J. WILSON.

Railroad-Car Stoves.

No. 147,729. Patented Feb. 17, 1874.

FIG. 1.

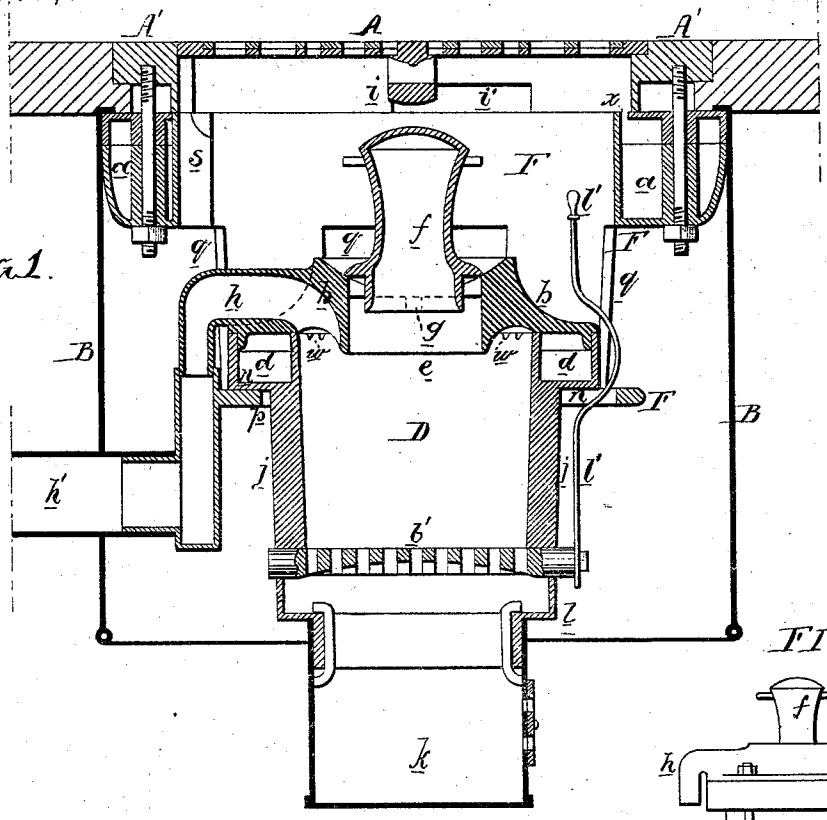


FIG. 3.

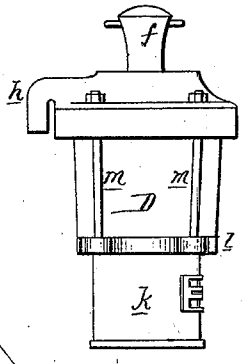
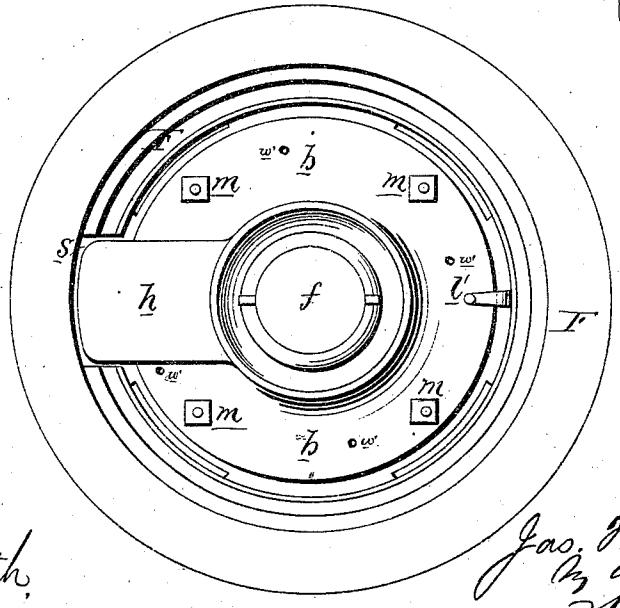


FIG. 2.



Witnesses,
Harry Smith
Thomas McIlvain

Jas. Wilson
By his attys.
Munn and Co

UNITED STATES PATENT OFFICE.

JAMES WILSON, OF DOYLESTOWN, PENNSYLVANIA.

IMPROVEMENT IN RAILROAD-CAR STOVES.

