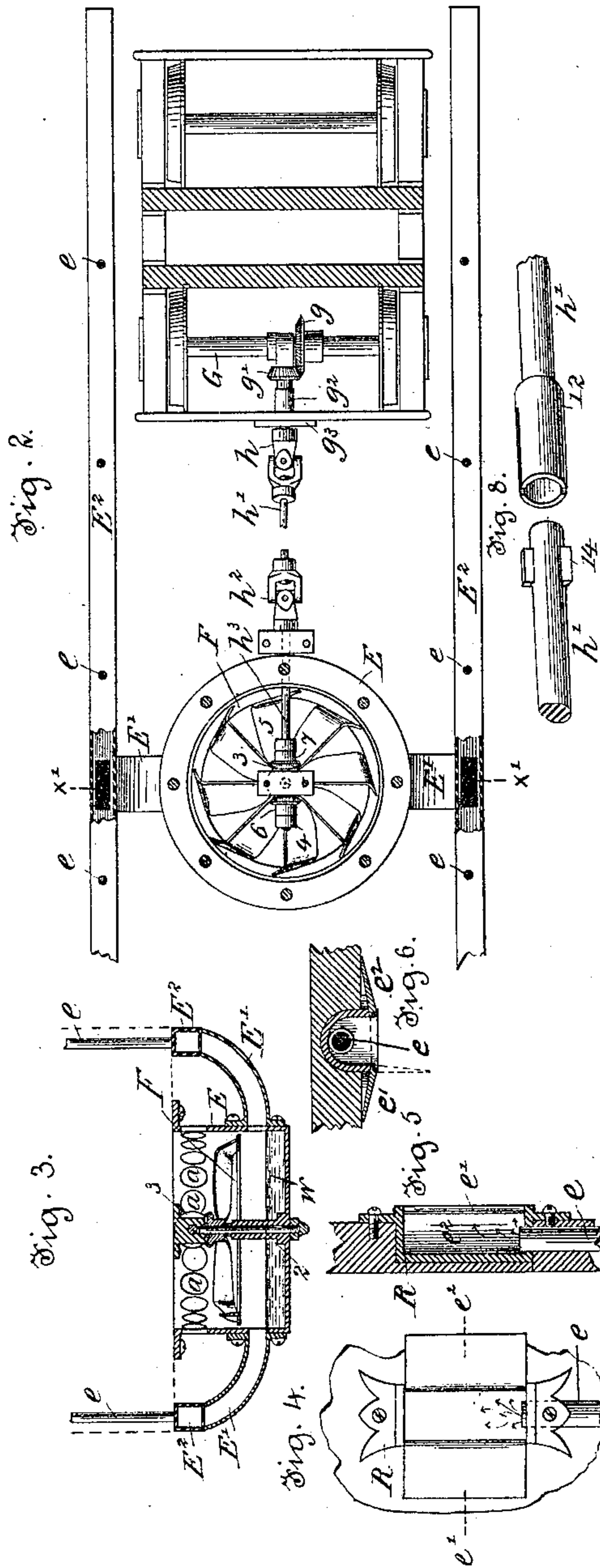
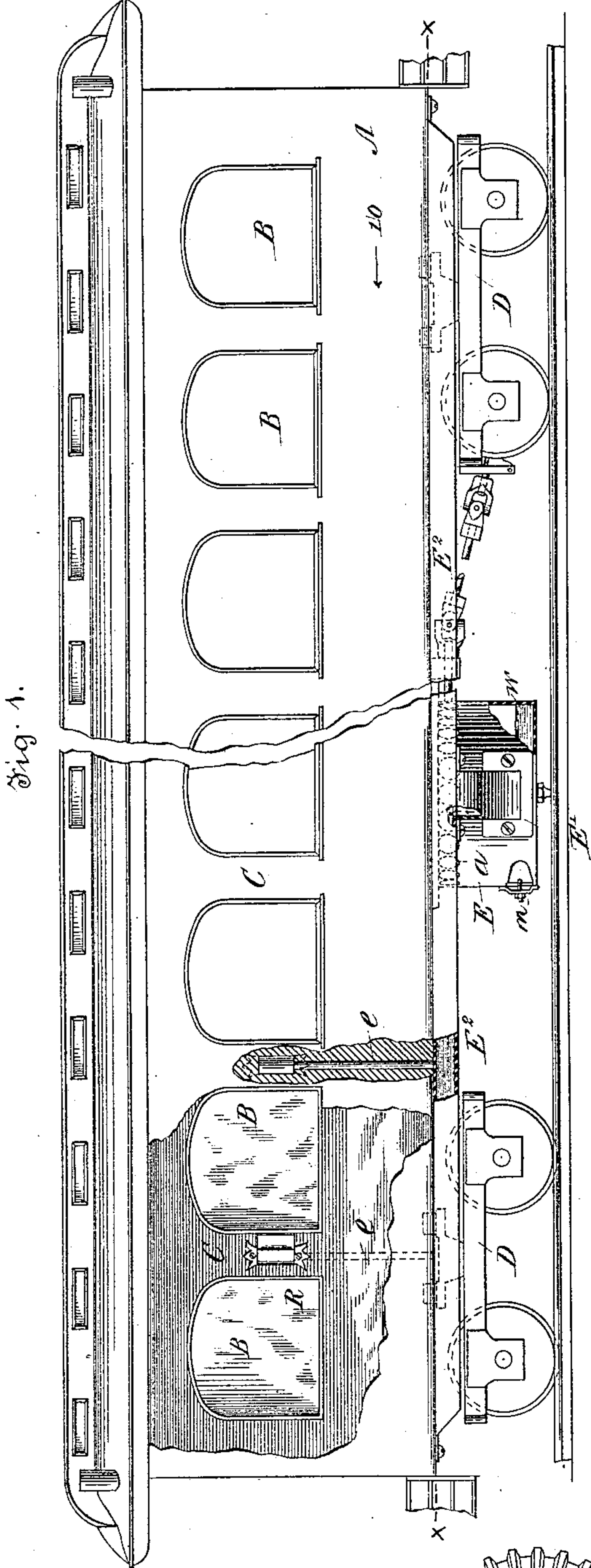


