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### Man and the Atmosphere.

Daniel Vaughan, of Hopkinsville, Ohio, who has the credit—if credit it can be called—of having advanced quite a number of new theories, adds another to those he has already presented, in the *New York Tribune* of the 4th inst. It is an exceedingly droll and erroneous one, but on that very account it may meet with many believers.

He has come to the conclusion that the ancient atmosphere contained a very large amount of oxygen, which was subsequently wasted in the course of geological changes, and states his researches prove that "a small diminution in the amount of oxygen composing the air, promotes the development of the higher faculties and the finer feelings of the mind."

He then asserts that it was by the removal of oxygen from the ancient atmosphere that the earth was prepared for the introduction of man, that by the removal of a small portion of oxygen in rooms heated by fire places, mental vigor is increased, and study made less laborious and more successful. But funny enough, he asserts that in stoves fuel burns without materially altering the composition of the external air, and therefore does not confer any intellectual benefit. There can be no difference whatever in the composition of the atmosphere in so far as the oxygen is concerned, in apartments heated with stoves and fire places. He asserts that the atmosphere still continues to lose its oxygen, and if man's physical powers can stand it, his intellectual faculties will continually improve, and knowledge and benevolence reign over all parts of the earth. "Ignorance and barbarism," he says, prevail among tribes, who use no fuel to warm their apartments, hence civilization deserted so many lands when their forests were exhausted."

Upon this principle of theorizing the Indians of North America should have been the most civilized set of fellows in the world, for no other regions were so well provided with forests a century ago. It is all nonsense, however, about the removal of a portion of oxygen from the atmosphere improving the mental faculties. The ancient Greeks were men of as keen intellect as any of the moderns, and their philosophers used to study in the open air. Rousseau made a habit also of studying out of doors; Scott composed much in the open air; and so have some of the greatest writers of modern times.

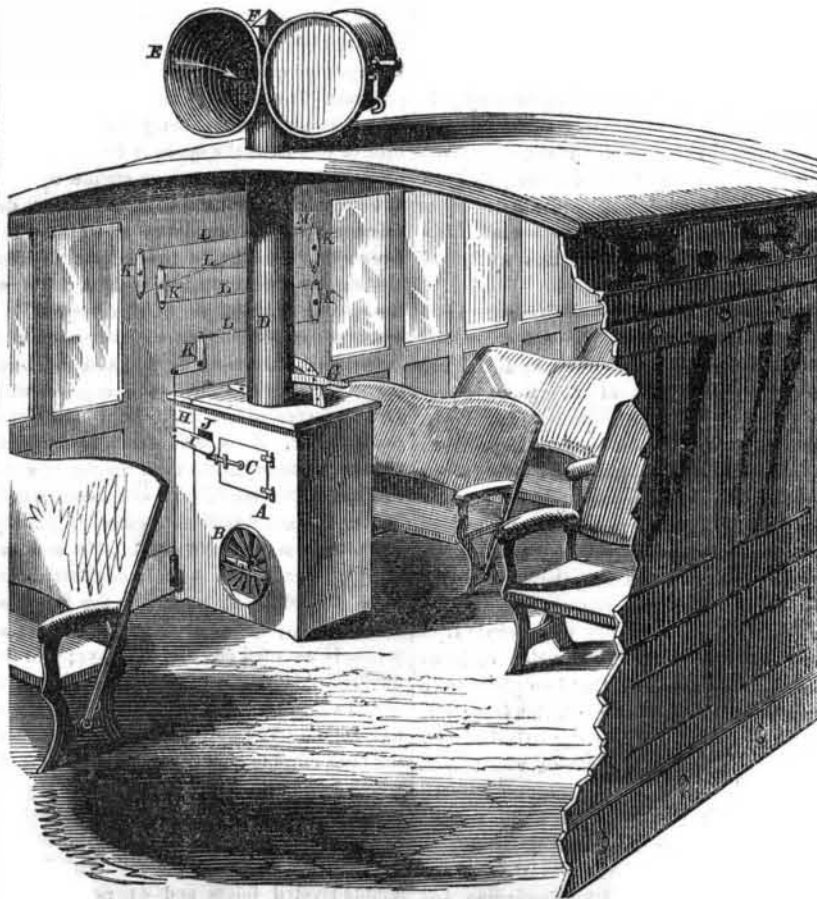
### The San Jacinto.

This steamer has grown to be a wonderful sailer, it seems. It made a recent run from Philadelphia to Havana in six days. Another new screw did this, it is stated.—This is at least the third screw this frigate has had put in. We are glad to see that it is improving.

### Machine Boots and Shoes.

We have been informed that one of the large factories of Benj. Marshall, Esq., Ida Hill, Troy, N. Y., is about to be fitted up with machinery for manufacturing boots and shoes. The machines will be driven by water power.

