

(No Model.)

M. C. ROOT.
Heater for Cars.

No. 235,899.

Patented Dec. 28, 1880.

Fig. 1.

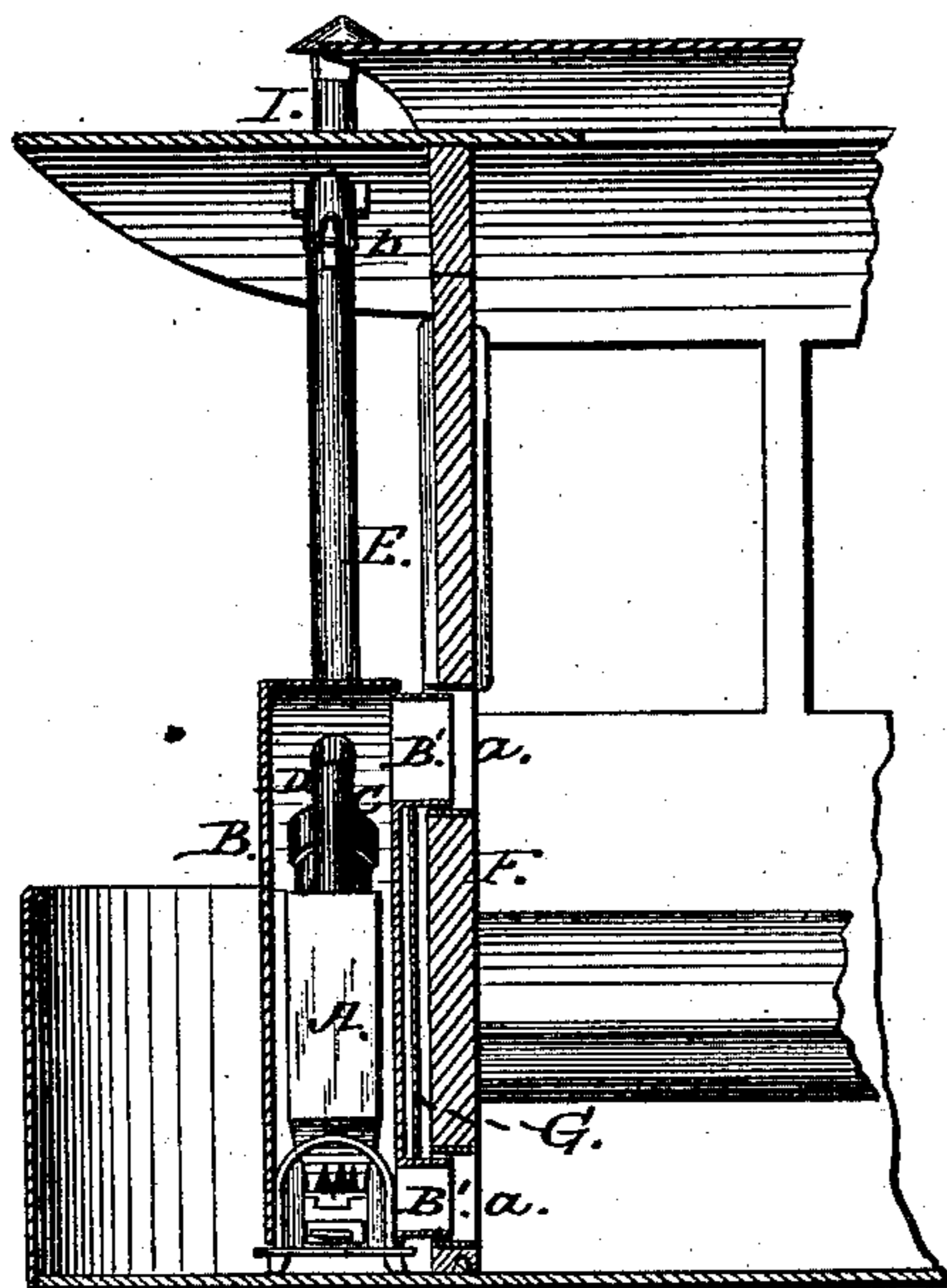


Fig. 2.