(No Model.)

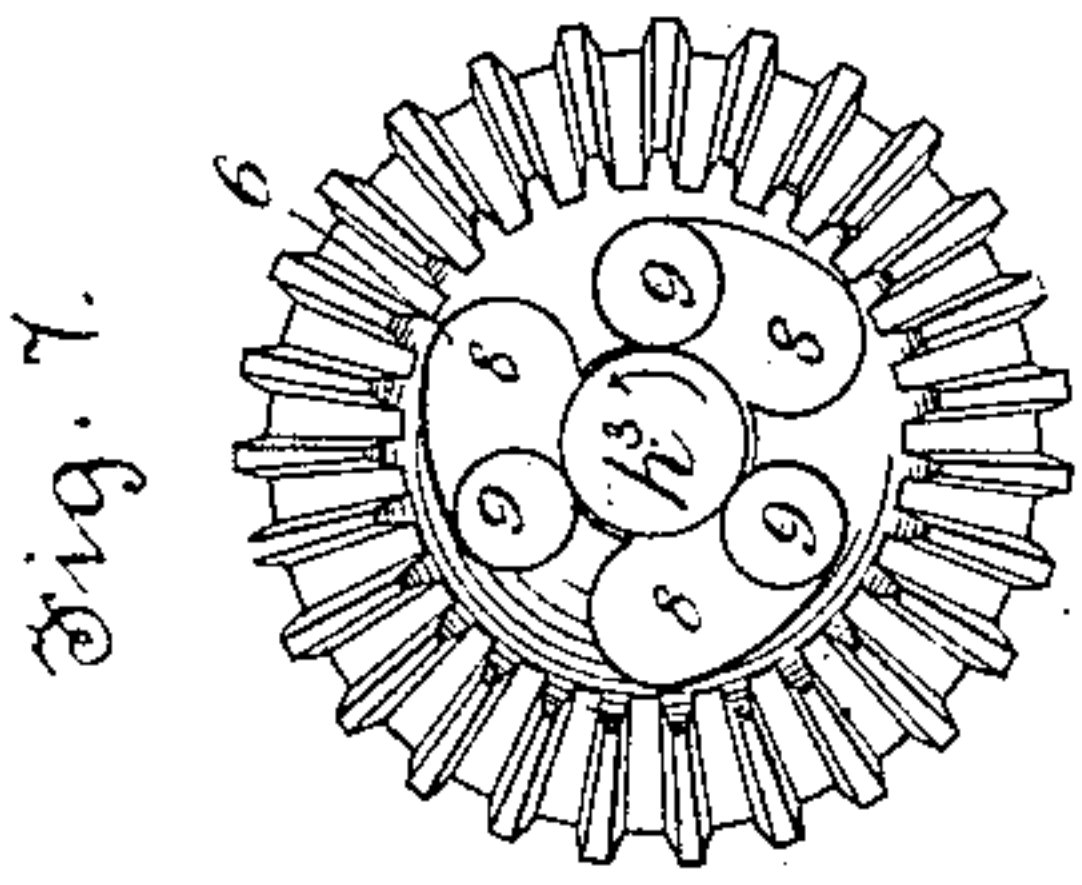
W. Y. OBER.
CAR VENTILATOR.

No. 332,739.

Patented Dec. 22, 1885.



Witnesses:
J. A. Rennie
A. Zippert.



Inventor,
William Y. Ober,
Per,
Loomis & Gregory
his Attys

UNITED STATES PATENT OFFICE.

WILLIAM Y. OBER, OF LYNN, MASSACHUSETTS.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 332,739, dated December 22, 1885.

Application filed August 3, 1885. Serial No. 173,373. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM Y. OBER, of Lynn, county of Essex, and State of Massachusetts, have invented an Improvement in Railway-Cars, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention consists in a car-ventilating system comprising a water-tank, through which the air is forced by a fan rotated from the car-axle in one direction irrespective of the direction of movement of the car, branch pipes leading from the fan-casing into the car between its windows, and registers, into which said branch pipes open, provided with independently-movable doors to control the outlet of air into the car, all as I will now proceed to particularly set forth and claim.

