

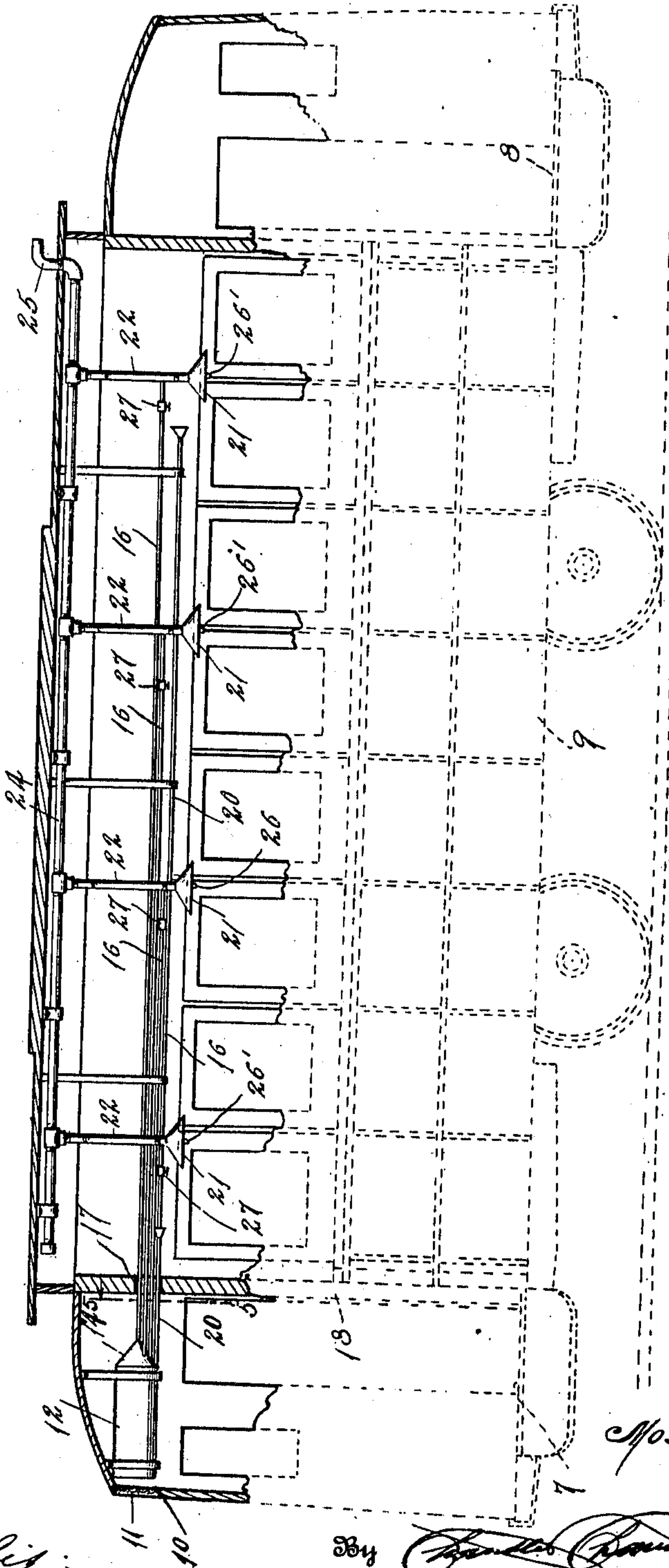
993,592.

M. GANS.
VENTILATING SYSTEM.
APPLICATION FILED OCT. 19, 1910.

Patented May 30, 1911.

3 SHEETS-SHEET 1.

Fig. 1.



