

(No Model.)

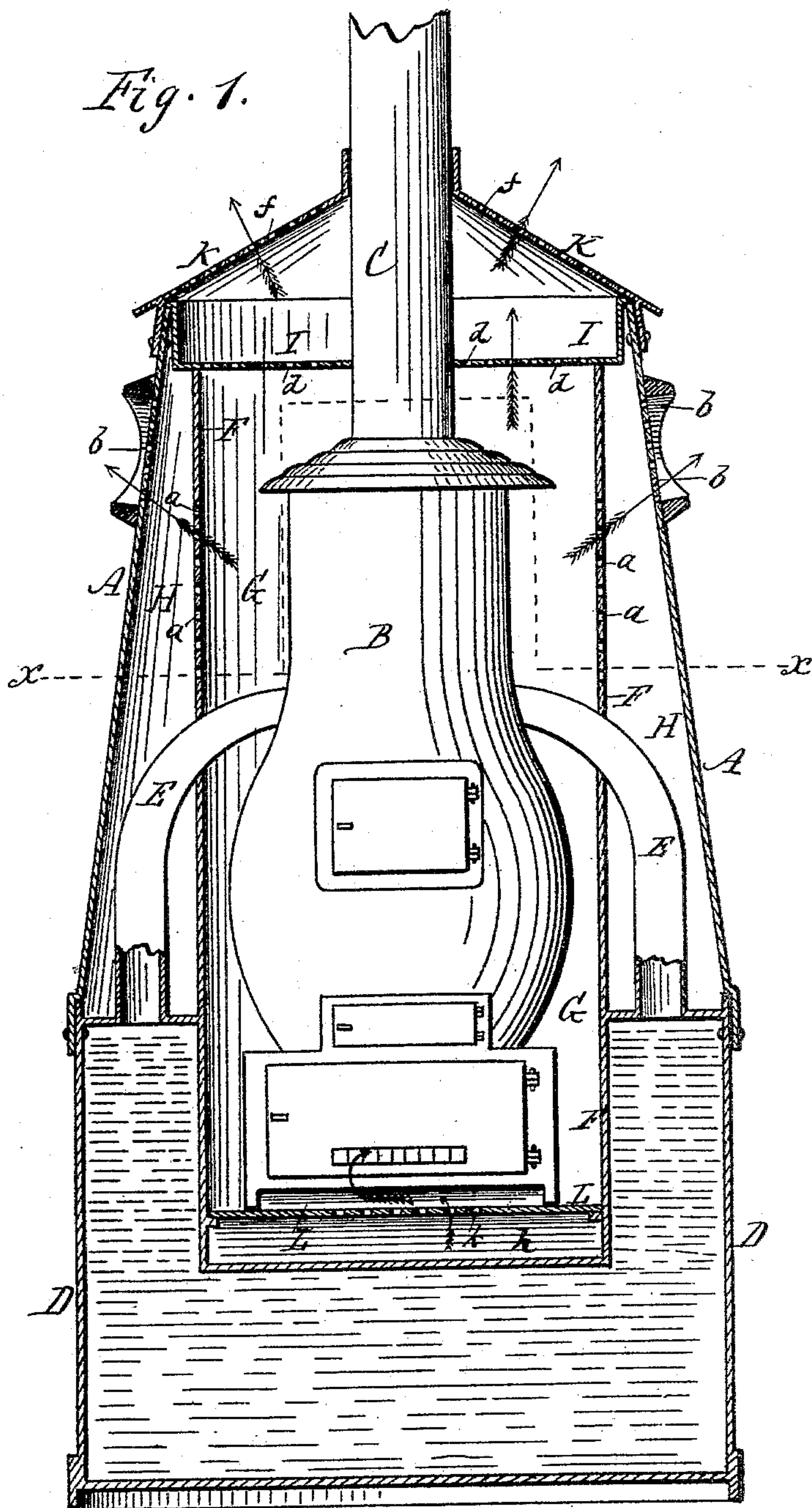
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M. H. MORLEY.

CAR HEATER.

No. 412,284.