Figure 1 in elevation shows a car provided with my improvements, the car-body being broken out centrally to shorten the figure and at its sides to represent part of the car between its outside sheathing and lining, and also the interior of the car, the case or jacket being also broken out. Fig. 2 is a partial section in the line xx , Fig. 1, looking down. Fig. 3 is a partial transverse section of Figs. 1 and 2 in the dotted line $x'x'$. Fig. 4 is an enlarged inner side view of part of the car and one of the registers, both doors being open; Fig. 5, a vertical section of Fig. 4; Fig. 6, a cross-section of Fig. 4; Fig. 7, an enlarged detail of one of the clutching-gears; and Fig. 8, an enlarged detail of the coupling-sleeve and shaft connected by it, the sleeve being omitted from Figs. 1 and 2.

The car-body A, provided with the usual windows, B, separated by the upright portions C, and the trucks D D are and may be all as usual. At the bottom of the car, near its center, I have placed a case or jacket, E, to contain water, and above the water a rotating fan, F. The case is provided with holes a to supply the fan with air, and at each side the case or jacket has hollow arms E' , which lead the air from the case into air-chambers E^2 , one at each side of the car, and extended from end to end thereof below the car-body. These air-chambers E^2 have vertical branches e , which are extended upward between the

outer shell of the car-body and its lining, between each window, at each side of the car, as shown by full and dotted lines, the said branches terminating in registers R, having, preferably, two wings or doors, $e' e^2$, pivoted at bottom and top, so that either wing may be kept open, as desired, the wing at that side of the register in the direction of movement of the car being left to stand or project at right angles to the side of the car, as shown by the dotted line, Fig. 6, that being the preferable door to keep open, as it prevents the current of air striking the back of the head of the person in the seat next ahead of the register. The fan F, having its blades inclined from a vertical line, so as to force the air drawn into the case through the openings a down upon the surface of the water in the case to free the air from dust and cinders before entering the car, has its axle or shaft 2 supported in suitable bearings, the said shaft having upon it a bevel-gear, 3. The truck-axle G has fast on it a bevel-gear, g , which engages a bevel-gear, g' , on and rotates a shaft, g^2 , supported in a bearing, g^3 . The shaft g^2 is connected by a knuckle or swivel joint coupling, h , with a shaft, h' , in turn connected by a like knuckle or swivel joint, h^2 , with a shaft, h^3 . The shaft h^3 has mounted upon it loosely at the opposite sides of the bevel-gear 3, and between two collars, 4 and 5, fast on the said shaft, two clutch-gears, 6 and 7, the latter of which rotates the fan when the car-body is being run in the direction of the arrow 10, the latter gear, 6, being the driver when the car-body is being run in the opposite direction. The interior of the hub of each clutch-gear 6 and 7 is, as herein shown, provided with three inclined pockets, 8, (see Fig. 7,) in which are placed friction rolls or cylinders 9, that, when the shaft h^3 is rotated in the direction of the arrow in Fig. 7, cause the rolls or cylinders to lock the gear to and so as to be moved by the said shaft, the rotation of the said shaft in the opposite direction causing the rolls or cylinders to be moved into the larger ends of the pockets 8, leaving the gear free or loose. The pockets of the two gears 6 and 7 are cut in such directions that when one gear is locked to the shaft, as described, by the rotation of the said shaft in one direction, the other will be loose.

As the car is traveling about a curve, provision has to be made for the shafting actuating the fan from the axle G to lengthen and again shorten as the car arrives on a straighter track. To do this, the shaft h' , between the 5 knuckles or swivels h h^2 , is divided, one part having attached to it a slotted sleeve, 12, (shown in detail, Fig. 8,) while the other part or piece of the said shaft has a pin or pins, 14, 10 to enter the slot of the sleeve. If desired, both doors or wings e' e^2 may be closed, they, as herein shown, being free to be lapped or closed the one over the other.

By the apparatus described the interior of 15 the car may be supplied with fresh air free from dust and cinders.

I do not desire to limit my invention to the exact location of the air-chambers or of the fan, and, instead of the particular shafting 20 shown to rotate the shaft h^3 , I may use what is known as the "Stow" or flexible shafting. The water is shown in w , Fig. 1.

Cinders accumulating in the case or jacket maybe removed by taking off the cap or cover screw m , which will be packed to form a wa- 25 ter-tight joint, the cover being screwed on a threaded projection of the case or jacket.

I claim—

In a car-ventilator, a water-tank, fan, branch pipes leading into the car between the windows, 30 and means, substantially as described, to rotate the fan to force the air-supply, in combination with the registers R, in which the branch pipes terminate, having the independently-movable doors or wings e' e^2 , substantially as 35 shown and described.

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

WILLIAM Y. OBER.

Witnesses:

G. W. GREGORY,
B. J. NOYES.