

No. 679,754.

Patented Aug. 6, 1901.

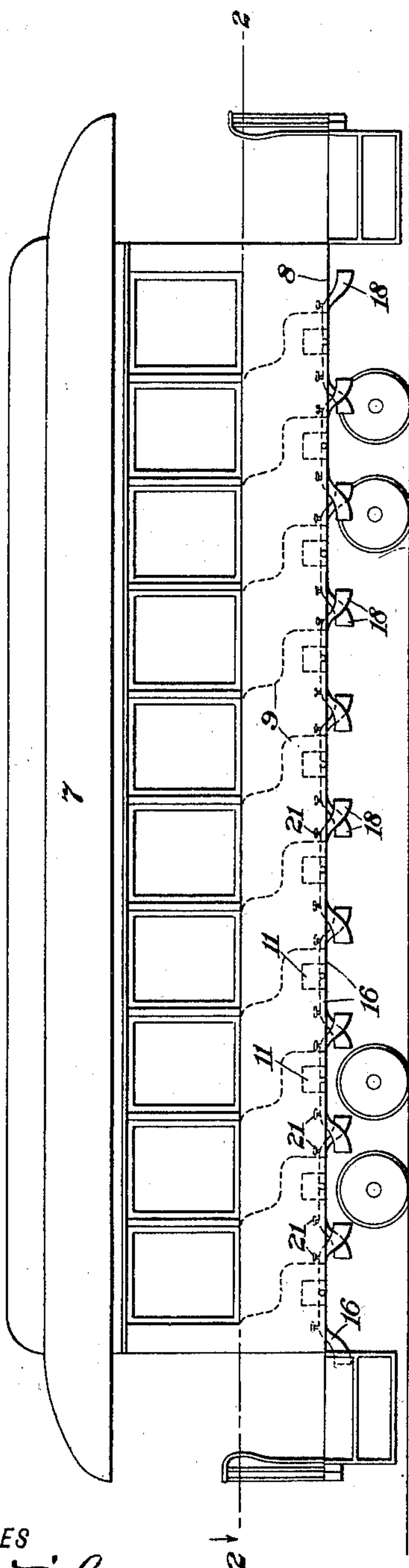
C. O. JOHNSON.  
CAR VENTILATING APPARATUS.

(Application filed Mar. 1, 1901.)

(No Model.)

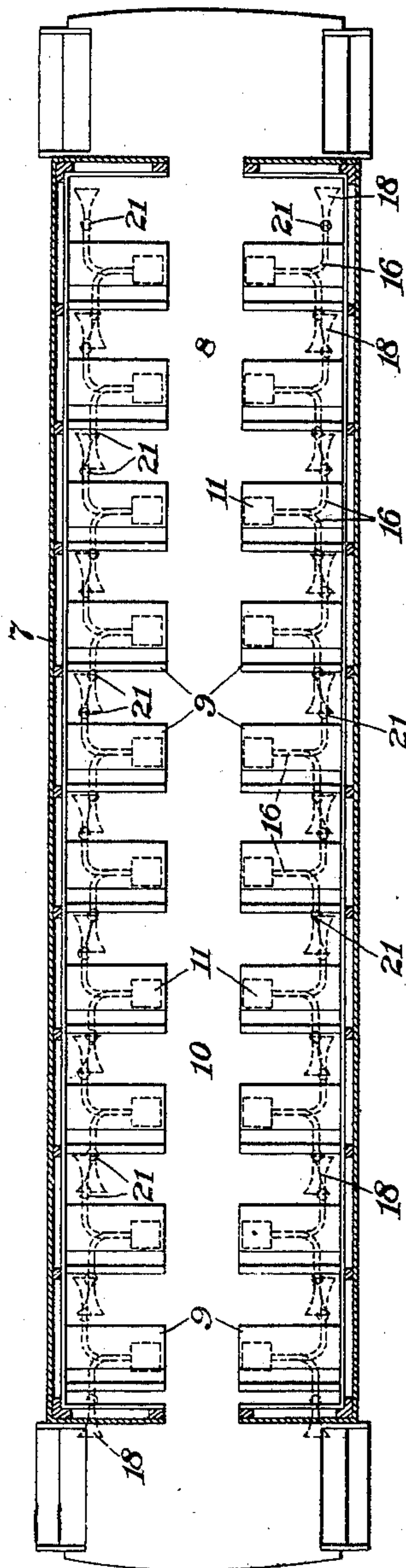
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Fig. 1.



