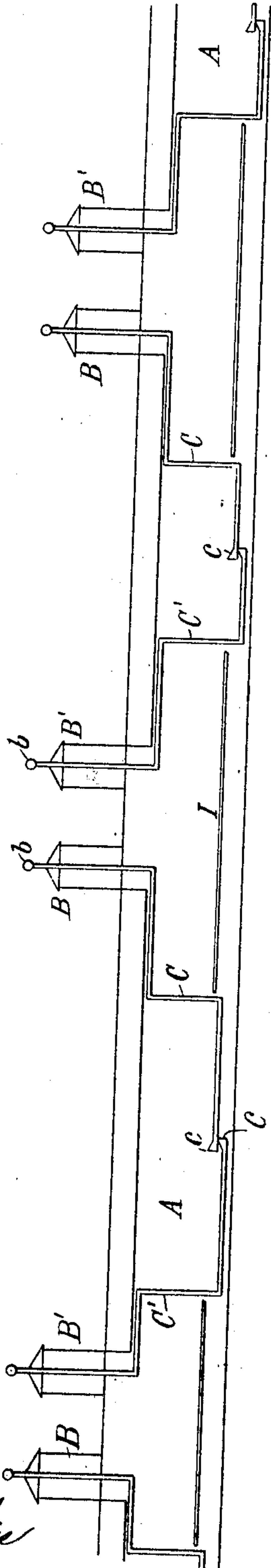


No. 878,278.

PATENTED FEB. 4, 1908.

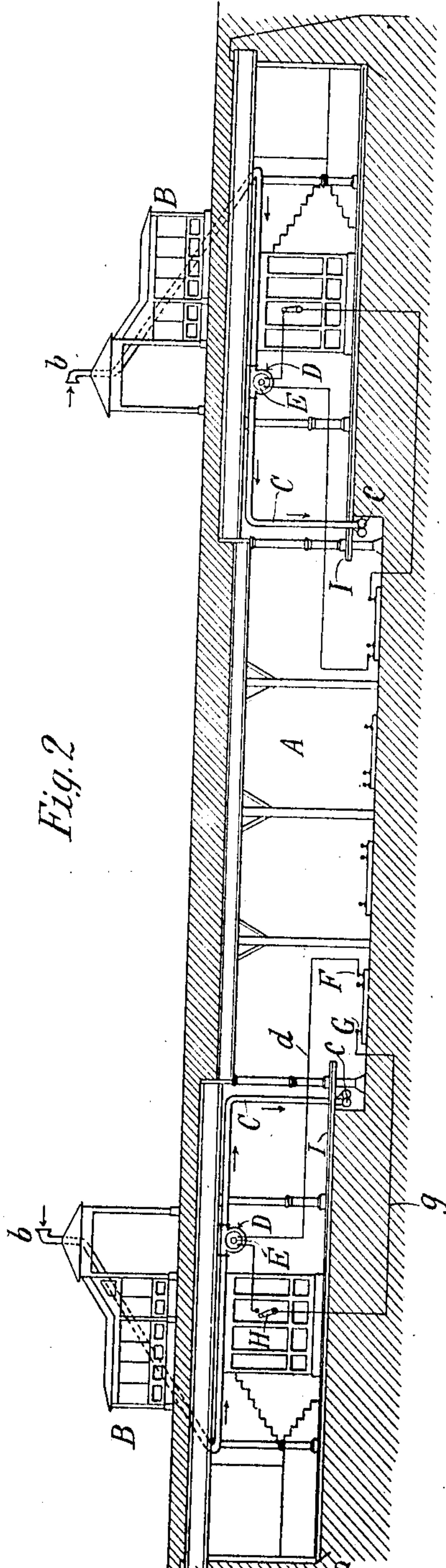
P. J. CONROY.  
VENTILATING SYSTEM.  
APPLICATION FILED OCT. 11, 1905.

Fig. 1



Witnesses  
Jessie B. Kay  
Joseph J. Lattin

Fig. 2



Inventor  
Patrick J. Conroy  
By his Attorney, James H. Conroy



# UNITED STATES PATENT OFFICE.

PATRICK J. CONROY, OF NEW YORK, N. Y., ASSIGNOR TO INTERNATIONAL SUBWAY & TUNNEL VENTILATING COMPANY, OF NEW YORK, N. Y.; A CORPORATION OF NEW YORK.

## VENTILATING SYSTEM.

No. 878,278.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed October 11, 1905. Serial No. 282,243.

