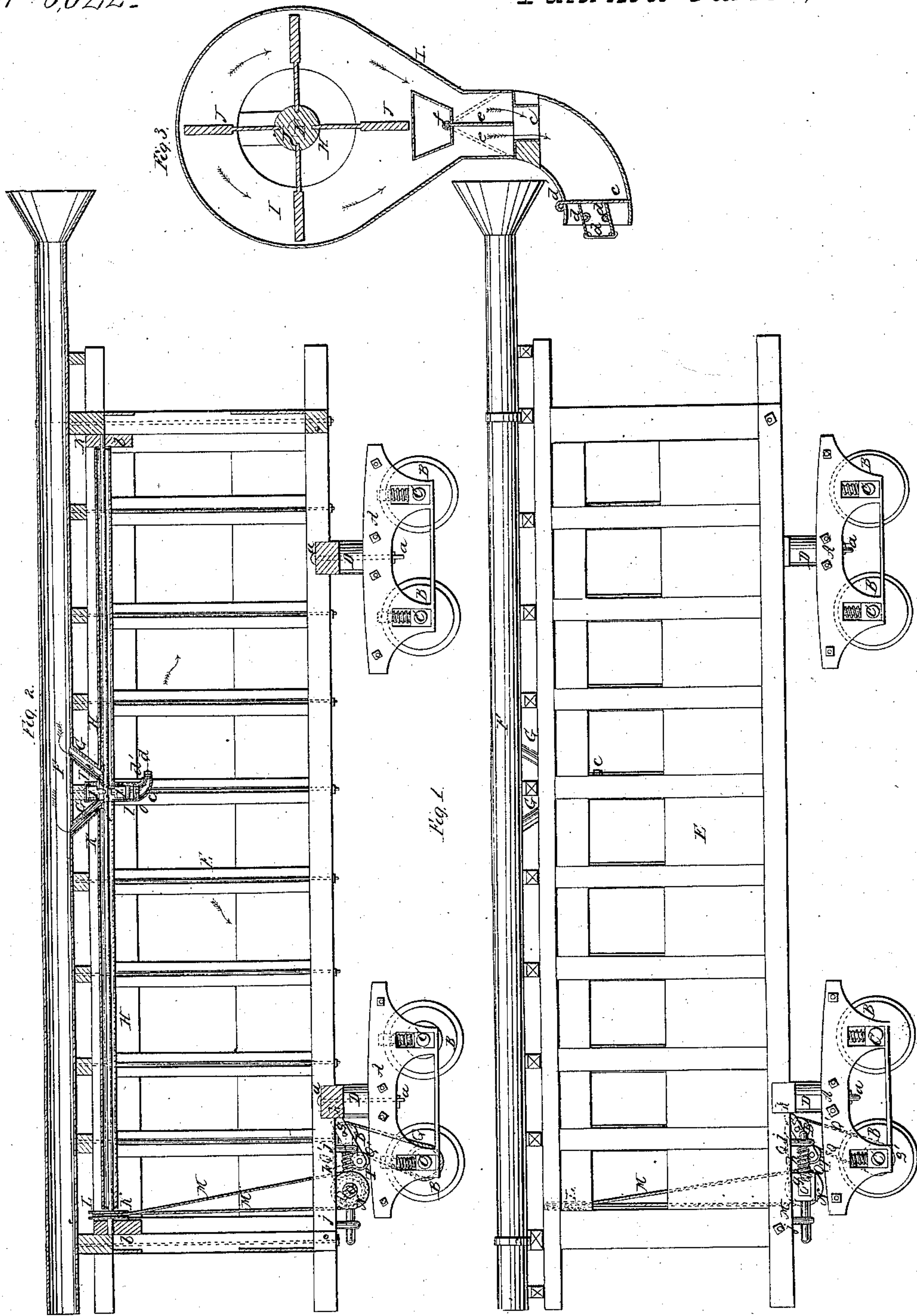


Barnum & Whitney,

Car Ventilator,

N^o 8622.

Patented Jan. 6, 1852.



UNITED STATES PATENT OFFICE.

N. S. BARNUM AND L. WHITNEY, OF NEW HAVEN, CONNECTICUT.

VENTILATING RAILROAD-CAR.

Specification of Letters Patent No. 8,622, dated January 6, 1852.