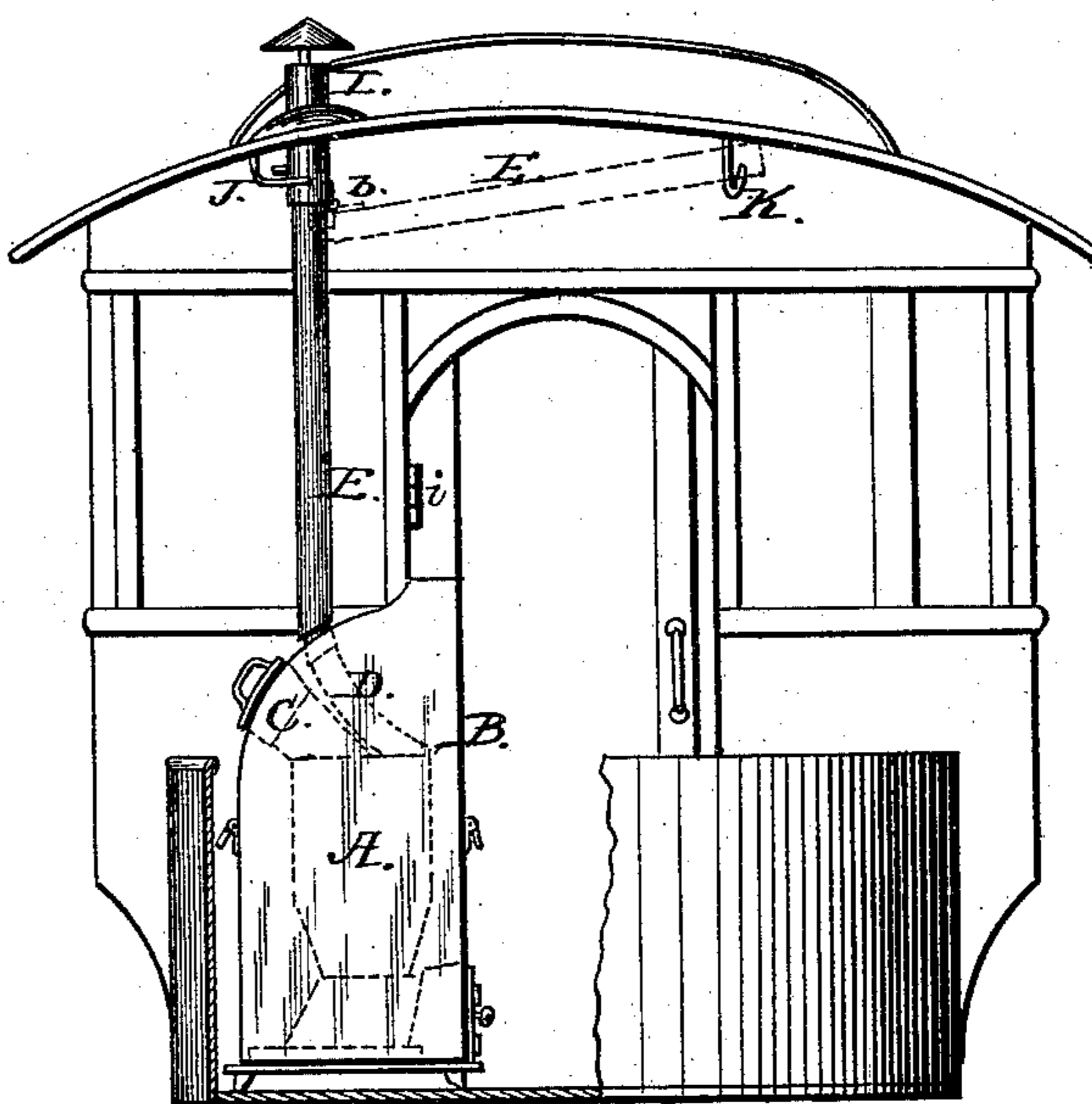


Fig. 3.