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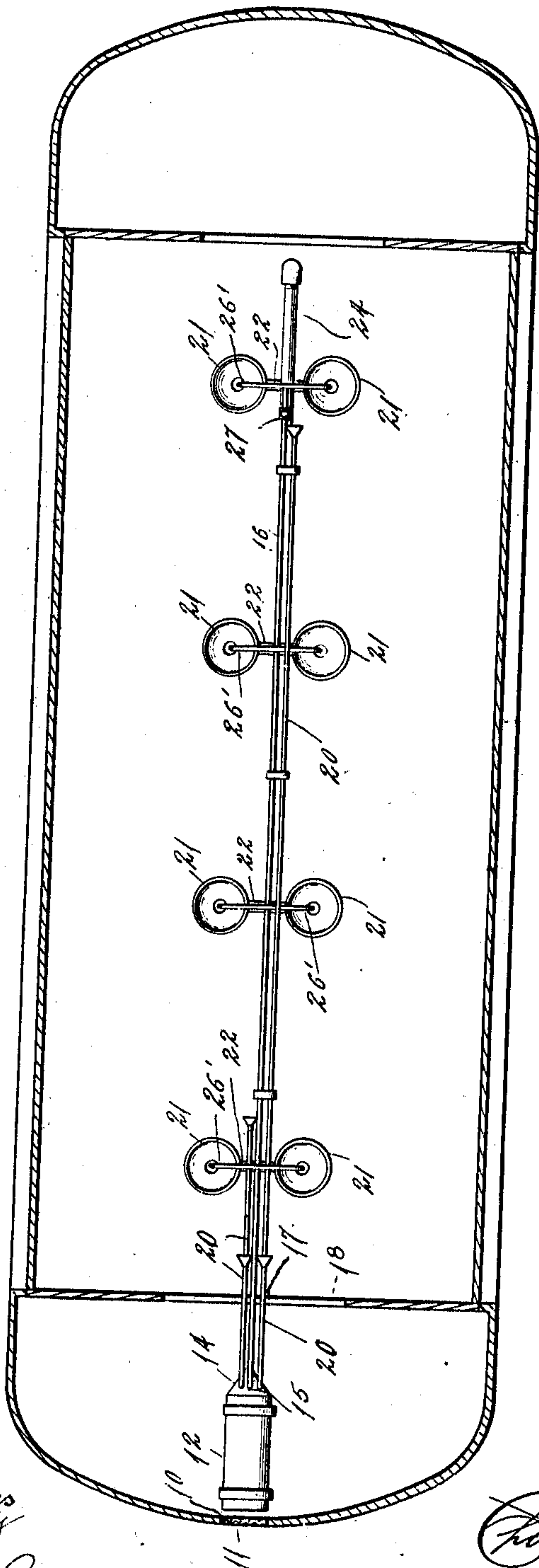
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3 SHEETS-SHEET 2.

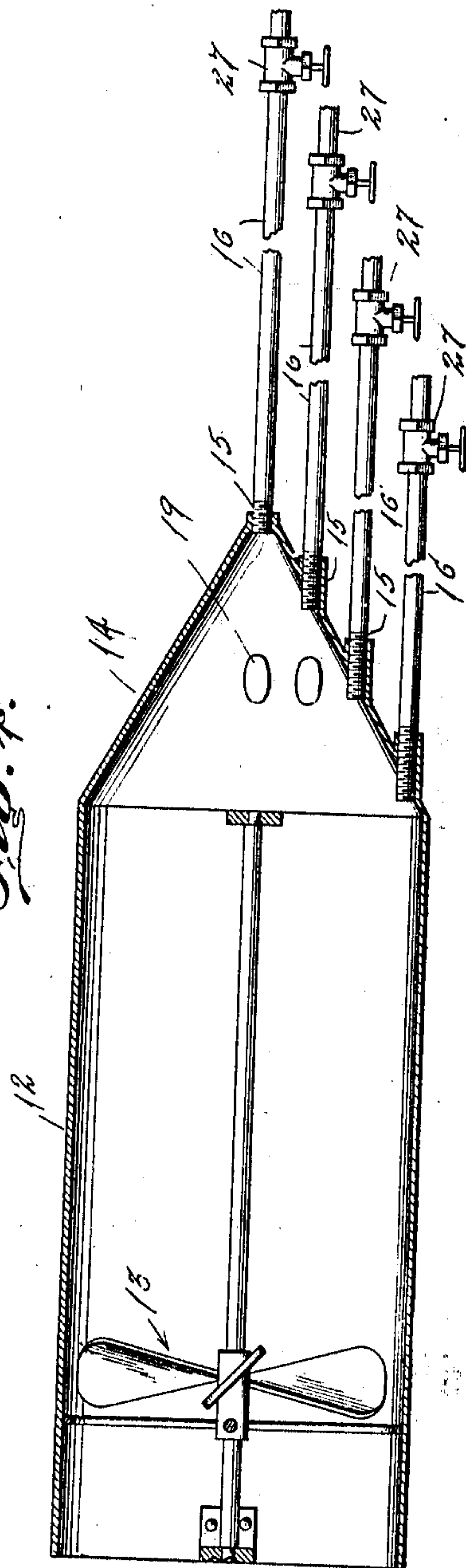
Fig. 2.



