(No Model.)

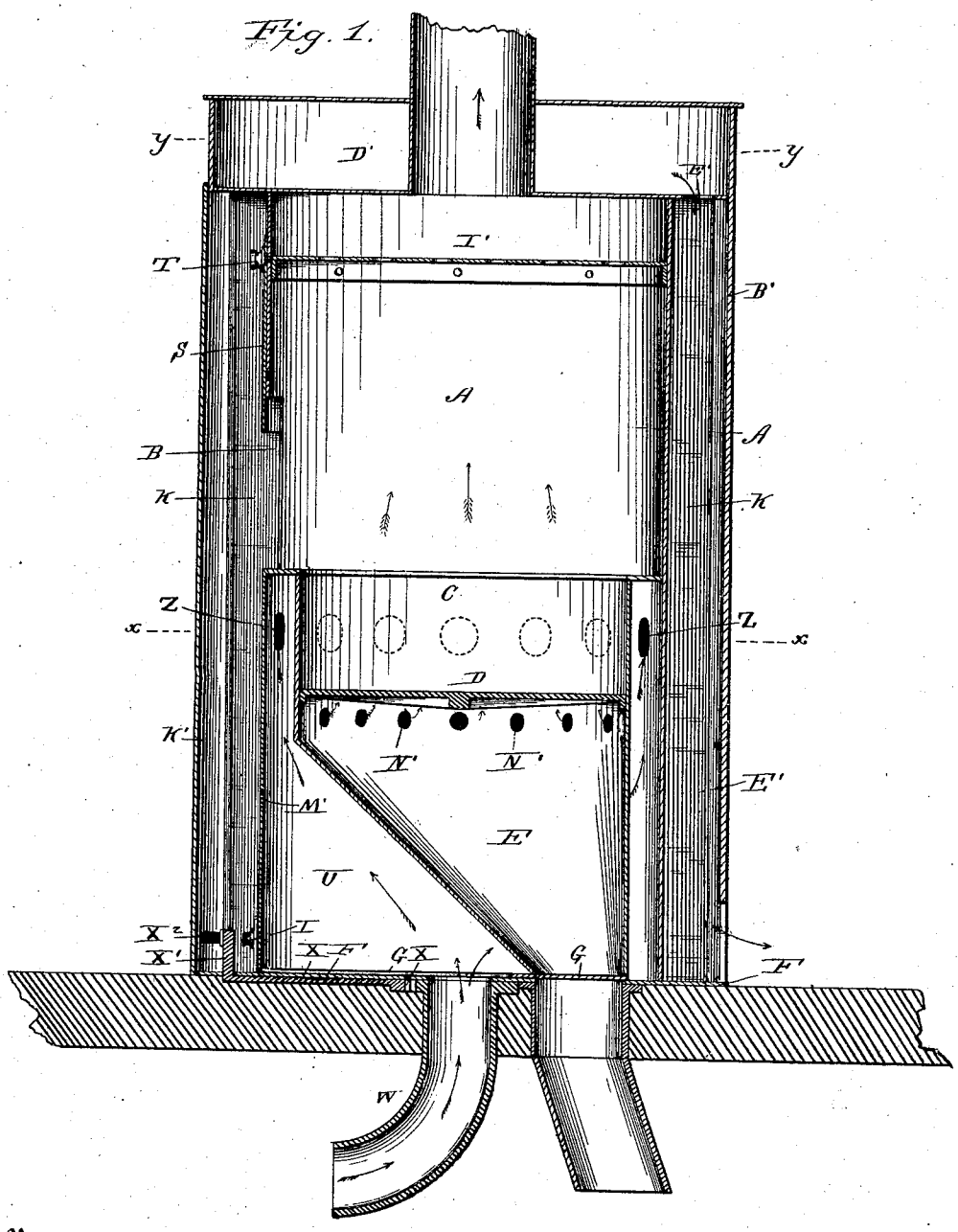
2 Sheets—Sheet 1.

W. BROWN.

CAR HEATER.

No. 370,853. Patented Oct. 4, 1887.

Fig. 1.



Witnesses:
Wm. D. Alexander
John S. Finch Jr.

Inventor:
Wm. Brown
By his Attorney
C. W. Alexander

(No Model.) 2 Sheets—Sheet 2.

W. BROWN.

CAR HEATER.

No. 370,853. Patented Oct. 4, 1887.

Fig. 2.

