

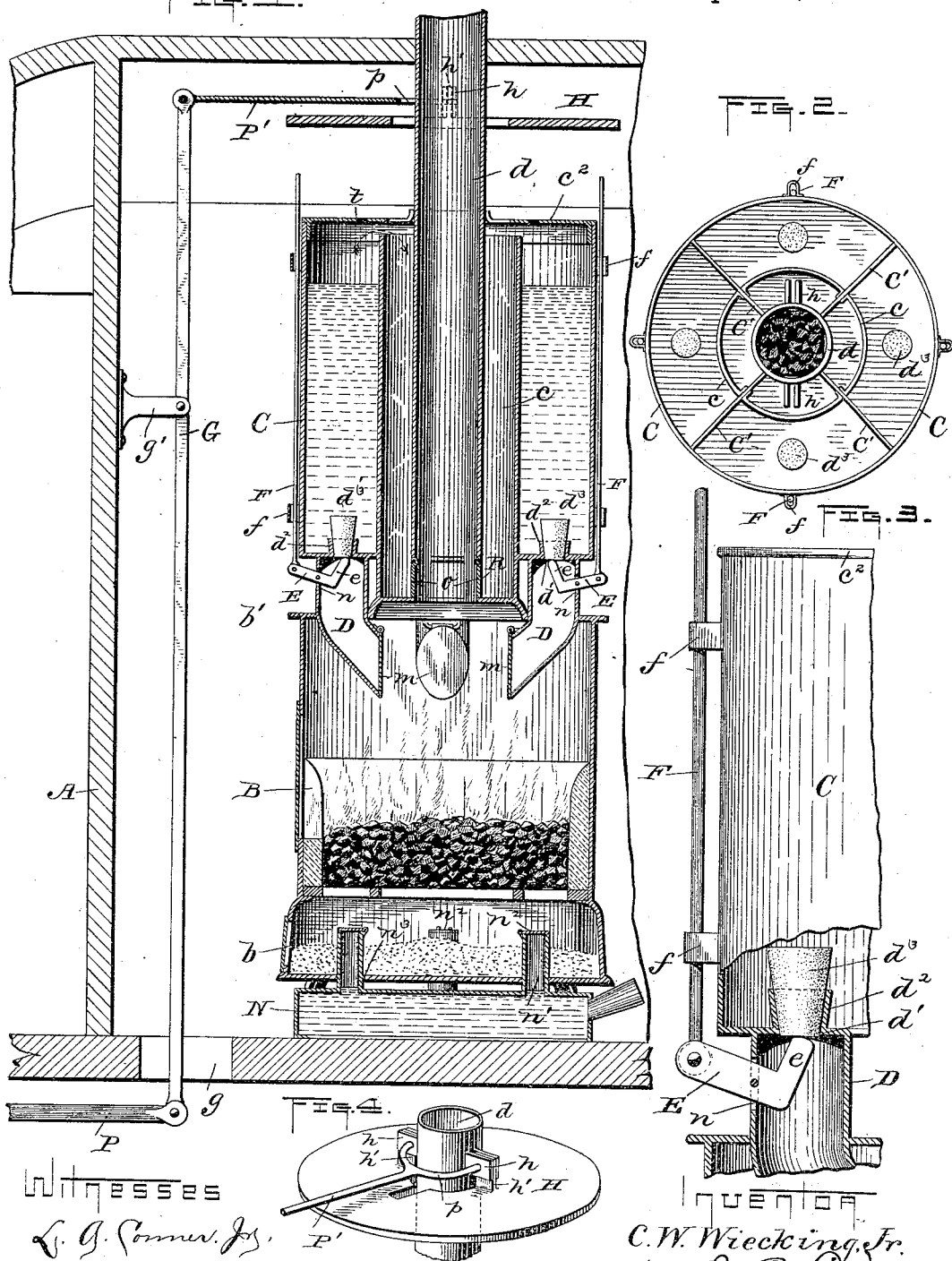
(No Model.)

C. W. WIECKING, Jr.

CAR HEATER.

No. 381,490.

Patented Apr. 17, 1888.



WITNESSES

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UNITED STATES PATENT OFFICE

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CAR-HEATER.

SPECIFICATION forming part of Letters Patent No. 381,490, dated April 17, 1888.