To all whom it may concern:

Be it known that we, NOBLE S. BARNUM and LEWELLYN WHITNEY, of New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in the Mode of Ventilating Railroad-Cars; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side elevation of a car, having our improved apparatus attached. Fig. 2, is a vertical longitudinal section of the same. Fig. 3, is a transverse section of the blower on an enlarged scale, it being detached from the car.

Similar letters of reference indicate corresponding parts in each of the several figures.

Our invention consists in the employment of an axle or shaft (which is designed to be used in connection with a car ventilator) and which is placed on the bottom of the car, the ends of which shaft being secured in movable or sliding boxes which operate in combination with the loose pulleys, &c., in such a manner as to allow the cars to travel over curved tracks without the necessity of employing elastic belts.

To enable those skilled in the art to make and use our invention, we will proceed to describe more fully the construction and operation.

A, A, represent the truck frame, B, B, B, B, the wheels; C, C, C, C, the axles; D, D, the center pieces for receiving the transion or center bolts *a, a*, which connect the trucks with the car, and E, is the car.

F, represents the air conducting pipes, having funnel shape mouths, which are placed longitudinally on the top of the car, one on each side; the front end of each of said pipes, is made to extend a considerable distance forward of the engine, for the purpose of preventing the dust and sparks from accumulating in the same.

G, G, are the branches of the air conducting pipes, these branches pass through the top of the car and connect with an air pipe H, which is placed near the top of the car on the inside, and extends longitudinally the entire length of the car. On this pipe any suitable number of fan cases I, similar to the one shown by Fig. 3, are constructed; each of these fan cases have a fan J, for

drawing air from the main pipes through the branches into the car, these fans are arranged on a shaft K, (Fig. 2,) which passes longitudinally through the pipe H, and the ends or journals of said shaft fitting in the bearing boxes *b, b*.

c, Fig. 3, represents a reversible or movable air conductor or nozzle of the fan case, through which the air is allowed to pass into the car. By having this nozzle reversible its position can be changed as desired so as not to allow the draft to come in directly on the person sitting near its mouth.

d, represents a shutter arranged on the end of the mouth piece or conductor, by means of which the quantity of air desired to be admitted into the car may be regulated.

d', represents a slide for shutting off the draft entirely if desired.

e, is a valve which is hung on a pin *f* within the fan case as shown in the drawing Fig. 3.

L, represents pulley on the shaft K, from this pulley a band M, passes and connects with pulleys N, on, or near the ends of the shaft O, under the bottom of the car; this shaft O, has its journals secured in movable or sliding boxes *g*, which will be hereinafter described. On the center of the shaft O, another pulley Q, (shown in dotted lines Figs. 1, and 2), is secured. From this center pulley a band Q' passes and connects with a pulley R, hung in a box S, which turns on a swivel *h*, in the center beam D, and from thence to another center pulley S' on the axle of the truck, and passes up, and connects with a small pulley T, which is secured in the loose or turning box S; this box S, which turns on a swivel is designed, in connection with the movable boxes *g*, to dispense with the necessity of using elastic belts in turning curves &c as the pulleys can turn in any desired direction, if they are secured in the box S.

g, represents the sliding boxes, in which the ends of the shaft O, are secured, these movable boxes have shafts or arms which slide back and forth in suitable eyes *j, j*, as shown in Figs. 1 and 2.

k, represents spiral springs, which are placed on the arms *l*, of the sliding boxes, and against which the boxes press; these springs are for the purpose of preventing the belting of the car, from becoming slack during the time that the cars are in motion

and always allowing the belts to give should it be necessary, when the cars are springing up and down; thereby dispensing with the necessity of employing elastic belts. These
5 springs also allow of one end of the shaft O inclining in any direction should the necessity of the case require.

What we claim as our invention and desire to recure by Letters Patent is—

10 The employment of the shaft O, sliding boxes *g*, and the springs *k*, the whole oper-

ating in combination with the pulleys R, T, in the manner and for the purpose herein set forth.

In testimony whereof we have hereunto signed our names before two subscribing witnesses this 10th day of November 1851. 15

NOBLE S. BARNUM.

LEWELLYN WHITNEY.

Witnesses:

THOS. BENNETT,

JENE KNEADLY.