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Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 3.

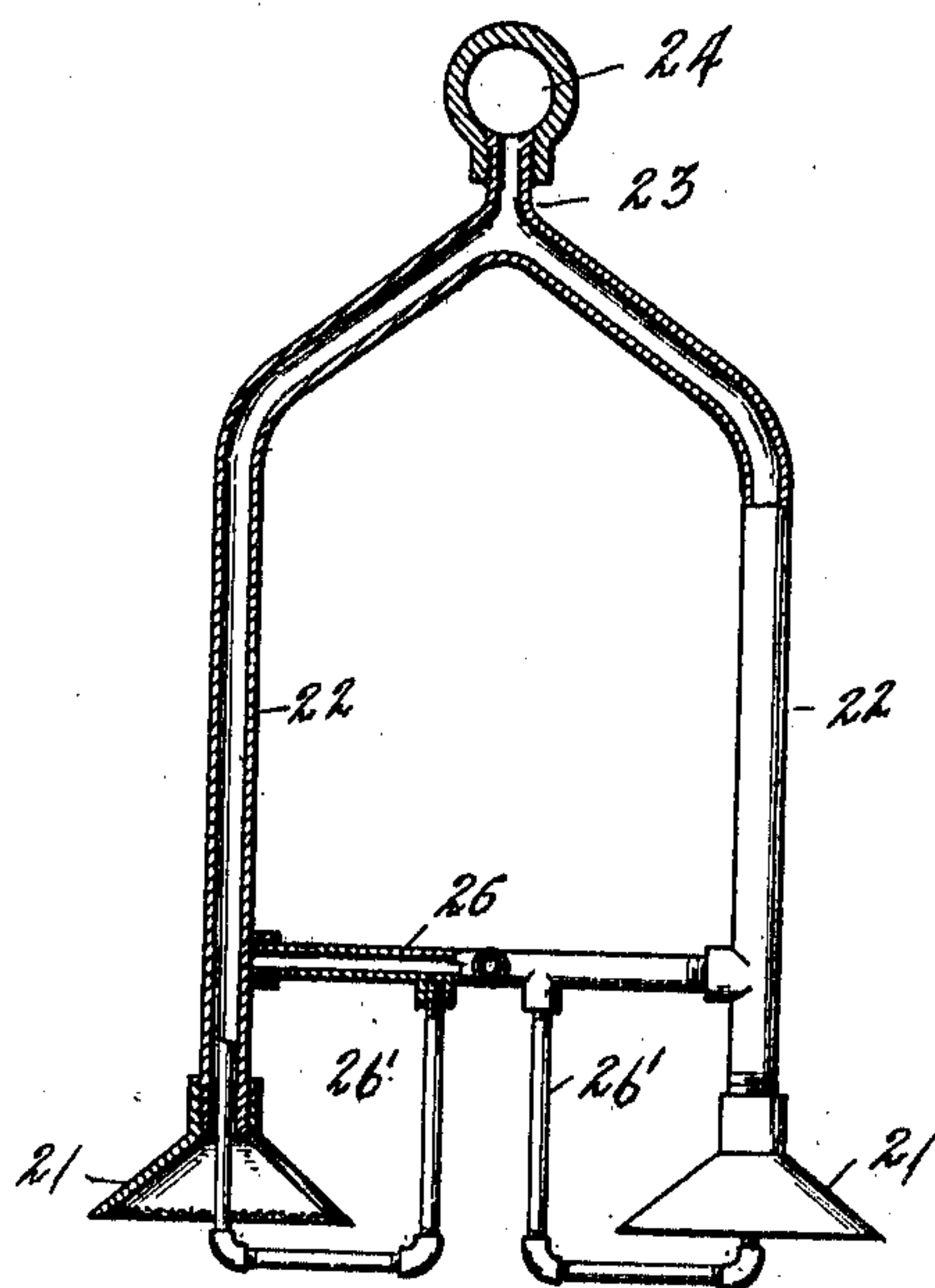


Fig. 5.