Patented Oct. 8, 1889.



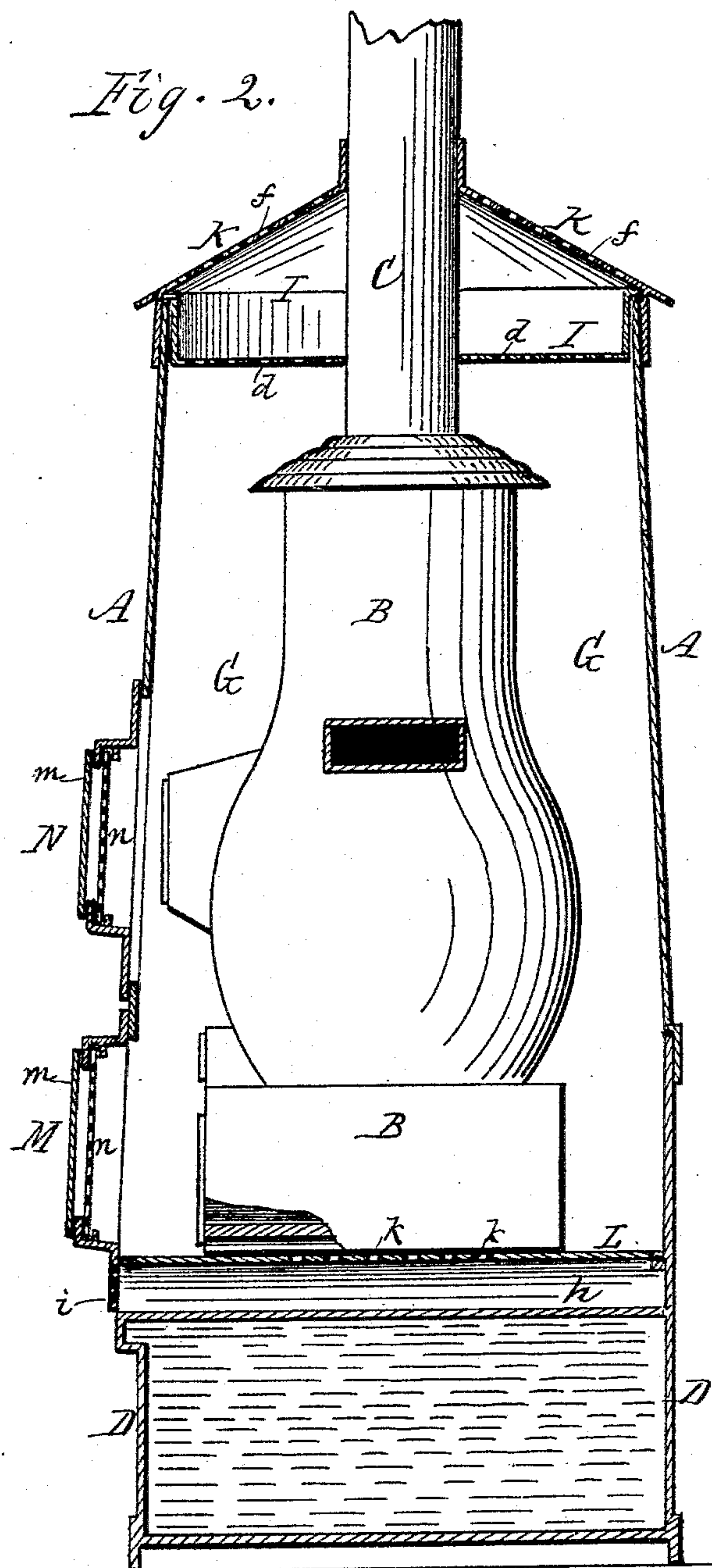
Attest.
P. A. Leavitt.
C. H. Plumb.

Inventor.
Martin H. Morley.
per R. F. Osgood,
Atty.

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CAR HEATER.

Patented Oct. 8, 1889.



Attest.
P. A. Hevitch
Clerk

Inventor.
Martin H. Morley,
per R. F. Osgood,
Att'y

(No Model.)

