S. F. KELLOGG.

Car-Heater.

No. 226,862. Patented April 27, 1880.

Fig. 1

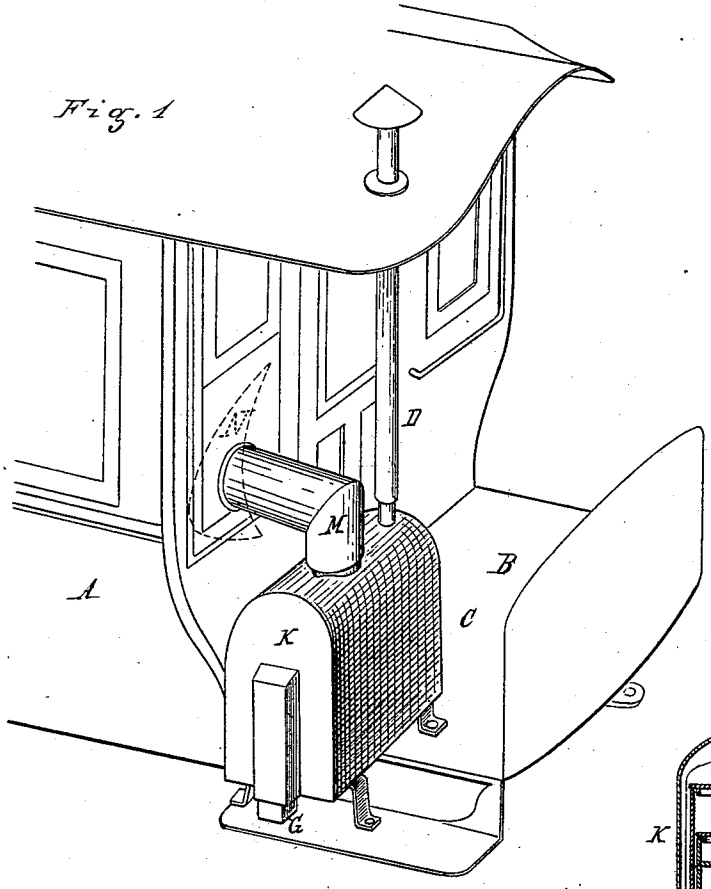


Fig. 3

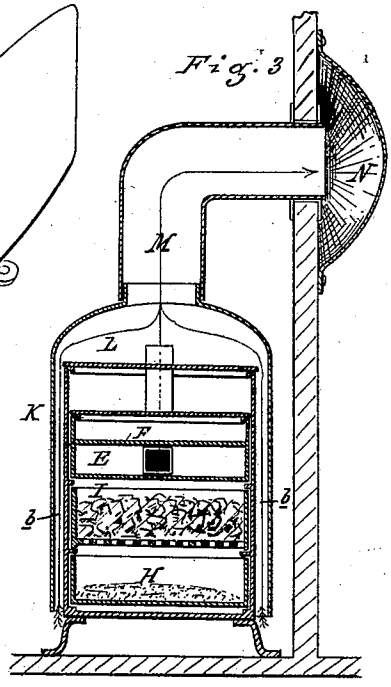
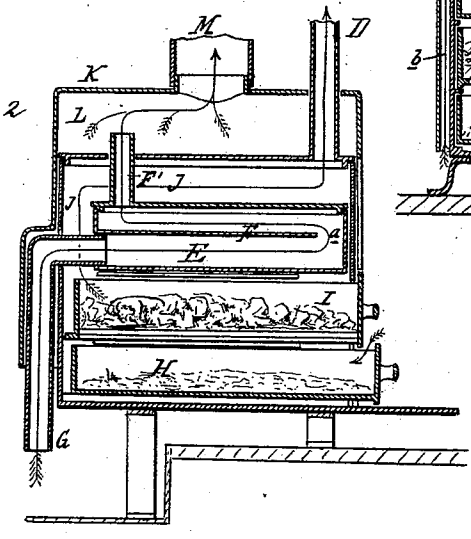


Fig. 2



Attest:

A. Barthel

Charles J. Hunt

Inventor:

S. F. Kellogg

By Atty

Thos. S. Sprague

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SALVIN F. KELLOGG, OF ADRIAN, MICHIGAN.

CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 226,862, dated April 27, 1880.