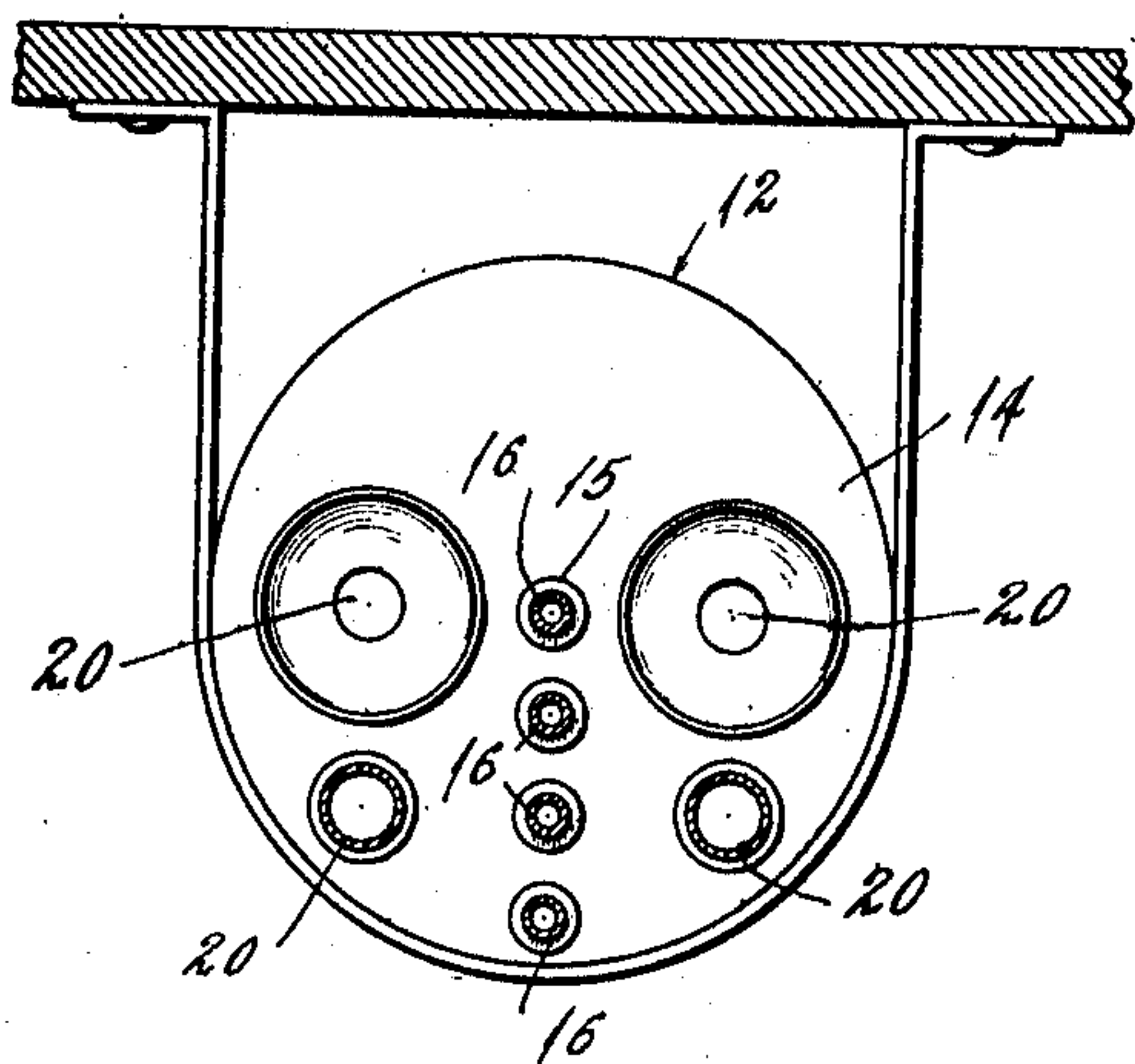