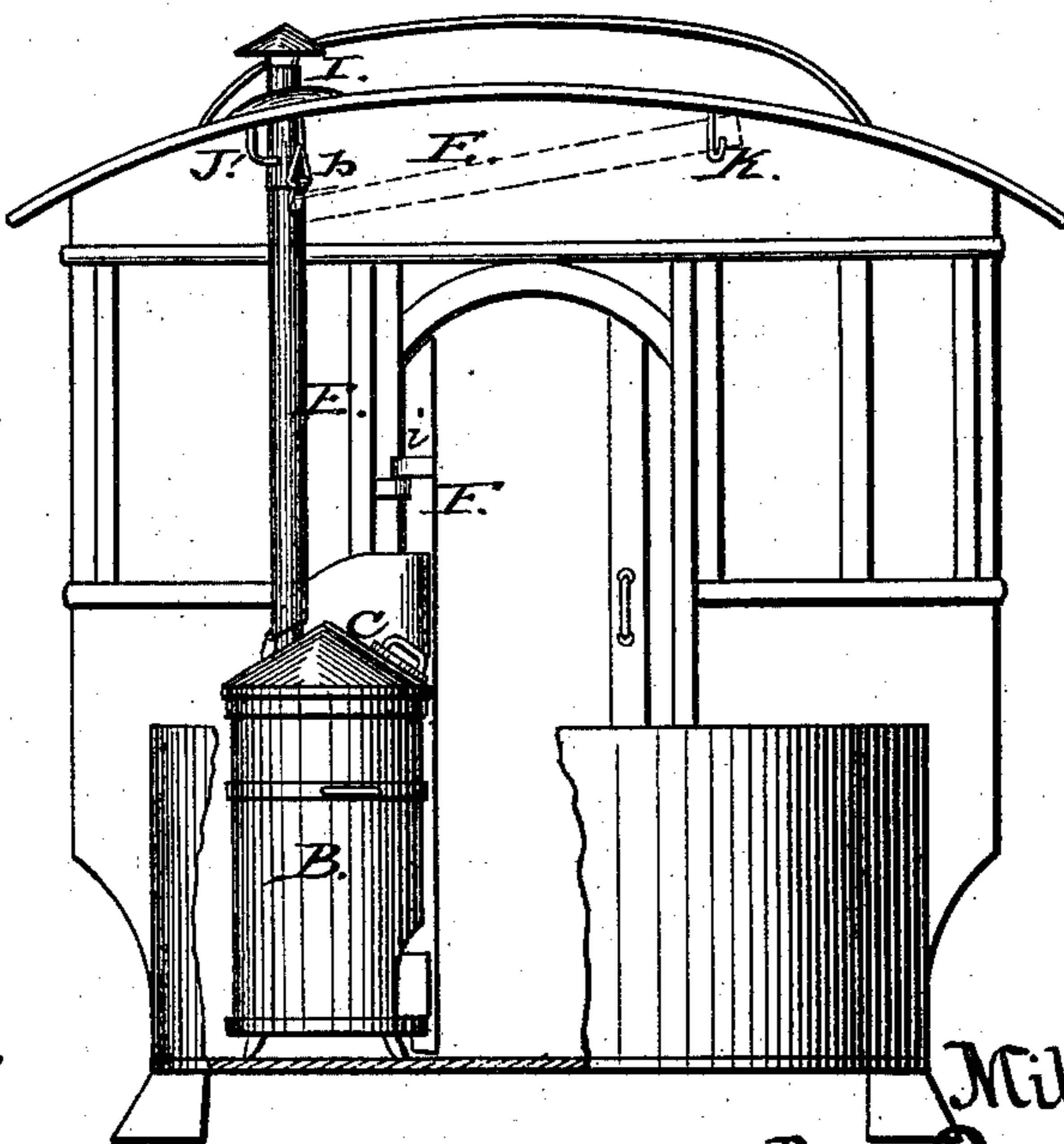