Application filed January 8, 1880.

To all whom it may concern:

Be it known that I, SALVIN F. KELLOGG, of Adrian, in the county of Lenawee and State of Michigan, have invented an Improvement in Devices for Heating Horse-Railway Cars, of which the following is a specification.

The nature of this invention relates to certain new and useful improvements in the construction of a heater particularly designed for the purpose of warming horse-railway cars; and the invention consists in the peculiar construction of such heater and its arrangement upon the car, all as more fully hereinafter set forth.

Figure 1 is a perspective view, showing my device as applied to a horse-car. Fig. 2 is a vertical longitudinal section. Fig. 3 is a vertical cross-section.

In the accompanying drawings, which form a part of this specification, A represents the body of horse-car, and B its front platform. Upon this platform I place a furnace, C, provided with the exit-flue D.

Within the furnace C, I form an air-chamber, E, which is provided with the horizontal partition F, secured to the rear and side wall of the air-chamber E, but leaving an opening, *a*, at the front end. Air is admitted to this chamber E through the pipe G, which passes through the rear wall of the furnace.

In the bottom of the furnace is an ash-pan, H, and above it a basket-grate, I, which extends beyond the rear wall of the air-chamber E.

The smoke and gases of combustion pass from the grate I into the chamber J at the back and over the chamber E to the exit-pipe D at the front.

K is a jacket, preferably made of galvanized iron, which fits over the stove, forming an air-chamber, L, at the top, and air-passages *b* on either side. From the top of this jacket there is a pipe, M, which passes through the end of the car, and over the inner end of this pipe, within the car, is placed a hood, N.

In practice a fire is made in the basket-grate I, which heats the cold air admitted to the chamber E through the pipe G, the gases and smoke passing up behind such chamber and over the same to the exit-pipe D through the chamber J. The air in the chamber E, being admitted below the partition F, passes to the front of such chamber, thence up through the opening *a* and back to pipe F′, through which it escapes into the chamber L. At this point the heated air mingles with air admitted to such chamber through the passages *b*, and is finally discharged into the car, the hood N deflecting the heated currents toward the center of the car.

It will be observed that the draft to the fire is through an opening in the front upper end of the ash-pan, and that the draft is increased or diminished by pulling out or pushing in the ash-pan H to the desired extent, and that after the draft-opening in the upper part of the front of the ash-pan has been established the draft may be further regulated by drawing out or pushing in the basket-grate I. If the basket-grate is drawn out, the draft-opening in the ash-pan may be wholly or partially closed, and at the same time the opening in the rear upper part of the basket-grate I for the passage of the products of combustion will be wholly or partially closed, so that the draft can be regulated as desired by sliding out and in the basket-grate I after the ash-pan has been slightly drawn out.

It will also be observed that the cold-air currents admitted to the heater through the passages G and *b* meet in the chamber L, and are both discharged into the interior through a common pipe, M.

It will also be observed that the deflector or hood N is attached to the inside of one of the end panels near the door of the car, so that the draft of cold air entering the car when the door is opened or that which enters through the crevices between the door and the jamb will at once be mingled with the hot air deflected from the hood.

This device is particularly designed for use upon that class of horse-cars usually called "bob-tails," and which are turned around at each end of the line.

When it is desired to replenish the fire the ash-pan should first be drawn out, which will catch any coals which may fall through the grate when it is drawn out.

What I claim as my invention is—

1. An air-heating furnace consisting of the sliding ash-pan H, sliding basket-grate I, and air-chamber E, whereby the draft through an opening in the upper part of the ash-pan and the draft through the rear upper end of the basket-grate may be both regulated by the sliding basket-grate, substantially as described.

2. An air-heating furnace consisting of the sliding ash-pan H and sliding basket-grate I, with the air-chamber E, having the partition F, jacket K, air-passages G and *b*, leading to the air-chamber L, air-pipe M, and smoke-pipe D, substantially as described, and for the purpose set forth.

3. In combination with the platform of a car, the air-heating furnace, constructed as set forth, and the deflector N, placed opposite the mouth of the hot-air pipe and on one of the end panels of the car, with its mouth near the door, substantially as described, and for the purpose set forth.

SALVIN F. KELLOGG.

Witnesses:
A. BARTHEL,
CHARLES J. HUNT.