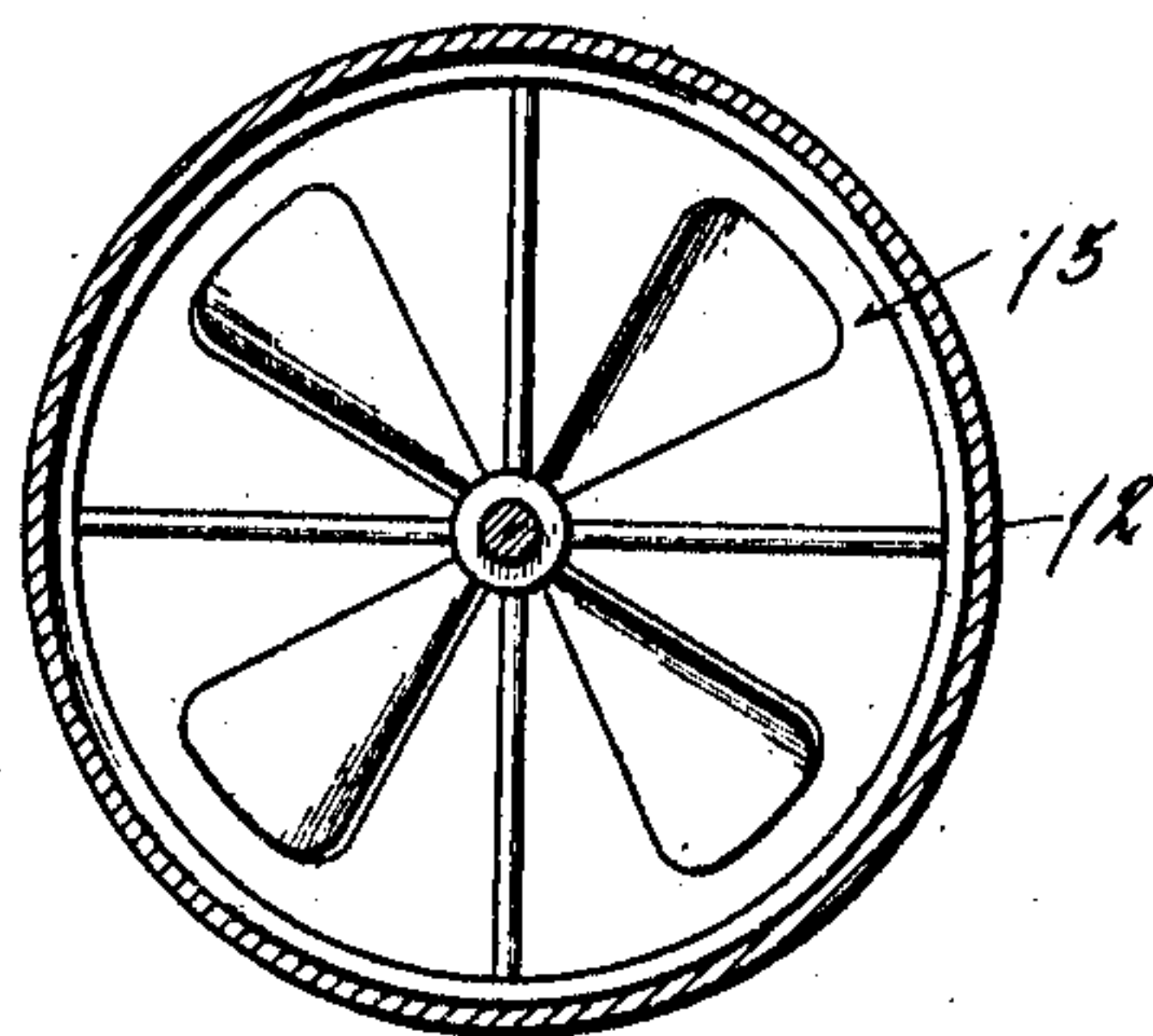


