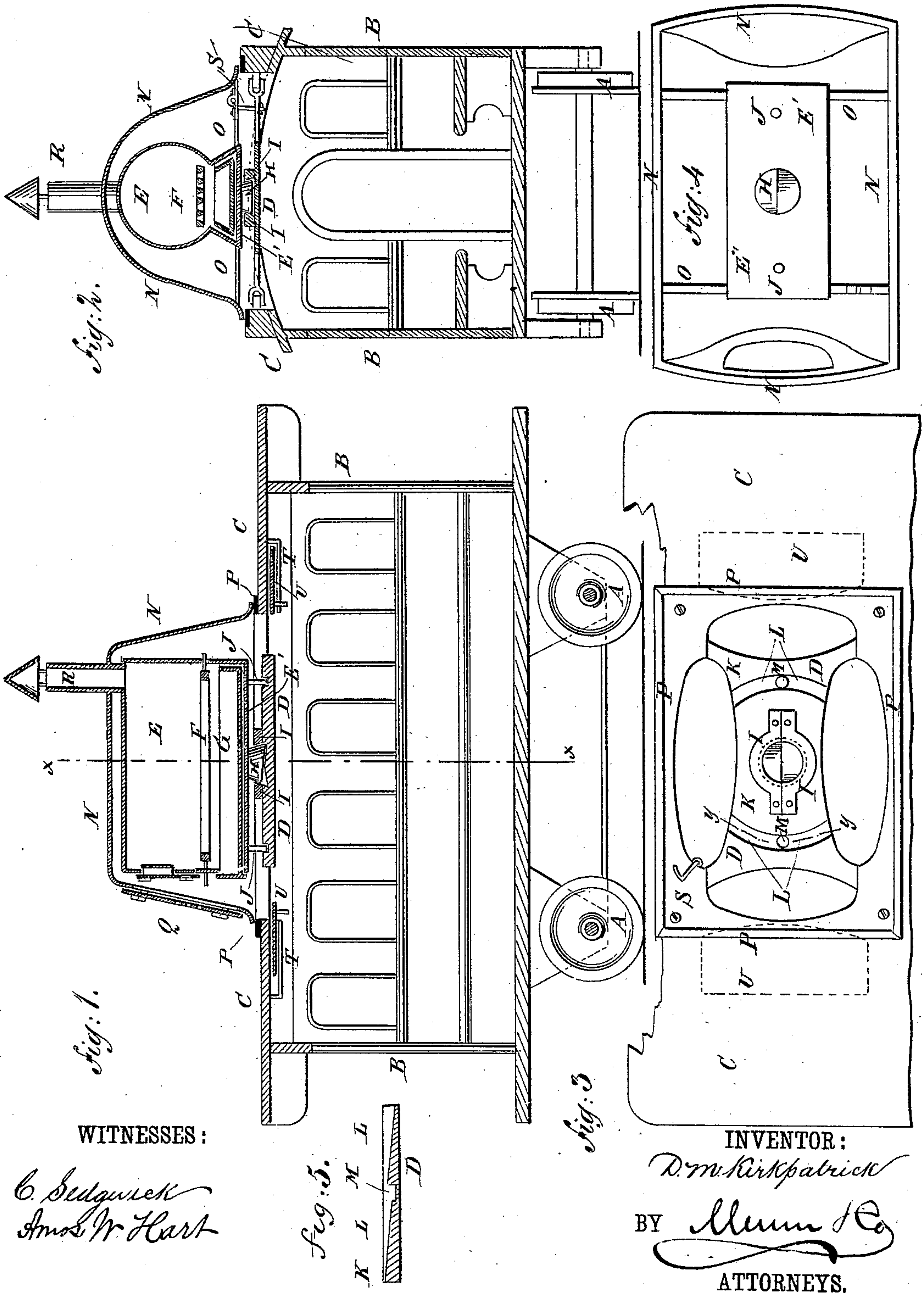


(No Model.)

D. M. KIRKPATRICK.  
HEATER FOR CARS.

No. 256,006.

Patented Apr. 4, 1882.



WITNESSES:

C. Sedgwick  
Amos W. Hart

Fig. 5.



INVENTOR:

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# UNITED STATES PATENT OFFICE.

DAVID M. KIRKPATRICK, OF KANSAS CITY, MISSOURI.

## HEATER FOR CARS.

SPECIFICATION forming part of Letters Patent No. 256,006, dated April 4, 1882.

Application filed February 11, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID MARION KIRKPATRICK, of Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Heaters for Railway-Cars, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of my improvement shown as applied to a car. Fig. 2 is a sectional end elevation of the same, taken through the line *x x*, Fig. 1. Fig. 3 is a plan view of the top of the car, showing the bed-plate for the stove and the seat for the cover. Fig. 4 is a bottom view of the stove and cover. Fig. 5 is a cross-section of the bed-plate, taken through the line *y y*, Fig. 3.

The object of this invention is to provide for the heating of cars without obstructing the seat-space or main floor of the car with the heater.

My invention is especially applicable for use on street-cars, but may be used upon all kinds of passenger cars or vehicles.