Specification forming part of Letters Patent No. **147,729**, dated February 17, 1874; application filed May 27, 1873.

To all whom it may concern:

Be it known that I, JAMES WILSON, of Doylestown, Bucks county, State of Pennsylvania, have invented an Improved Railroad-Car Stove, of which the following is a specification:

The main object of my invention is to prevent railroad-cars from being set on fire by the heating-stoves in case of collision or other accidents, further objects being to produce a more uniform and agreeable heat, and to arrange the stove more conveniently than usual. I attain these objects in the manner shown in the sectional view, Figure 1, and plan view, Fig. 2, of the accompanying drawing, by suspending the heating-stove D beneath a register, A, in the floor of the railroad-car, and surrounding it by a casing, B, open at the bottom, through which and around the stove the air to be heated passes before reaching the register, the air being mingled with vapor from a water-chamber, *a*, before entering the car, and the stove being convenient of access, but entirely closed when in operation, and so strongly constructed as to be capable of resisting the most violent shocks without breaking and permitting the escape of ignited coals.

My invention will be fully understood from the following detailed description.

The register A rests upon an annular frame, A′, let into and secured to the floor of the car, the said register having on its under side a bolt or cross-bar, *i*, adapted to slots *i′* in the frame, from which, by a slight turning movement, it can readily be withdrawn when it is necessary to lift the register from its place for the purpose of obtaining access to the stove beneath. The latter is a self-contained structure of great strength, consisting of a body, *j*, and of a cap-plate, *b*, secured to the top, and an annular frame, *l*, to the bottom of the same by connecting-bolts *m*, as shown in the exterior view, Fig. 3. A detachable ash-pan, *k*, is suspended from the bottom of the stove beneath the grate *b′*, which is capable of being rocked by a bar, *l′*, and there is a central opening, *c*, in the cap-plate, closed by a plug or stopper, *f*, having lugs *g g* at opposite sides, adapted to corresponding recesses and projections on the edges of the opening, within which it is thus securely retained, but capable of being readily removed when it becomes necessary to replenish the stove with fuel. At one side of the cap-plate *b* there is a hollow projection, *h*, through which the products of combustion are conducted to the exit-pipe *h′*, and between the said cap-plate and the top of the body of the stove is formed an annular air-chamber, *d*, communicating with the external air through openings *w′*, and with the interior of the stove through openings *w*, just above the mass of ignited fuel, and serving the purpose of a gas-ring. The upper and lower portions of the stove are firmly secured together by bolts *m*, Figs. 2 and 3, as before remarked, and the whole structure is of such strength as to be capable of resisting the most violent shocks without breaking up and permitting the escape of ignited coals. It is formed with an annular shoulder, *n*, just beneath the air-chamber, which rests upon, without being secured to, a ledge, *p*, of a frame, F, suspended from the floor of the car, this frame having openings *q* for the passage of air, and being constructed with an annular water-chamber, *a*, in its upper part, above the stove and within the outer casing B, the water in which, as it becomes vaporized, escaping through small apertures or a narrow annular passage, *x*, into the space beneath the register, and mingling with the heated air before it enters the car. The casing B is entirely open at the bottom, so that air can freely enter the same, and pass upward around the stove, becoming highly heated before entering the car.

After removing the register, the stove can be lifted bodily from its supporting-frame F, and removed from the car, this being preferably done in the summer season when the casing B and register will form an efficient ventilator.

The hollow projection *h* at one side of the stove, besides serving as a smoke-pipe, is adapted to a recess, *s*, in the frame F, through which it must be passed in lowering the stove into and raising it from its place, it therefore serving also as a guide to determine the proper position of the said stove.

I claim as my invention—

1. The stove D, having a flange or shoulder,

n, in combination with the suspended frame F, upon which the said shoulder bears, as and for the purpose set forth.

2. The combination, with the stove, of a frame, F, having a water-chamber, *a*, open at the top, as described.

3. The stove D and its detachable cap *b*, constructed so as to inclose an annular air-chamber, *d*, communicating with the fire-pot through perforations *w*, as specified.

4. The hollow projection *h*, at one side of the cap-plate *b* of the stove, adapted to a recess in the supporting-frame F, and serving the twofold purpose of a smoke-pipe and of a guide for determining the proper position of its stove upon the said supporting-frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES WILSON.

Witnesses:
A. P. SCHURZ,
T. P. MILLER.