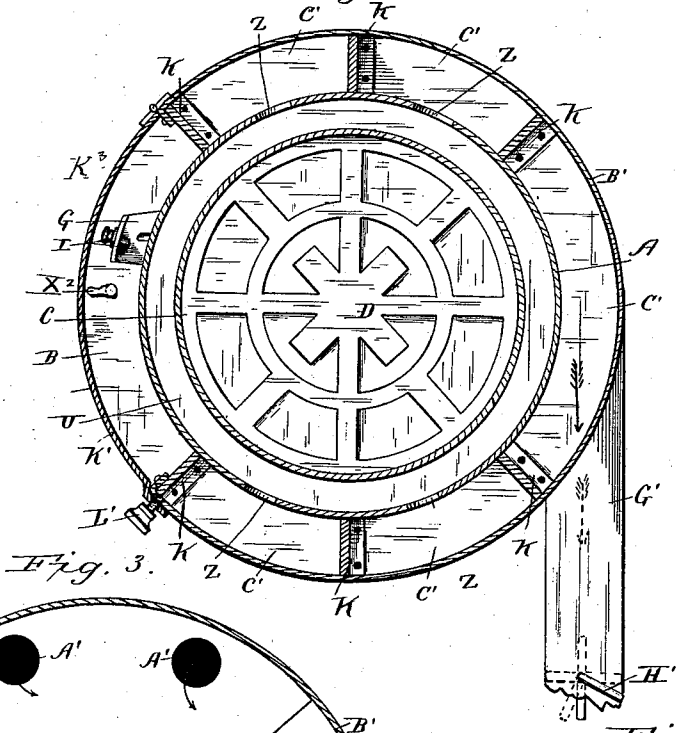


Fig. 3.

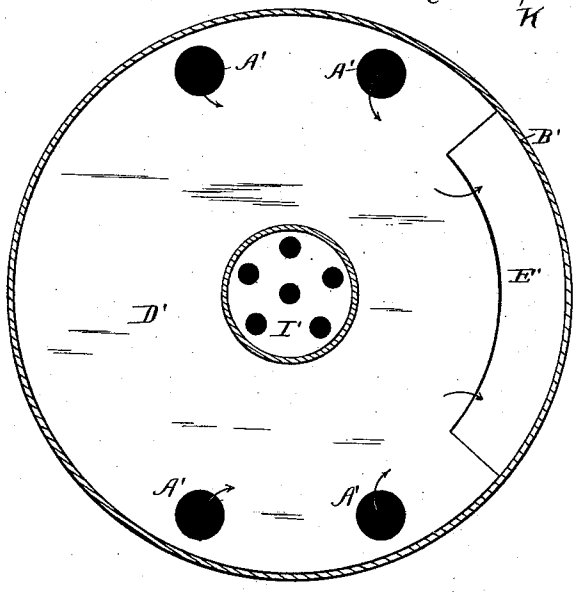
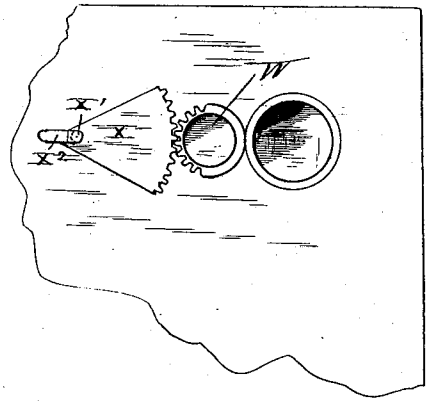


Fig. 4.



Witnesses:

Wm. L. Alexander Jr.

C. M. Davis

Inventor:

Wm. Brown

By his Attorney

C. M. Alexander

UNITED STATES PATENT OFFICE.

WILLIAM BROWN, OF DUNCANNON, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF TWO-THIRDS TO JAMES C. MUNTZEBAUGH, OF SAME PLACE, AND HENRY WILSON SHEIBLEY, OF PHILADELPHIA, PENNSYLVANIA.

CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 370,853, dated October 4, 1887.

Application filed February 28, 1887. Serial No. 229,189. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BROWN, a citizen of the United States, residing at Duncannon, in the county of Perry and State of Pennsylvania, have invented certain new and useful Improvements in Car-Heaters; and I do declare the following to be a full, clear, and exact description of the invention, such as 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 the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in stoves or heaters for cars; and it has for its objects to so construct the same that, while under all ordinary circumstances the car may be effectually heated, in case of an accident the burning fuel will be confined within the stove or heater, rendering it impossible to set fire to the car, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical sectional view of my improved stove or heater; Fig. 2, a sectional view taken on the line *x x* of Fig. 1; Fig. 3, a sectional view taken on the line *y y* of Fig. 1, and Fig. 4 a plan view of that portion of the bottom of the car over which the stove or heater is located.