WITNESSES  
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Fig. 2.



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Fig. 3.

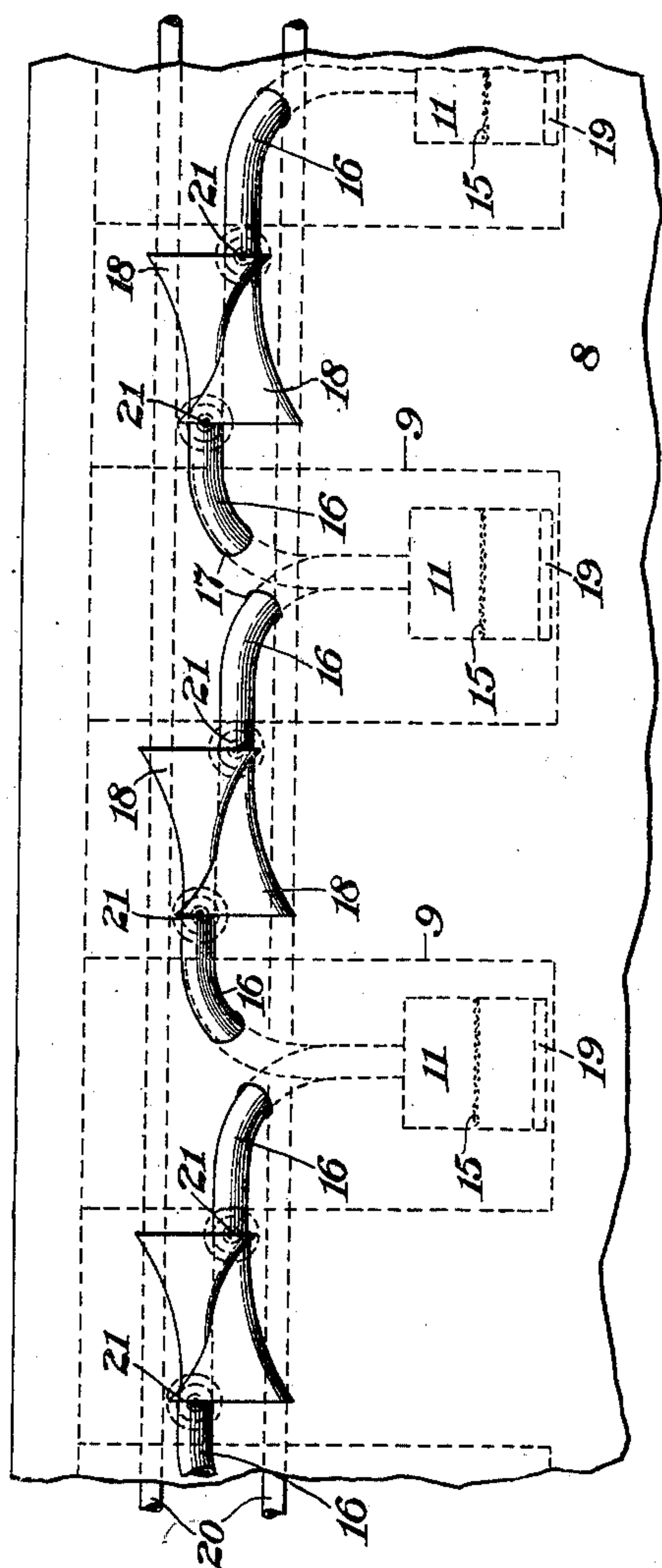


Fig. 5.

