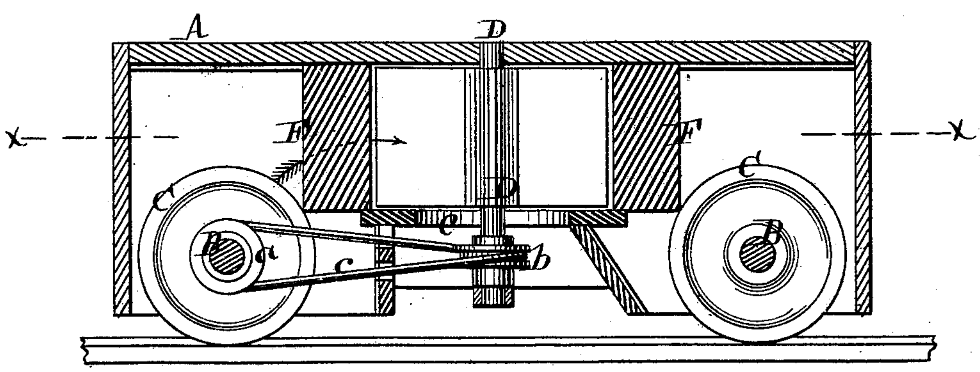


Fig. 2.



Witnesses.
Louis W. Frost
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UNITED STATES PATENT OFFICE.

BENJAMIN F. CARD, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN RAILWAY-CARS.

Specification forming part of Letters Patent No. **206,163**, dated July 23, 1878; application filed July 1, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN F. CARD, of the city of Brooklyn, county of Kings, State of New York, have invented a new and useful Improvement in Cars, of which the following is a specification:

The object of my invention is to provide a mechanism by means of which the noise made by railroad cars or trains in motion may be softened or deadened.

The invention consists in the attachment of a fan or suction wheel to the bottom of a railroad-car, nearly central. This fan or suction wheel has a pulley mounted on it. This is connected by a belt to a pulley mounted on one of the axles of the car-truck, whereby motion is transmitted to the fan. The sides and ends of the bottom of the car are inclosed, forming an air-chamber, having pivoted gates or valves, constructed and operated as follows:

In the accompanying drawing, in which similar letters of reference indicate like parts, Figure 1 represents a longitudinal vertical section in the plane *x x*, Fig. 2. Fig. 2 is a horizontal section in the plane *y y*, Fig. 1.

The sides and ends of the bottom of the car are inclosed by the partition A, forming an air-chamber. In the center of the air-chamber is placed the fan or suction wheel D. Mounted on this fan D is the pulley *b*, which is connected by the belt *c* to the pulley *a*, mounted on the axle B of the car-truck, whereby motion is transmitted to the fan D. In the central air-chamber, and pivoted near the sides of the car, are the gates or valves E E, which, when closed, rest against the partitions or segments F F. The springs *d d*, secured to the sides of the air-chamber, assist in closing the gates or valves E E. The air-chamber is lined with sponge, felt, or other sound-absorbing material. At the bottom of the fan or suction wheel D is an opening in the air-chamber for the escape of the air.

The operation of my device is as follows: When the train of cars is set in motion, the revolution of the car-wheels C causes the pulley *a*, which is mounted on the axle B, to revolve, thus transmitting motion to the fan or suction wheel D by belt *c*. The air from the car-wheels C entering the air-chamber through one of the forward and one of the rear gates or valves E E, as indicated by the arrows shown in the drawing, the other forward and rear gates or valves E E remain closed, and resting against the partitions or segments F F. (See Fig. 1.) When the motion of the train of cars is reversed, the gates or valves E E that were closed are opened and the others closed. The air caused by the revolution of the fan or suction wheel D, coming in contact with the air set in motion by the revolution of the car-wheels C, produces currents of air, which, being brought in contact with each other, soften or deaden the noise produced by the wheels of the car running on the track.

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

1. The combination, with a railroad-car, of an inclosed space beneath the bottom of the car, with a fan or suction wheel, D, for softening or deadening the noise of the car-wheels, and the mechanism for driving the fan or suction wheel D, substantially as described.

2. The combination, with a railroad-car, of an inclosed space beneath the bottom of the car, with the pulley *b* mounted on the shaft of the fan or suction wheel D, and pulley *a* mounted on the car-axle B, and a belt, *c*, connecting and operating the same, substantially as described.

3. The combination, with a railroad-car, of an inclosed space beneath the bottom of the car, forming a central air-chamber, with fan or suction wheel D, arranged within said chamber, and gates or valves E E, pivoted near the sides of the car, and partitions or segments F F, forming a rest for the gates or valves E E and the springs *d d*, substantially as described.

4. The combination, with a railroad-car, of an inclosed space beneath the bottom of the car, said space being lined with sponge, felt, or other sound-absorbing material, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand this 29th day of June, A. D. 1878.

BENJAMIN F. CARD.

In presence of—
LOUIS W. FROST,
M. MCNEALE.