The letter A indicates a shell of sheet metal which is cylindrical in contour and which is provided with an opening, B, in front, for the purpose hereinafter explained. In the intermediate portion of the shell is secured a fire-pot, C, having a fire-grate, D, and below this, extending downward toward the bottom of the shell, is located an ash-pit, E, which is contracted toward its lower end, the said lower end being connected with a chute passing through the floor of the car, through which the ashes may be discharged from time to time.

Above the base F of the shell, and passing through a suitable opening below the contracted end of the ash-box, is a valve, G, which has an extension passing to the outside of the shell, the said extension having an upturned edge with an aperture through which a screw, I, may be passed into a threaded aperture in the shell in order to lock the valve and prevent any accidental shifting of the same, and thus hold the coals within the stove or heaters in order to prevent fires in case of an accident. The shell is provided externally with a series of vertical ribs, K, which are flanged at their ends and attached to the base and top plates of the shell.

The letter S indicates a sliding door, which, when down, covers the opening B in the shell and is held or locked in position by a set-screw, T, so as to securely close the stove or heater, in case of accidents, at the feed-opening.

The fire-box and ash-pit, in connection with the shell or outer casing, form a hot-air space, U, which connects with the open air below the car by a shifting elbow, W, which can be turned by means of cogged gearing X in the direction of the travel of the car, so as to create a draft through the air-spaces of the stove or heater. The shell is provided with openings Z, which lead into the compartments at the sides of the same, and the top plate covering the shell and compartments is provided with apertures A′, which lead from the said compartments at the top.

The letter B′ indicates an exterior shell, which fits over the interior shell and division plates or wings K, forming with the compartments or air-spaces C′, which communicate by means of the openings A′ with the upper compartment, D′, of the stove or heater.

At the rear of the stove is a compartment, E′, formed by two of the vertical ribs K, which communicates with the upper space, D′, and leads to an air-flue, G′, extending from the lower part of the outer shell to any convenient portion of the car, being provided with a damper, H′, by means of which the supply of heated air may be regulated.

The upper part of the combustion-chamber of the stove or heater is provided with a perforated crown-sheet, I′, the perforations of which are of such size as to permit the products of combustion to escape freely to the es-

cape flue or chimney, and prevent the escape of the ignited coals in case the stove or heater is overthrown.

The outer casing is provided at its opening with a hinged door, K′, which is provided with a clamping-screw, L′, at its free edge, by means of which the door may be locked when closed. The cogged segment, by means of which the elbow W is adjusted to any desired position, has an upwardly-extending arm, X′, which passes up through the base-piece F outside of the shell A, and forms a pivot for the segment to turn on, the said arm X′ being provided with an operating-handle, X^2.

In order to prevent the dead air-chamber, formed by tightly closing the outer door, K′, from becoming too highly heated, the shell A is perforated at M′, thereby permitting the fresh air from the air-space U to circulate within the space between the door and shell A, as is obvious.

The letter N′ indicates a series of apertures leading from the chamber U to the fire-box below the grate to supply air for combustion to the fire when the valve G is closed.

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

1. In a railway-car stove, the combination of the shell A and outer casing, B′, the former being provided with a feed opening, B, and an outlet-flue, the fire-pot C, suspended within the shell A, forming a hot-air space, U, and provided with a grate, D, and an inclined discharge-chute, E, leading to an outlet, the said fire-pot being perforated below the grate and the said shell A being perforated above the grate, whereby the hot air from space U escapes to the fire and to the space between the inner and outer casings, a cut-off, G, closing the opening below the chute E and provided with a locking device, a perforated diaphragm, I′, secured in the upper portion of the shell A, and means for supplying air to the hot-air space U, substantially as described.

2. In a car-heater, the combination of the outer casing provided with a door-opening and hot-air outlet, a perforated inner casing or shell, vertical ribs or partitions, secured between the said outer and inner casings, forming compartments which communicate with an air-chamber, D′, at the upper end of the heater, the said air-chamber communicating with the hot-air outlet in the outer casing, a fire-pot suspended within the shell A and provided with a grate and inclined perforated discharge-chute, a cut-off closing the opening under the discharge-chute, and means for supplying air to the hot-air flues and fire-chamber, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM BROWN.

Witnesses:

JOHN A. SHEARER,

WILLIAM C. BROWN.