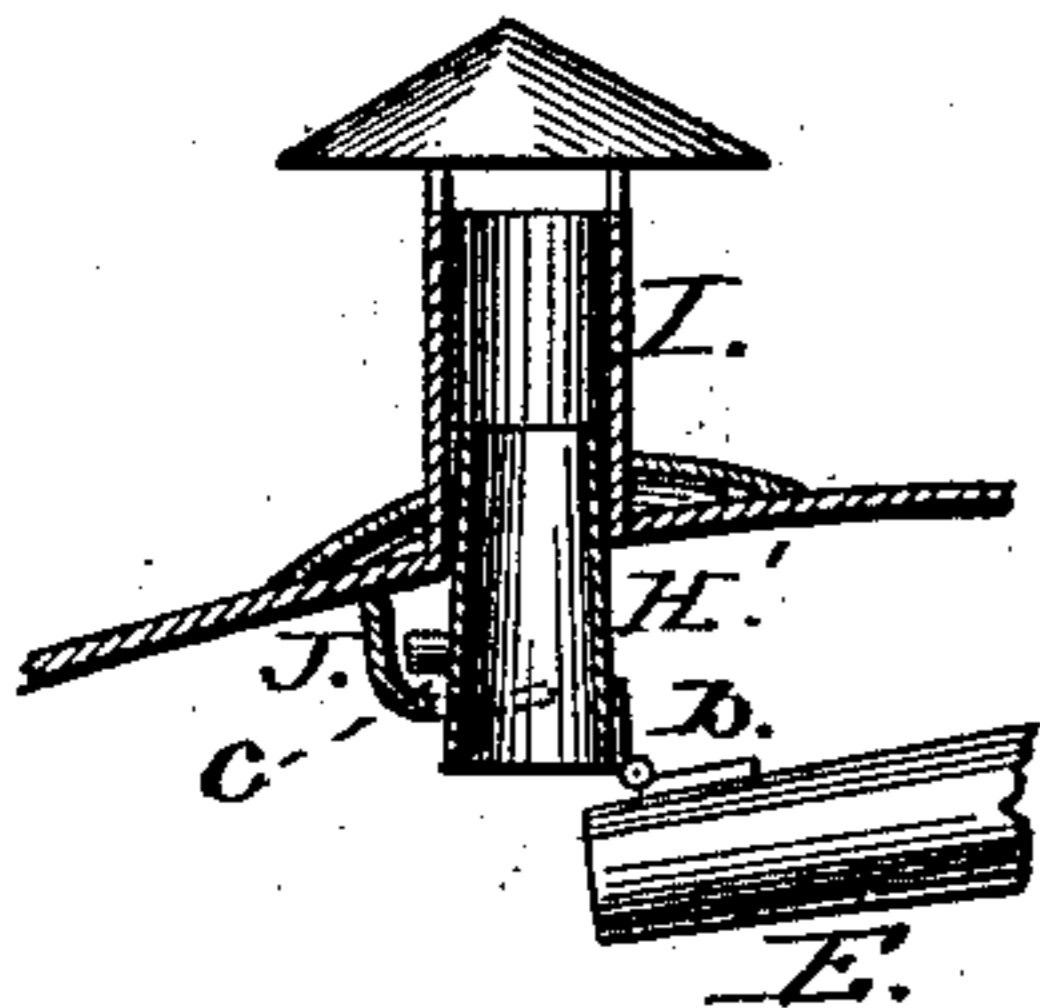


