B. B. CUTHBERT.
CAR HEATER.
No. 374,522. Patented Dec. 6, 1887.

WITNESSES:
George Bittenberg

INVENTOR:
R. B. Cuthbert

ATTORNEYS.
To all whom it may concern:

Be it known that I, ROBERT B. CUTHBERT, of Magnolia Mines, in the county of Berkeley and State of South Carolina, have invented a new and improved Car-Heater, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved car-heater, in which the fire is extinguished when the heater is upset by a collision or other accident.

The invention consists of a heater surrounded by a water-tank mounted on wheels and adapted to revolve around the heater, and of water-outlet pipes secured to the top of the tank and opening into the top of the heater.

The invention also consists of the construction and arrangement of various parts, and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

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 central sectional elevation of my improvement. Fig. 2 is a similar view of the same on the line $x$ of Fig. 1, and Fig. 3 is a sectional plan view of the same on the line

The car-heater $A$, of any approved construction, is mounted on a circular base, $B$, and is provided with the usual fire-place, $C$, ash-pit, $D$, and door $E$. On suitable brackets on the outside of the base $B$ are mounted a number of wheels, $F$, which support the tank $G$, surrounding the heater $A$, with the exception of the front of the latter, so as to permit access to the door $E$ and the ash-pit opening. The tank $G$ is filled with water or other fire-extinguishing fluid, and can revolve on the wheels $F$.

To the upper end of the tank $G$ are secured the inwardly upwardly bent pipes $H$, which open at their free ends into the top opening, $I$, of the heater $A$. On the upper end of the tank $G$ is also fastened a dome-shaped shell, $J$, into which opens the top opening, $I$, of the heater $A$. The top of the shell $J$ is provided with a smoke-outlet, $K$, and a circular flange, $L$, on the outside, held in a bearing, $N$, secured to the ceiling $O$ of the car, and forming, with an opening, $O'$, in the ceiling $O$, the smoke-exit.

In the interior of the shell $G$ on top is held a spherical shaped fire guard or deflector, $P$, which prevents the smoke from the heater from passing directly upward through the opening, but causes the smoke to travel in the direction of the arrows shown in the drawings.

The lower end of the deflector is provided with an outwardly curved annular flange, $P'$, which terminates near the shell $J$, so as to form a narrow passage-way for the smoke between the shell $J$ and deflector $P$.

The part of the shell $J$ in front of the heater $A$ and above the door $E$ is curved inwardly to the wall of the heater $A$, so as to prevent smoke from escaping out of the shell $J$ into the car.

It will be seen that when the car meets with an accident, whereby the heater $A$ and the tank $G$ are upset, then the fire-extinguishing fluid will flow from the tank $G$, by the pipes $H$, into the fire-box $C$, and on to the burning fuel, which will thus be extinguished. If part of the burning fuel falls through the opening $I$ into the shell $J$ against the deflector $P$, then the fire-extinguishing fluid will also spray onto this fuel from the pipes $H$, which are uppermost. The burning fuel passing out of the opening is, however, always prevented by the shell $J$ from passing into the car or coming in contact with the inflammable material. In case the heater is upset with its front downward, then the tank $G$ will turn on the wheels $F$ during the upsetting of the car, on account of the gravity of the tank $G$, so that the latter will incline the front of the heater, thus preventing the burning fuel from passing through the door $E$ or ash-pit opening into the car.

The tank $G$ is made preferably of pliable material, so that in case of a collision the heater does not upset completely. Then the pressure against the pliable walls of the tank $G$ is sufficient to inject part of the extinguishing fluid into the pipes $H$ and onto the burning fuel in the heater.

If water is used as the extinguishing fluid, then it will be seen that the heat radiated from...
the heater A will be moistened by the evaporation of the water in the tank G, thus avoiding the dry heat usually generated by the common heater.

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

1. The combination, with a car-heater, of a tank containing a fire-extinguishing fluid and adapted to revolve around the said heater, substantially as shown and described.

2. The combination, with a heater having a circular base and wheels mounted on the said base, of a tank surrounding the said heater, with the exception of the latter's front, and being supported by the said wheels, substantially as shown and described.

3. The combination, with a heater having a base and wheels mounted on the said base, of a tank surrounding the said heater, with the exception of the latter's front, and resting on the said wheels, and pipes leading from the top of the said tank to the top opening of the heater, substantially as shown and described.

4. The combination, with a heater, of a tank surrounding part of the said heater, a dome-shaped shell secured to the said tank and surrounding the upper part of the heater, and a deflector held in the said shell centrally above the top opening of the said heater, substantially as shown and described.

5. The combination, with a tank, of pipes leading from the top of the said tank inwardly and upwardly, and a dome-shaped shell secured to the said tank and provided with a top outlet, substantially as shown and described.

6. The combination, with a tank, of pipes leading from the top of the said tank inwardly and upwardly, a dome-shaped shell secured to the top of the said tank and provided with a top outlet, and a deflector held centrally on the interior of the said shell below the said top outlet, substantially as shown and described.

7. The combination, with a heater provided with a base and wheels mounted on the said base, of a tank partly surrounding the said heater and resting on the said wheels, pipes leading from the top of the said tank to the top opening of the said heater, a dome-shaped shell secured to the top of the said tank and completely inclosing the upper part of the said heater, a deflector held centrally in the said shell, and a bearing for the top outlet of the said shell, substantially as shown and described.

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Witnesses:

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