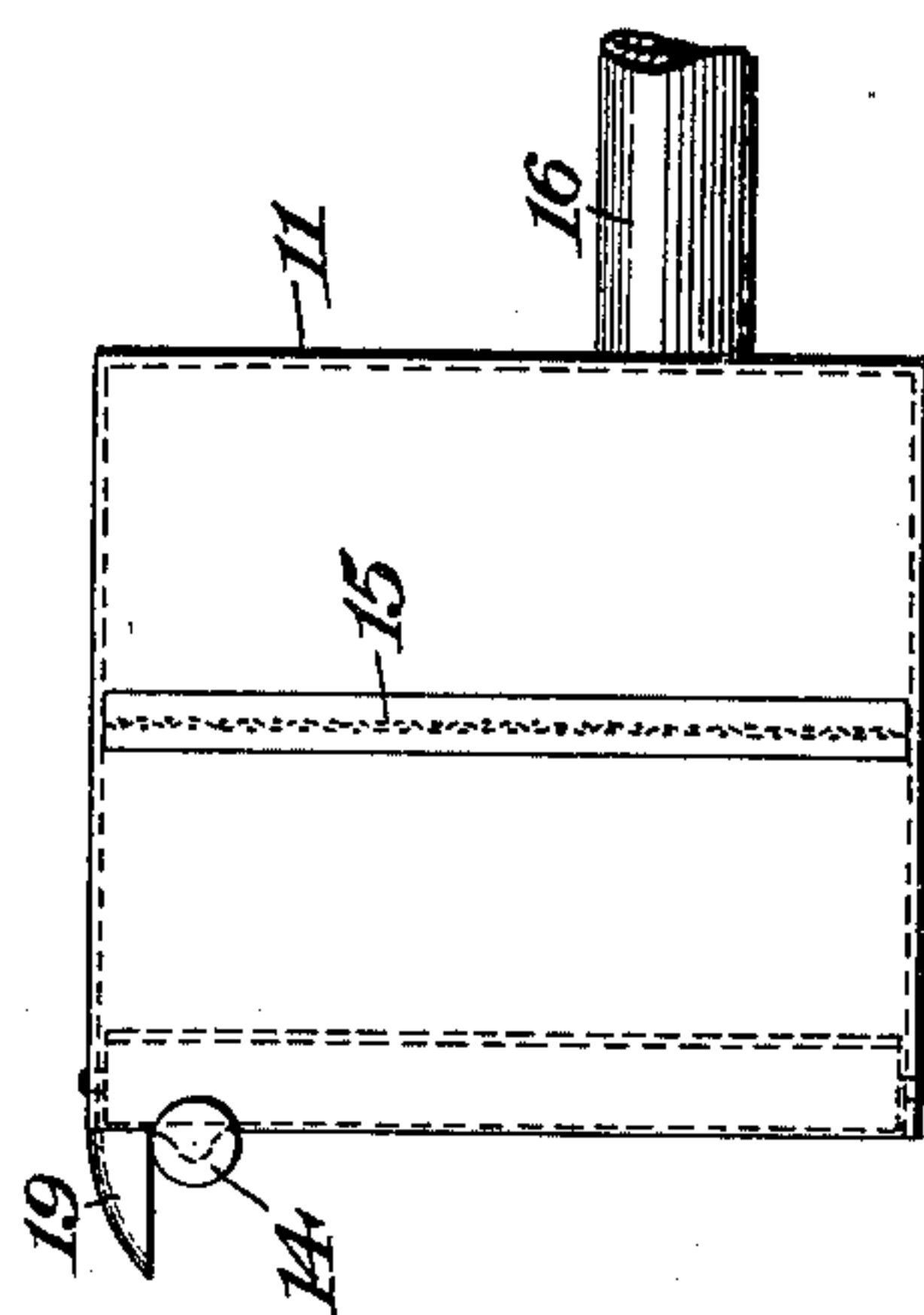