Application filed November 12, 1887. Serial No. 254,979. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN W. WIECKING, Jr., of Walhalla, in the county of Oconee and State of South Carolina, have invented certain new and useful Improvements in Car-Heaters; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 of reference marked thereon, which form part of this specification.

This invention relates to that class known as "railroad-car stoves," and has for its object to automatically extinguish the fire in the stove in case of an accident, no matter whether the car upsets or becomes detached or uncoupled, thereby preventing accidents from fire, which frequently is disastrous in its results.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, more fully described hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a central vertical section of my complete device in a car. Fig. 2 is a top plan view with the operating-weight removed. Fig. 3 is a detail view of a plug and operating-lever, the outer casing or shell of the stove being partially broken away; and Fig. 4 is a detail perspective view of the operating plate or weight and the manner of holding it in its normal position.

In the drawings, the reference-letter A represents the body portion of a car, in the end of which is placed the stove, as usual.

B is the fire-pot of the stove, provided with the usual grate, beneath which is located an ash-pit, *b*. The top plate, *b'*, of the fire-pot is provided with a central opening to admit the lower end of the smoke-flue *d*, which extends upwardly through the top of the car. Surrounding the smoke-flue and located a suitable distance directly above the top plate, *b'*, of the fire-pot is a water-reservoir, C, which is provided with a central tube, *c*, extending through the bottom of the reservoir and being rigidly secured to the top plate, *b'*, around the opening through which the smoke-flue extends, the

upper end of said tube being open and not quite reaching to the top or cover *c'* of the reservoir, so that when the stove is tipped over the contents of the reservoir will have free access to the interior of the tube, as the smoke-flue passes upward through the tube *c*. Said tube is constructed of such a diameter as to leave an annular air-space between the tube and smoke-flue, so that the water in the reservoir will not become unduly heated, and also to allow a free passage for the water, as will hereinafter appear. Extending laterally from the smoke-flue through the water-reservoir and tube *c* are the partitions *C'*, which divide the reservoir and tube into compartments, and the bottom of each compartment in the water-reservoir is provided with an opening, *d'*, having a beveled embossment, *d''*, around its upper edge.

Secured to the bottom of the water-reservoir and communicating with the same at each opening *d'* are the outlet-pipes D, which pass through the top plate, *b'*, of the fire-pot, and are bent inwardly toward each other and the center of the fire-pot, so as to open directly over the center of the fire. Covers *m* are hinged at their upper ends to the lower open ends of the outlet-pipes D in such a manner that the covers will tightly close the ends of the pipes by their own weights, but being free to swing open if the slightest pressure is exerted upon them from the inside of the pipes. Thus the water passing from the reservoir through the pipes in case of an accident will have free passage to the fire, but the products of combustion will be prevented from having access to the interior of the outlet-tubes.

Beveled plugs *d''*, preferably formed of rubber or other suitable material, are normally located in the openings *d'*, and are provided with a firm seat therein by means of the beveled embossment *d''*.

Lever E are pivoted in a slot, *n*, in the outer sides of each outlet-tube D, and the inner ends of said levers are provided with upwardly-projecting arms *e*, adapted to normally rest in contact with the bottom of plugs *d''*. Rods F are pivoted at their lower ends to the outer free ends of said levers, and from thence extend a suitable distance above the removable cover *c'* of the water-reservoir, said rods

being held in position and loosely passing through guide-rings *f*, located upon the outer surface of the water-reservoir.

Forked ears *h* project from opposite sides of the smoke-flue at a suitable distance above the top of the reservoir. A circular weight or plate, *H*, loosely surrounds the smoke-flue above the water-reservoir, and is provided on its upper surface with ears *h'* to engage the forks of ears *h* upon the smoke-flue, and said forked ears *h'* are provided with apertures adapted to register when ears *h'* engage the forks of ears *h*.

A vertical lever, *G*, is pivoted to the car *A* at *g'*, the lower end of which extends through a slot, *g*, in the bottom of the car, and the opposite free end of said lever extends up to the top of the car to a point about opposite the ears *h* upon the smoke-flue, and pivoted to the upper end of said lever is a laterally-extending supporting-rod, *P'*, which is provided with a forked end, *p*, to embrace the smoke-flue and enter the registering apertures in the ears *h* and *h'*, and thus removably hold the weight or plate *H* in position above the ends of rods *F*.