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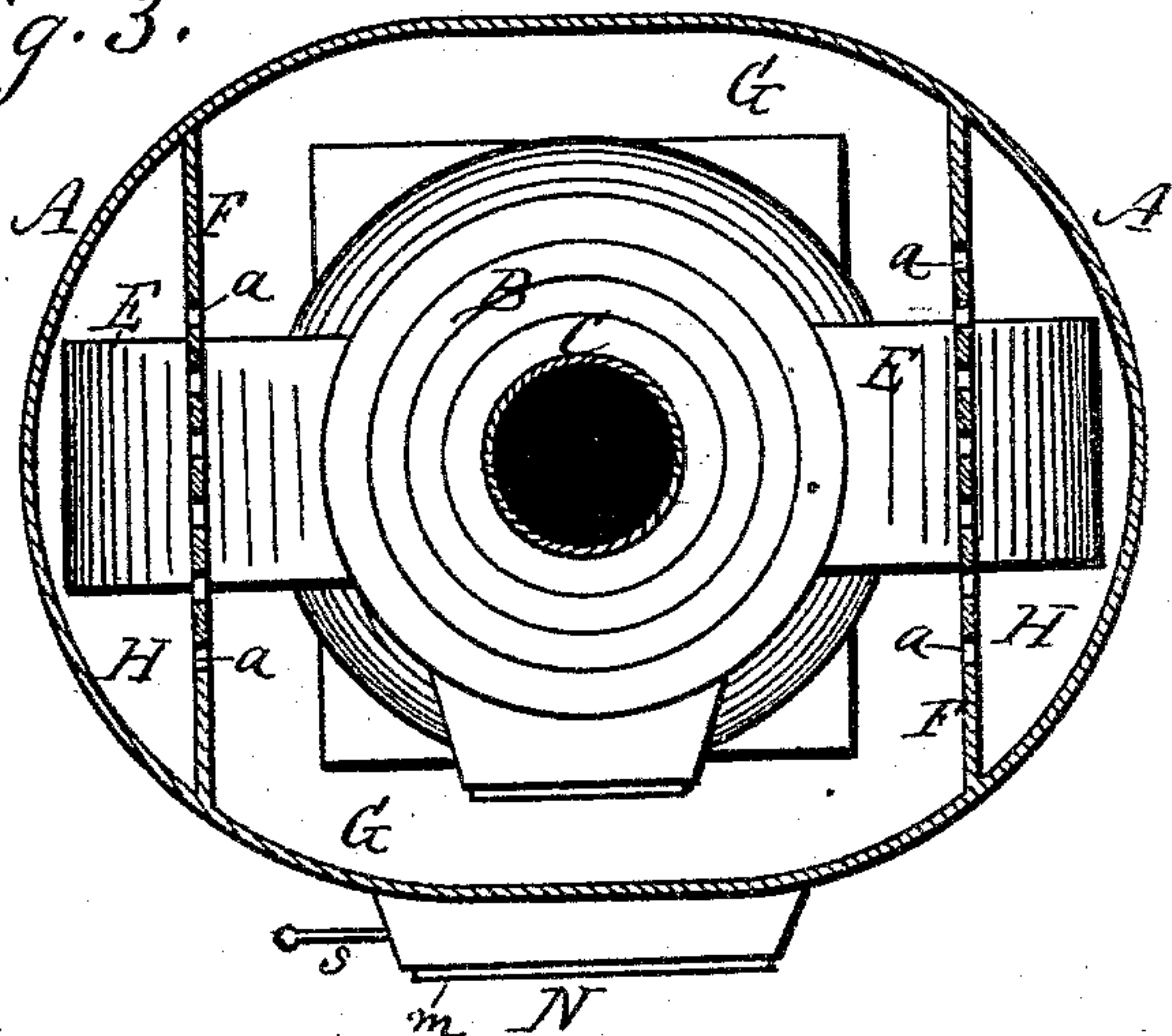
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Fig. 3.



Attest.
P. H. Kestich
Ch. Plumb

Inventor.
Martin H. Morley,
per R. F. Oggood,
Atty.