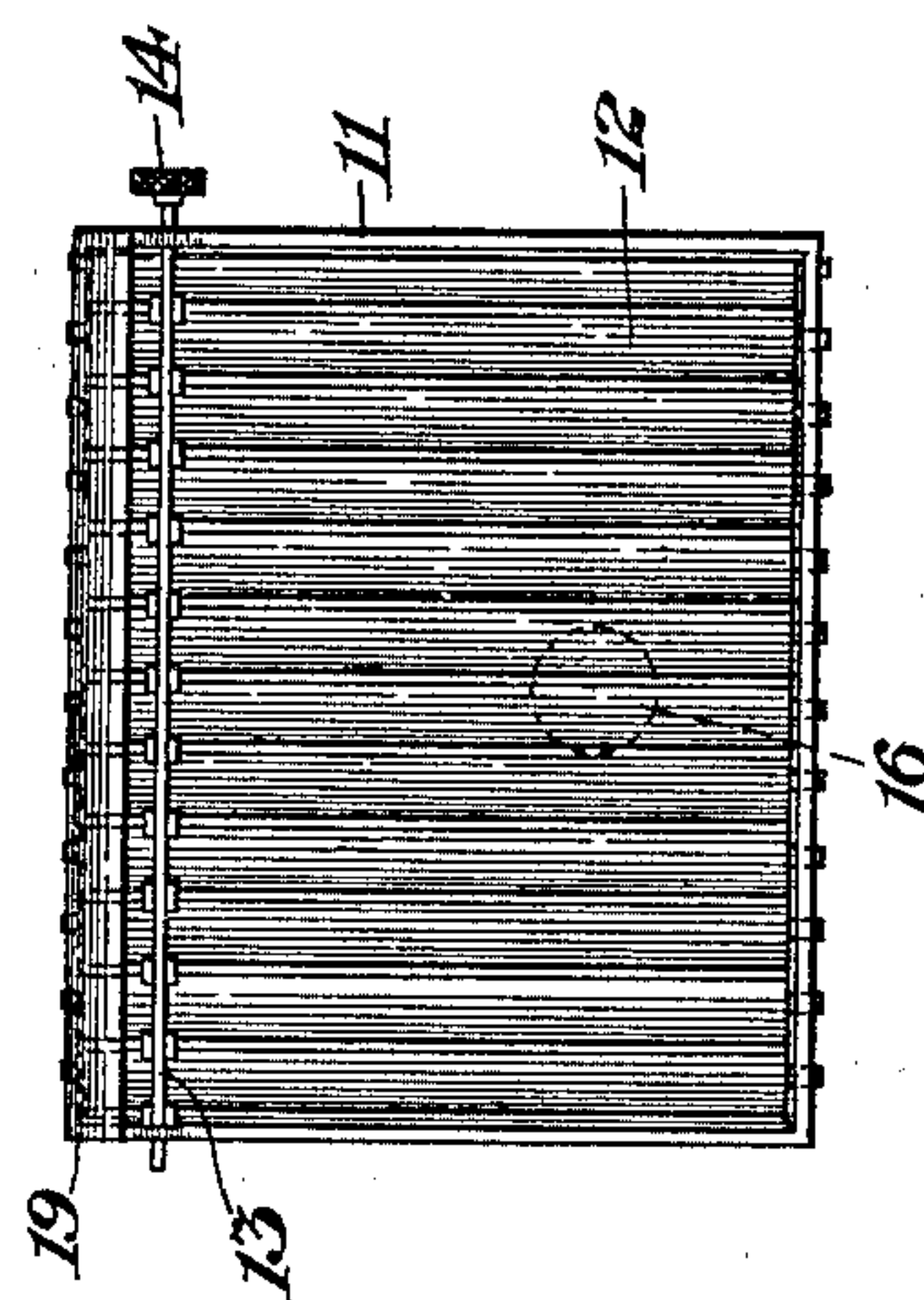


