

Car and Carriage Heater.

Patented May 18, 1875.

The diagram illustrates a circular mechanical assembly. It features a large outer ring with a hatched cross-section, labeled with 'A' at the top and bottom. Inside this ring is a smaller circular component, also with a hatched cross-section, labeled 'D' at the top and bottom. The central part of the diagram shows a vertical rectangular structure with a dashed line running through its center, labeled 'B' and '7'. To the left of this central structure is a curved arrow labeled 'a²' and a dashed line. To the right, a cross-section is shown, revealing internal components labeled 'a', 'a¹', 'a²', and 'α¹'. A small rectangular component labeled 'E' is positioned on the right side of the outer ring. The entire diagram is enclosed in a circular frame.

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IMPROVEMENT IN CAR AND CARRIAGE HEATERS.

Specification forming part of Letters Patent No. 163,415, dated May 18, 1875; application filed March 20, 1875.

To all whom it may concern:

Be it known that I, JOHN SCHMITT, of Williamsburg, in the county of Kings and State of New York, have invented a new and useful Improvement in Car and Carriage Heaters, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved heater. Fig. 2 is a horizontal section of the same, taken through the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be fully described and then pointed out in the claim.

A is the outer case of the heater, which may be made of sheet or cast iron, and of any convenient size. Around the top of the case A is formed a flange, *a*¹, to support the heater when arranged for use. In the bottom of the case A is formed an opening, *a*², for the entrance of air to support combustion, which opening is provided with a slide-damper, B, which enables the opening *a*² to be partly or wholly closed to regulate or interrupt the draft, as may be desired. In one side of case A is formed an opening, *a*³, to admit cold air to be heated, and then discharged into the vehicle, and which is provided with a slide-damper, C, to enable the opening *a*³ to be partly or wholly closed, as may be desired. D is the fire-box, which may be made of sheet metal or cast iron, and may be lined with fire-brick or not, according to the kind of fuel to be used in it. The fire-box D is made of a less diameter than the case A, so as to form a ring-space between the said fire-box and case for the passage of the air to be heated. To the sides of the fire-box D are attached springs E, which rest against the sides of the case A, to keep the fire-box D in the center of the said case, and to hold it steady. The fire-box D is provided near its lower end with a grate, F, to receive and support the fire, and its lower end, which is made open, rests and fits snugly

upon the bottom of the case A. In the side of the lower part of the fire-box D, directly opposite the opening *a*³ of the case A, are formed one or more openings, *d*¹, of such a size as to admit air enough to keep the fire alive when the draft-opening *a*² is closed. The fire-box D is made open at its upper end, for the insertion of the fuel, and is provided with a closely-fitting cover, G, to prevent the escape of smoke or gas. The smoke and other products of combustion escape through the pipe H, which leads out through the side of the upper part of the fire-box D, and through the side of the case A. The pipe H is made with an elbow or bend, which should be turned toward the rear end of the vehicle. In the upper end of the case A is fitted a register, I, about the construction of which there is nothing new. The fire-box D must be made so much shorter than the case A, that its upper end will not interfere with the working of the slats of the register I. The heater is hung through a hole in the bottom of the vehicle, so that the face of the register I may be flush with the surface of said floor. The flange *a*¹ of the case A is designed to rest upon an iron plate or frame, to prevent the floor of the vehicle from being unduly heated. The flange *a*¹ is provided with loops, ears, or handles J, for convenience in inserting and removing the heater, and which, when the heater is in place, rest in recesses in the floor of the vehicle, or in the plate or frame that supports the heater.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In heaters that hang below a car or coach, the fire-pot D having short pipe H opening into a discharge-pipe at one side of case A, and held by springs in position, as shown and described.

JOHN SCHMITT.

Witnesses:

JAMES T. GRAHAM,
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