A represents the wheels, B the body, and C the roof, of a street-car. The middle part of the roof C is cut away, and in the opening thus formed is secured the bed-plate D, that supports the heater, and which is attached at its four corners to the roof C. The sides and ends of the bed-plate D are recessed, as shown in Fig. 3, to allow the heated air to descend into the car.

E is the stove, which is made with a movable grate, F, to support the fire, and drawer G to receive the ashes and allow them to be readily removed.

To the center of the stove plate or bottom E' is attached, or upon it is formed, a flaring or conical pivot, H, which is made broad to serve as a foot to rest upon the bed-plate D and give a firm support to the stove. The pivot has a double incline formed upon its lower surface, as shown in Fig. 4, and rests upon a similarly-formed seat in the center of the bed-plate D, as shown in Fig. 3.

The pivot H is secured to the bed-plate D

by a two-part collar, I, the inner surface of which is made conical to fit upon the pivot H, and thus fasten the stove to the said bed-plate D. The stove E is further supported in place by the two studs or pins J, attached one to the forward part and the other to the rear part of the bottom E' of the said stove E, and the lower ends of which rest in grooves K, formed in the bed-plate D. The grooves K are curved upon the arc of a circle having its center in the axis of the pivot H.

In the bottom of each groove K are formed two inclines, L, leading in the same direction and meeting at the central line of the bed-plate D, so that the stove can be turned only in one direction, and in the bottom of the said groove, at the inner ends of the inclines, is formed a recess, M, to receive the lower end of a stud, J, to prevent the stove from being jarred out of place. This construction also prevents the stove from being turned any farther than to bring it into line with the length of the car.

The stove E and the opening in the roof C of the car are covered with a cover, N, which is made with an arched top and flaring sides and ends, and has its lower edge turned outward or flanged to rest upon the roof C of the car. The cover N is attached to the ends of cross-bars O, which are attached to the bottom E' of the stove E, so that the said cover will be carried around with the stove as the said stove is turned upon its pivot. When the stove is in line with the car the flanged lower edge of the cover N rests upon a rubber packing, P, attached to the roof C to make the joint between the said cover and roof air-tight when the studs J are resting in the recesses M, and the inclines of the pivot H are in line with the corresponding inclines of its seat.

In the forward end of the cover N is formed an opening which is closed by a door, Q, and which is made of such a size that fuel can be readily inserted in the stove and the ash-pan removed through it.

The forward end of the stove E is provided with a door for the insertion of fuel and a damper for regulating the draft.

The stove E at its rear end is provided with a smoke-pipe, R, which passes out through an



opening in the rear part of the cover N. The stove E and cover N can be fastened in place by a hook, S, or other fastening attached to the roof C at the edge of the opening through it, 5 and which engages with one of the cross-bars O. With this construction the stove can be turned when the horses are changed from one end of the car to the other to keep the forward end of the stove toward the forward end 10 of the car, so that the draft will operate properly.

In keepers T, attached to the lower side of the roof C, at the ends of its opening, are placed aprons U, so that the said aprons can be moved 15 out to fit against the recessed ends of the bed-plate D to prevent coal or other fuel from dropping down into the interior of the car when supplying the stove with fuel, and to prevent ashes from dropping into the interior of the car 20 when the ash-drawer is being removed from the said stove. With this construction the heated air from around the stove E will pass down into and circulate through the interior of the car, which circulation of heated air will be assisted 25 by the draft caused by the motion of the car. With this construction, also, should the car be thrown from the track and overturned, the heater will be projected to a distance from the car, and the danger of the car being set on fire 30 from the heater will be avoided.

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

1. The combination, with a car having a covered recess or chamber in the roof, of a stove 35 arranged in said chamber, and provided with a bed-plate recessed at the ends and sides, whereby the heat may be carried from the stove to the inside of the car, as described.

2. A car-stove having the bottom pivot, H, 40 with double incline on its lower surface and the studs J J on the front and rear of bottom, in combination with a bed-plate having a seat

with a double incline corresponding to that of the pivot and the inclined arc grooves L K, whereby the stove can turn only a half-revolution and always be brought into position to suit 45 the direction into which the car is to travel, as described.

3. In a car-heater, the combination, with the apertured roof C, of the bed-plate D, having inclined and recessed grooves K, the stove E, 50 having conical pivot H and studs J, and the collar I, substantially as herein shown and described, whereby the stove will be securely supported and can be readily reversed, as set forth. 55

4. In a heater for railway-cars, the combination, with the apertured roof C and the ends of the bed-plate D, of the aprons U, substantially as herein shown and described, whereby the 60 space below the forward end of the heater can be readily closed, as set forth.

5. In a heater for railway-cars, the bed-plate D, constructed with curved grooves K, having inclines and recesses in their bottoms, and provided with the double-inclined pivot-seat, and 65 the collar I, substantially as herein shown and described.

6. In a heater for railway-cars, the stove-plate E', provided with central pivot, H, in combination with the bed-plate D and the collar I, 70 substantially as herein shown, whereby the heater can be readily turned and will be securely held, as set forth.

7. In a car, the combination, with the apertured roof C and the pivoted stove E, of the 75 cross-bars O and the cover N, substantially as herein shown and described, whereby the said cover is supported from and carried around by and with the said stove, as set forth.

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Witnesses:

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