Fig. 4.



WITNESSES

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# UNITED STATES PATENT OFFICE.

CLARENCE O. JOHNSON, OF NEW YORK, N. Y.

## CAR-VENTILATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 679,754, dated August 6, 1901.

Application filed March 1, 1901. Serial No. 49,444. (No model.)

*To all whom it may concern:*

Be it known that I, CLARENCE O. JOHNSON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Car-Ventilating Apparatus, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to ventilating apparatus for cars, and the object thereof is to provide an improved apparatus of this class designed particularly for use in connection with tramway-cars, but which may be employed in connection with railway-cars of any kind or class.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by the same reference characters in each of the views, and in which—

Figure 1 is a view of a tramway-car provided with my improved ventilating apparatus; Fig. 2, a central plan view taken on the line 2 2 of Fig. 1; Fig. 3, a bottom plan view of a portion of the car; and Figs. 4 and 5 an inner side and a front side view, respectively, of a ventilating-box which I employ.

In the drawings forming part of this specification I have shown at 7 an ordinary tramway-car provided with a bottom 8 and seats 9, any desired number of which may be employed, and in the practice of my invention I place under each seat and preferably adjacent to the central aisle 10 a ventilating-box 11, said boxes being shown in dotted lines in Figs. 1, 2, and 3, and one of said boxes being shown in full lines in Figs. 4 and 5. The ventilating-boxes 11 are provided in the inner or aisle side thereof with shutters 12, which may be opened or closed, and a transversely-movable rod 13, connected therewith in the ordinary manner and provided with a head 14, by which each may be operated. Said boxes are also provided with a ventilating-partition 15, arranged transversely therein and preferably composed of wire-gauze or similar material, by which said boxes are divided into two separate compartments.

Connected with the inner side of each of

the ventilating-boxes 11 or with the side thereof adjacent to the side of the car are two air-pipes extending a short distance in the direction of the adjacent side of the car and passing downwardly through the bottom of the car, as shown at 17, and turned in opposite directions, and each is provided with a funnel 18, said funnels being turned in opposite directions or toward the front and rear ends of the car, and by means of this construction each air-box is provided with two air-supply pipes, said pipes being provided with funnels which extend in opposite directions, whereby the air is forced into the air or ventilating boxes regardless of the direction in which the car is moving.

It will be understood, of course, that the shutters 12 may be closed, entirely open, or partially closed, as may be desired, and the open-work partition 15 is intended to catch any cinders or other foreign substances that may enter the air or ventilating boxes through the pipes 16, and said cinders or other substances or articles may be removed from said boxes whenever desired and in any desired manner.

The air or ventilating boxes 11 are also provided at the top thereof and over the shutters 12 with a projecting shield 19, which prevents the air from rising immediately after leaving the said boxes and also directs the same into the middle of the car.

The air-pipes 16 or that portion thereof below the bottom of the car are preferably placed between the heating-pipes 20, said heating-pipes being those usually employed; but any suitable arrangement of said air-supply pipes may be employed, and said air-supply pipes are also provided with valves or dampers 21, by which the flow of air there-through may be controlled, and these dampers or valves are within reach of the parties sitting on the seats 9 and may be operated by said parties whenever desired.

My invention is not limited to the number of air or ventilating boxes 11 employed nor to the number of air-pipes connected therewith, and changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, what



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

1. A ventilating apparatus for cars, comprising air-boxes placed beneath the seats of the car, air-tubes connected with said boxes and passing through the bottom of the car and turning toward the opposite ends of the car and provided with air-funnels, and means for discharging the air from said boxes into the car, substantially as shown and described.

2. A ventilating apparatus for cars, comprising air-boxes placed beneath the seats of the car, air-tubes connected with said boxes and passing through the bottom of the car and turning toward the opposite ends of the car and provided with air-funnels, and means for discharging the air from said boxes into the car, consisting of adjustable shutters in one side thereof, substantially as shown and described.

3. A ventilating apparatus for cars, comprising air-boxes placed beneath the seats of the car, air-tubes connected with said boxes and passing through the bottom of the car and turning toward the opposite ends of the

car and provided with air-funnels, and means for discharging the air from said boxes into the car, consisting of adjustable shutters in one side thereof, said boxes being also provided with transverse screens between the points where the air-tubes are connected therewith and said shutters, substantially as shown and described.

4. A ventilating apparatus for cars, comprising air-boxes placed beneath the seats of the car, air-tubes connected to said boxes and passing through the bottom of the car and directed toward the opposite ends of the car, said tubes being also provided with dampers which are located between the seats of the car, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 27th day of February, 1901.

CLARENCE O. JOHNSON.

Witnesses:

T. A. STEWART,  
F. TELLER.