## VENTILATING RAILROAD CARS.

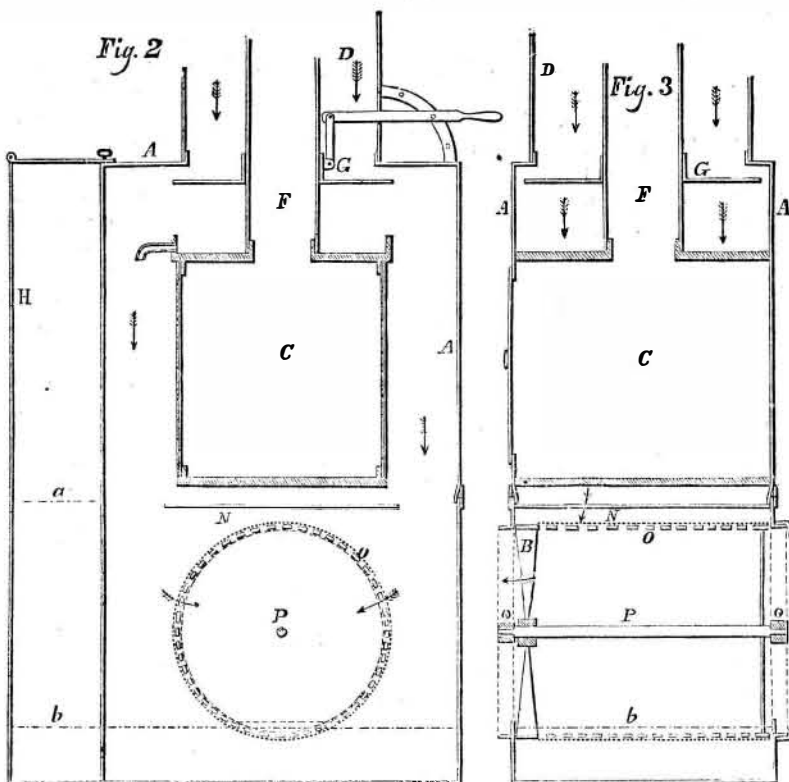


The accompanying engravings represent a method of ventilating railroad cars, for which a patent was granted to B. T. Babbitt, of this city, on the 30th of January last.

Figure 1 is a perspective view of the ventilator applied to a car; fig. 2 is a vertical section of the apparatus, and fig. 3 is a vertical transverse section of fig. 2. Similar letters refer to like parts.

A is the outside shell containing a stove,

C, inside of it. F is the smoke pipe of this stove, passing out at the roof of the car.—Another cylinder or tube, D, encircles the smoke pipe. This tube has a trumpet mouthed cap, E, secured to each side of it, each having a lid. This cap is opened to catch the air, as now shown in fig. 1; but when the car is moving in a contrary direction it is closed, and the mouth of the other cap opened. As the car is moving forward the



trumpet-mouthed cap, E, catches the wind, which is compressed and driven down the outside tube, D, as shown by the arrows, figures 2 and 3, then passes around the stove, C, taking up heat in its progress, and then forces itself through the meshes of a wire gauze cylinder, B, making it rotate on its axis, P. This wire gauze cylinder rotates in

bearings, Q Q, and is enclosed at one end, but open at the other. It rotates in a tank of water, shown by the dotted line, b. The wire gauze, O, catches the particles of smoke and dust, and as the cylinder revolves these are washed off, and fall to the bottom of the tank. A clean moist surface of the wire gauze is therefore always exposed to the air

as it comes into this cylinder, so as to screen it of all dust and smoke. It then passes out—as shown by the arrow, fig. 3, into the car. The air of course will only require to be heated during cold weather, so that the stove will not be required when the atmosphere is of a high temperature, but the apparatus, being constructed with a stove, is adapted for use during all kinds of weather. The chamber, H, fig. 2, is a cistern of water to supply the tank in the wire cylinder chamber. The water is kept at a proper level by a hollow ball float on its surface, b, which operates a faucet to admit water to the screen wheel as required.

G is a tubular valve or collar, with bottom flanges on it, and is secured around the smoke pipe, F. By pressing on the lever handle, fig. 1, it can be elevated and lowered, so as to contract the passage through which the air passes down into the wire gauze cylinder. It therefore regulates the quantity of air which is admitted into the car. N is a plate of copper, which prevents moisture being thrown against the bottom of stove, C.

In figure 1, L L represent steel wires attached to vibrating fingers, K K, and secured to a terminating bell crank, K, connected by a wire, H, with a sliding damper, I, which covers and uncovers the opening, J, of the stove, to supply or shut off the air, and regulate the combustion in the stove by the temperature of the atmosphere in the car. By the expansion of the steel wire, L, by a high temperature, the damper, I, is made to close the opening, J, and vice versa.

In the manner described and represented, it is designed to purify and to regulate the temperature and quantity of air in railroad cars.

More information may be obtained by letter addressed to Mr. Babbitt, No. 68 and 70, Washington street, this city.

### Planting Potatoes.

We hope our farmers will take great pains in selecting their seed potatoes this year. No farmer should plant seed potatoes grown within five miles of his residence. Those living in the interior of the country should get their seed from near the sea board, and vice versa. A successful cultivator of potatoes informed us, that it was his practice to get his seed potatoes every year from a distant part of the country, and which had been grown upon soil somewhat different from that of his farm. Seed potatoes should be well dried before planting. A Russian professor has asserted that potatoes grown from seed dried at a heat of 230° will never be affected with rot. It becomes our farmers this year to pay great attention to the cultivation of potatoes, so that we shall not be compelled hereafter—as has been done for two years—to import so many of them from distant countries. We believe it would be a good plan to dust over the potato vines with the powder of air-slacked lime just before they blossom. This would destroy bugs and not injure the vines.

### Improved Cotton Gin.

The Coffeeville (Miss.) *Herald* speaks highly of an improved cotton gin by H. H. Fultz, a planter of that district.

The editor of the *Herald* has been shown letters from experienced cotton buyers, stating that the sample produced by this gin, owing to the improvement in the staple, and the cleansing process which it undergoes, will command from 1½ to 2 cents per pound more than the article prepared by the gins ordinarily in use. In addition, there is an increased saving in the quantity of cotton ginned of about one pound in every thirty.