Fig. 4.



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UNITED STATES PATENT OFFICE.

MILES C. ROOT, OF TOLEDO, OHIO.

HEATER FOR CARS.

SPECIFICATION forming part of Letters Patent No. 235,899, dated December 28, 1880.

Application filed March 31, 1880. (No model.)

To all whom it may concern:

Be it known that I, MILES C. ROOT, of Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Heating Apparatus for Street and Railroad Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has for its object to provide an improved heating apparatus designed especially for adaptation to the platforms of street-railroad or steam cars, and so constructed that the cold air at the bottom of the car is drawn into the lower part of the said heater and discharged again into the car in a heated condition, and finding an exit at the top of the car, thereby insuring the perfect heating and ventilation of the car; and the invention consists, essentially, in the employment of a heating apparatus of novel construction arranged upon the platform of a car, and provided with a jacket or shell having an upper and lower orifice adapted to project into a hollow jamb or upright arranged at one side of the doorway of the car.

It further consists of an adjustable smoke-pipe and other details of construction, all as will be hereinafter more fully described, and pointed out in the claims.

In the drawings, Figure 1 represents a vertical longitudinal section of my invention as applied to the platform of a car. Fig. 2 is a rear elevation of the same, showing the arrangement of the smoke-pipe. Fig. 3 is a modification of the heating apparatus, and Fig. 4 is a detail view of the smoke-pipe.

Similar letters of reference occurring on the several figures indicate corresponding parts.

Referring to the drawings, A represents the heating apparatus, the shell or jacket B of which is preferably of a right-angled parallelogram in form, so as to better adapt the apparatus to the platform of cars and economize the space thereon. Within the shell or jacket B is located the stove or heater, which is so constructed as to leave an air-space between it

and the jacket B, which is provided with a suitable chute, C, for supplying the heater with fuel, and with a pipe, D, for attaching thereto the lower part of the adjustable smoke-pipe E. From one side of the jacket B, and opening out from the same nearest the car, projects an upper and lower box or shell, B', which is adapted to fit into corresponding openings *a* in the false jamb or upright F, which is hinged, as shown at *i*, Fig. 3, the object of the false jamb being to obviate the necessity of cutting openings in the door-frame for the introduction of the air-ducts B', said false jamb being readily removed in summer, or when the heater is not in use, by unscrewing the hinges *i*, which connect said false jamb to the door-frame.

G represents an outer jacket, secured to the shell or jacket B next to the car, and having an open space at the top and bottom to provide for a current of cold air between the heating apparatus and the wood-work of the car, to prevent disfiguring or injuring the latter.

E represents the smoke-pipe, which is hinged at *b* to a short section of pipe, H', which projects into the chimney I on top of the car, said section H' being provided with a lug, *c*, for engagement with the fork J on the under side of the car-roof, to keep the pipe in the chimney, and at the same time to allow the smoke-pipe E to be connected to the pipe D on top of the heater, or to be turned up and rested in the hook K on the under side of the roof of the car when not in use, as shown in dotted lines in Fig. 2. Beneath the car is arranged a suitable pipe or pipes, which opens into the interior of the car at the bottom, the object of which is to insure the admission of a sufficient quantity of fresh air into the bottom of the car to supply the heater through the openings *a* with a current of air necessary to keep up the circulation of air within the car, the heated air making its exit through the usual openings at the top of the car, thereby heating and ventilating the same in the most perfect manner.

It will be observed that by means of my improvements no change or alteration is made in the construction of the car to which it is to be applied, the heating apparatus being simply put in its proper place upon the platform and the hollow jamb either hinged or other-

wise removably affixed to one side of the doorway, and upon which the door abuts when closed.

It will also be observed that by means of my improvements the constantly-changing cold air is taken out of the car at or near the bottom and passed into the heater through the lower aperture *a* in the hollow jamb *F*, and brought back through the upper aperture *a* into the car in a heated condition, thereby insuring a perfect and even temperature of the car, and the consequent ventilation of the same.

I am aware that an adjustable and extensible stove-pipe with a flexible-joint connection is not new, such being shown in the patent to H. M. Hockman, of February 8, 1876, and numbered 173,294, and I do not therefore desire to claim such a construction, broadly.

Having thus described my invention, what I claim as new and useful is—

1. The hereinbefore-described heating apparatus for cars, consisting of the heater *A*, provided with the shell or jacket *B*, having air-ducts *B'*, adapted to fit into the correspond-

ing-sized openings *a* in the false jamb *F* in such a manner as to take the cold air from the bottom of the car and return it back again in the body of the car in a heated condition, substantially as specified.

2. The smoke-pipe *E*, pivoted at *b* to the short pipe *H'*, which is provided with the lug *c*, for engagement with the fork *J* and chimney *I*, in combination with the pipe *D* of the heating apparatus, substantially as specified.

3. In a car-heater, the combination of the heater *A*, provided with the shell or jacket *B*, having air-ducts *B'*, with the false jamb *F*, having openings *a*, adapted to receive the air-ducts *B'*, substantially as and for the purpose specified.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

MILES C. ROOT.

Witnesses:

ALEX. GLEASON,
A. E. WILSON.