Fig. 6.



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UNITED STATES PATENT OFFICE.

MOSES GANS, OF CINCINNATI, OHIO.

VENTILATING SYSTEM.

993,592.

Specification of Letters Patent.

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Application filed October 19, 1910. Serial No. 587,895.

To all whom it may concern:

Be it known that I, MOSES GANS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain new and useful Improvements in Ventilating Systems; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has relation to ventilating systems.

Heretofore, great difficulty has been experienced in properly ventilating street cars during the winter season, owing to the fact that the car windows are closed during the entire time the car is in service, and that in many instances, storm windows are used in addition to the ordinary windows.

It is the object of the present invention, therefore, to provide a system of ventilation which, when installed, will insure the admission of a continuous supply of pure air into the interior of the car and, at the same time, will effect the discharge of the impure air therefrom.

Another object of the invention resides in the provision of a system of ventilation of novel character which may be used either in connection with cars as above noted or in the ventilation of other chambers such as rooms in offices, dwellings and the like.

To this end, the invention consists in a novel construction of ventilating system adapted to be applied to closed chambers such as have been above described and especially adapted for application to street or other railway cars.

A still further object of the invention is the provision of means of novel character for effecting the continuous admission of pure air into the chamber, the air thus admitted serving to cool the ventilated chamber.

The invention further consists in the construction, combination and arrangement of parts, all as hereinafter fully described, specifically claimed, and illustrated in the accompanying drawings, in which like parts are designated by corresponding reference numerals in the several views.

In the drawings, Figure 1 is a longitudinal vertical section through a car equipped with the present ventilating system. Fig. 2 is an inner plan view of the car roof,

showing the disposition of the ventilating pipes and flues. Fig. 3 is an enlarged detail view, partly in section, through one of the ventilating pipes. Fig. 4 is a longitudinal section through the fan casing. Fig. 5 is a transverse section on the line 5—5 of Fig. 1. Fig. 6 is a perspective view of the funnel member forming the end of the fan casing.

While the invention is adapted for the ventilation of other chambers than car bodies its specific application to a car has been herein shown and described but it is not to be understood that the invention is limited to this precise application.

The car shown in the drawings is of the ordinary type in use on street railways, and includes the front and rear platforms 7 and 8, disposed at opposite ends of the car body 9. Both platforms are partially inclosed, as is customary during the winter season, and in the front wall of the forward platform there is provided a ventilating opening 10, covered by a screen 11 of wire gauze or similar material.

Into the ventilating opening above referred to, extends one end of an approximately cylindrical casing 12, in which a rotary fan 13 is mounted, the fan being operatively connected with the car motor (not shown). The rear end of the casing is formed by a funnel shaped member 14, in whose smaller end a series of openings 15 are formed, in each of which is fitted the front end of an air pipe or flue 16, which extends through an opening formed in the front wall 17 of the car body, and is held in position by depending straps secured to the car roof. The funnel shaped member 14 is further provided with openings 19 somewhat larger than the openings 15, one end of a flexible pipe 20 being fitted in each opening and extending through a similar opening formed in the front wall 17 and provided at its opposite end with a flared or funnel shaped member. As shown in Fig. 1, the several flues 16 and the inlet pipe 20 are disposed above the top of the door 18 formed in the wall 17.