UNITED STATES PATENT OFFICE.

MARTIN H. MORLEY, OF ROCHESTER, NEW YORK.

CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 412,284, dated October 8, 1889.

Application filed March 3, 1888. Serial No. 266,014. (No model.)

To all whom it may concern:

Be it known that I, MARTIN H. MORLEY, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Car-Heaters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to that class of car-heaters in which a water-tank is located in the base of the heater and is connected with the fire-chamber by pipes, so that if the car is overturned the fire will be flooded with water and extinguished.

The invention consists in the construction and arrangement of parts hereinafter more fully described and definitely claimed.

In the drawings, Figure 1 is a longitudinal vertical section of the heater in the line of the major axis. Fig. 2 is a similar section at right angles to Fig. 1. Fig. 3 is a horizontal cross-section in line *xx* of Fig. 1.

A indicates the exterior casing of the furnace, and B the stove, which is set independently into a chamber of the casing and has at its top a chimney C, that extends up through the casing and through the top of the car.

D is a water-tank formed integral with the exterior casing and at the bottom of the same, and E E are two or more spouts attached to the top of the tank and extending up and entering the sides of the stove above the fire-chamber. In case the car is overturned the water from the tank will pass through the spouts into the fire and extinguish the same.

The casing A serves the usual purpose of a furnace-casing by holding the heated air and discharging the same; but in addition to this it has another important purpose, which is to hold the stove and in case of accident insulate the same and prevent its contact with exterior objects. To this end it is made of boiler-iron riveted together to make it strong enough to resist crushing, whereby, when accident occurs, the hot stove will not be exposed in the open car.

The water-tank is a part of the furnace-casing and not of the stove itself.

F F are two interior plates inside the cas-

ing, said plates extending crosswise of the casing and forming an interior chamber G, in which the stove rests. Small segmental chambers H H, Fig. 3, are left outside the plates, in which the main bodies of the spouts E E rest, whereby the latter are in a great degree insulated from heat and are kept cool. The upper portions of the plates F F are perforated, as shown at *a a*, Fig. 1, to allow the hot air to pass from interior chamber G to the exterior chambers H H, and thence the hot air escapes through perforations *b b* near the top of the outside case, and also through the perforated top of the exterior case, as will presently be described. If desired, pipes may be connected with the outside case to conduct off the hot air, as in ordinary house-heating furnaces.

I is a cup-shaped cover placed over the open top of the casing A and supported thereby, and K is a conical cap placed over the cover provided with a central hole, through which the chimney C passes. The cover I is filled with perforations *d d* and the cap K with similar perforations *f f*, through which the hot air passes from the furnace to warm the car.

L is a bed-plate, on which the stove rests, said bed-plate being located a little distance above the bottom of chamber G and leaving a flue-space *h* beneath. The lower door M of the casing has perforations *i i*, Fig. 2, opening into the flue, and the bed-plate has corresponding perforations *k k*, opening under the stove. The cold air passes through holes *i* into the flue, and thence up through holes *k* into the furnace-space to feed the fire and support combustion, as well as to furnish the volume for heating.

The plates F F, cover I, and cap K are important features in my invention, inasmuch as they form an inclosure inside the regular casing of the furnace and are perforated, so as to prevent the passage of fire, while allowing the necessary passage of air. The plates also serve to keep the discharge-spouts cool, as before described.

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

1. In a car-heater, the combination, with

the casing A, of the vertical partitions F F, perforated at their upper ends, said partitions dividing the casing into three compartments, as shown and described, and for the purpose
5 specified.

2. In a car-heater, the combination, with the open-topped casing A, of the cover I, fitting over and inclosing the top of the casing, and the conical cap K above the cover, said
10 cover and cap being perforated to allow passage of the hot air from the furnace, and the

smoke-pipe C, passing centrally through the cover and cap, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed 15
my name in the presence of two subscribing witnesses.

M. H. MORLEY.

Witnesses:

R. F. OSGOOD,
M. D. PHILLIPS.