*To all whom it may concern:*

Be it known that I, PATRICK J. CONROY, a citizen of the United States, residing at 331 East Twenty-second street, in the borough of Manhattan, city, county, and State of New York, have invented a certain new and useful Improvement in Ventilating Systems, of which the following is a specification, reference being had to the accompanying drawings, which form a part of the same.

The object of this invention is to provide an efficient means for ventilating subterranean passages, such as sub-railways, mines and the like, but such means may also be applied to other inclosures.

Owing to the damp atmospheric conditions in under-ground passages, it has been found that foul air is held in large volume and not permitted to escape. Many devices have been applied to relieve such conditions but without complete success. Exhaust fans have been employed for this purpose, but they have not been powerful enough to thoroughly withdraw the foul air therefrom. Such fans have the effect of purifying such passages only for a very limited space, beyond which the foul atmosphere tenaciously clings to the damp walls and floors and forms a deep stratum therein. The effect of this is that the part of a subway whose atmosphere should be purest is the part that is foulest, the stratum of foul air being thick enough to enter cars and stations and causing great discomfort to passengers and occupants.

In the present system of ventilating subterranean passages I have provided a blower preferably operated by an electric motor, which blower is connected to a conduit leading from the open air and extending to a point in the subway between stations. From the next station is a similar conduit and means to draw air thereinto and to discharge the same therefrom, the discharge end of this conduit extending to a point between the subway stations and preferably extending beyond the discharge end of the first described conduit so that air forced from one conduit does not interfere with air forced from the other conduit. The discharge ends of the conduits, however, need not necessarily overlap in order to give this result, the effect depending upon the distance of the discharge ends from each other.

In the drawings accompanying this speci-

fication, I have sought to illustrate what I now believe to be the best embodiment of this invention.

Figure 1 is a longitudinal view of a subterranean railway containing my system; and Fig. 2 is a transverse section of the same taken through a station.

In Fig. 1 of the drawings I have shown three stations, from each of which are two conduits extending in opposite directions. Taking the middle station and the one on the right hand side for description, A represents a subway, B B<sub>1</sub> are entrance hoods to the subway; b represents a funnel-shaped air receptacle connecting with the conduits C C<sub>1</sub> which conduits extend down into the subway to the discharge points c c; which are shown to extend beyond each other. Intermediate the air entrances b b and the discharge ends c c are the conduits or blowers, D D which draw from the open air and discharge into the subway, the position of the discharge ends being such that the convergent drafts of air do not interfere with each other's flow. This blower may be made in any suitable form and operated in any suitable manner. In the drawings I have shown a blower operated by an electric motor E E, the power for which is supplied from the third rail F, the circuit being completed through the switch H, which is situated in any convenient place such as the ticket office.

A switchboard in a central station may be wired in any well known way to control the switchboards of all of the stations along the line so that the complete system can be operated from one common center.

While in the drawings only two conduits are shown to lead from each station and those in opposite directions, it is obvious that any number of conduits may be laid to extend in either or both directions and that the air may be drawn into the same and forced therefrom by means of a single blower or a plurality of blowers. Again, the system can be operated between stations through one conduit, the discharge end of which in such case would be provided with a plurality of discharge nozzles extending in diverse directions, thus injecting pure air into the sub-way from a common point. Again, that part of the conduit connecting with the air entrance b may be provided with a gooseneck, so as to prevent the receipt of foreign matter such as stones and

the like into the conduits and thereby throwing out of operation the blower.

What I claim as new is.

1. In ventilating systems for subways, a  
5 pair of air conduits extending from the open  
air into under-ground passages, the discharge  
ends of such conduits extending beyond each  
other and means for drawing air from the  
outside atmosphere into the conduits and  
10 discharging the same into the subterranean  
passages.

2. In ventilating systems, a pair of air con-  
duits extending from the open air into an  
under-ground passage, the entrance of such  
15 conduits being furnished with a gooseneck,  
the discharge ends of such conduits extend-  
ing beyond each other, and means for draw-

ing air into such conduits from the outside  
atmosphere and discharging the same into  
such under-ground passage. 20

3. In ventilating systems, a pair of air con-  
duits, extending from the open air into an  
under-ground passage, the discharge ends of  
such conduits discharging in opposite direc-  
tions into the subway, their relative position 25  
being such that the discharge from one con-  
duit will not interfere with the discharge  
from the other, and means for drawing air  
from the outside atmosphere into such under-  
ground passages.

PATRICK J. CONROY.

Witnesses:

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