Disposed within the interior of the car body is a series of pairs of funnel-shaped ventilators 21 each of which is provided with a vertical stem 22, the stems of each pair uniting as at 23 and the united stem being connected with a longitudinal pipe 24 extending beneath the car roof. This pipe 24 is carried to the rear of the car and passes

out through the roof in a goose-neck 25. The lower parts of each of the stems 22 are connected by a brace pipe 26 which does not communicate directly with the stems but
 5 which is connected to a respective pipe 16. From this pipe 25 extend blast pipes 26' which are carried down around the necks of the respective funnels and extend up a slight distance into the stem. In the present in-
 10 stance four pairs of ventilators are shown within the car body, and the end member 14 of the casing 12 will therefore be provided with a corresponding number of flue open-
 15 ings. It will be understood, however, that the number of ventilators and flues may be varied at will.

It will be apparent from the foregoing that when the fan 13 is set in motion air will be drawn through the ventilating open-
 20 ing 10 and forced through the member 14 and the flues 16 connected therewith. The passage of air through the flues will effect a forced draft in connection with each ventila-
 25 tor, so that the impure air within the car body will be drawn upwardly through the several ventilators and will pass through their stems to the exterior of the car. Sim-
 30 ultaneously with the removal or discharge of the impure air a continuous current of pure air will be forced into the car body through the inlet pipe 20, which is likewise
 35 connected with the funnel member of the casing 12. Each flue, in practice, is provided adjacent its discharge end with a valve
 27, by means of which the passage of air therethrough to the corresponding ventilator may be regulated.

There has thus been provided a simple and efficient device of the kind described and for
 40 the purpose specified.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the mate-
 45 rial principles thereof. It is not therefore desired to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope of the appended claims.

What is claimed, is:—

50 1. In a ventilating system, a chamber, a series of ventilators disposed in the interior of the chamber, each ventilator including a hollow stem opening out of the chamber; a casing; a series of flues each connected at one

end with said casing and having its oppo- 55 site end extending within one of said ventilator stems; an inlet pipe connected at one end with said casing; and a fan rotatably mounted in said casing in position to dis-
 60 charge a current of air through said flues, to create a forced draft in said ventilators, and to discharge a current of air through said inlet pipe into the interior of the chamber.

2. In a ventilating system, a chamber, a funnel shaped ventilator disposed within the 65 interior of the chamber and including a hollow stem opening out of the chamber; a casing provided with an inlet opening; a funnel shaped member forming the rear end of said casing; a flue having one end fitted 70 in an opening formed in said member and having its opposite end extending within said ventilator stem; an inlet pipe connected with said member; and a fan rotatably
 75 mounted within said casing, in position to force a current of air through said inlet pipe into the interior of the car, and to discharge air through said flue to create a forced draft in said ventilator.

3. The combination, in a car including 80 front and rear platforms and a car body disposed therebetween; of a series of ventilators disposed within the interior of the car body, each having a hollow stem pro-
 85 jecting through an opening in the car roof; a casing located within the front platform and provided with an inlet opening; a funnel shaped member forming the rear end of said casing and provided with a series of
 90 openings; a series of flues each having one end fitted in one of said openings, and hav-
 95 ing its opposite end extending upwardly within the stem of one of said ventilators; an inlet pipe connected with said member and having its free end extending into the interior of the car body; and a fan rotatably
 100 mounted within said casing, in position to force a current of air through said inlet pipe into the interior of the car, and to discharge air through said flues to create a forced draft in said ventilator.

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

MOSES GANS.

Witnesses:

VICTOR W. M. HERTWIG,
 CHRISTIAN MOOS.