An operating-rod, *P*, is pivoted to the lower free end of the lever *G* and extends beneath the bottom of the car, and the opposite end of said operating-rod *P* is in engagement with the coupling mechanism or the bumpers of the car in such a manner as to be pushed violently in case the cars are thrown heavily together.

Valves *o* are hinged over openings *R* in the smoke-flue at the bottom of every compartment, so as to swing inwardly when water enters the tube *c* and allow it to flow into the fire-pot.

A water-reservoir, *N*, is placed beneath the ash-pit of the stove and is provided with tubes *n'*, communicating with its interior and extending upwardly through apertures *n³* in the bottom of the ash-pit, and the tops of said tubes are provided with hinged covers *n²*, so that if the stove were overturned the water would pass from reservoir *N* through tubes *n'* into the fire through the grate.

The reservoir *C* is provided with a removable cover, *c²*, whereby the water in the reservoir can be renewed; but the height of the water in the reservoir should be kept some distance below the top of tube *c* to prevent water from accidentally getting into the same. Said cover *c²* is provided with steam and hot-air outlet ports or apertures *t*.

The operation of my device is as follows: The various parts being arranged as shown in Fig. 1, if the cars were to be thrown heavily together, as in a collision, the rod *P* will be thrown violently rearward by the coupling or bumpers of the cars, which will withdraw the forked ends of the rod *P'* from the holes in the ears *h* and *h'*, and thus allow the weight or plate *H* to fall upon the ends of the lever-operating rods *F*, and the arms upon the levers will force the plugs from their seats, and the water will rush through the outlet-pipes into the fire and extinguish the same. In case the

car was tipped over without operating the lever and plug mechanism, the water in the upper reservoir will enter the top of the tube *c*, pass down said tube, and flow through the apertures and the smoke-flue into the fire, and water will also flow into the fire from the reservoir beneath the stove, as before described.

It is evident that numerous slight changes might be made in the form and construction of my device without departing from the spirit and scope of my invention; hence I do not wish to limit myself to the form herein described.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a stove and a reservoir located above the same, of tubes connecting said reservoir with the interior of the stove, means for normally closing said tubes, levers to open communication through the tubes, vertical rods to operate said levers and extending upwardly upon the exterior of the reservoir above the upper end of the same, a weight suspended above the reservoir and upper ends of said rods, a rod detachably holding said weight suspended, and a vertical lever connected with said rod, whereby when the lever is operated the weight is detached and dropped upon the upper ends of the vertical rods and communication through the tubes is thus opened, substantially as described.

2. The combination, in a car-heater, with a stove, a reservoir in communication with the same, and means for normally closing communication between the stove and reservoir, of a weight suspended above the stove, a rod beneath the car, a vertical lever connected at its lower free end to said rod, and a rod adapted to normally hold said weight detachably suspended and connected to the upper free end of said lever, whereby when the rod beneath the car is operated the weight is released from its suspended position and dropped to open communication between the stove and reservoir, substantially as described.

3. In combination, a stove having a smoke-flue, a water-reservoir provided with a tube through which said smoke-flue passes, tubes connecting the said reservoir with the interior of the stove, the lower ends of said tubes bending inward and being provided with hinged covers, plugs normally closing said tubes, and rods and levers to force said plugs from their seats, for the purpose described.

4. In combination, a stove, a water-reservoir, outlet-tubes connecting said reservoir with the interior of the stove, plugs, levers pivoted in said tubes, upwardly-extending rods attached to said levers, a weight suspended above said rods, a rod to removably hold said weight suspended, a vertical lever, and a rod beneath the car connected with said lever, substantially as described.

5. The combination, with a stove, of a reservoir supported above the stove, tubes extending from the reservoir into the interior of

the stove, the lower ends of said tubes bending downwardly and inwardly toward the center of the stove or fire-pot, covers hinged at their upper edges to the open ends of said tubes to swing outwardly, and means for normally closing said tubes, substantially as described.

6. A stove and a smoke-flue for the same, in combination with a reservoir above the stove, provided with a tube through which said smoke-flue passes, partitions dividing said reservoir and tube into compartments, and tubes connecting each compartment of the reservoir with the interior of the stove, and means to normally close said tubes, substantially as specified.

7. In combination, a stove, a reservoir, outlet-tubes connecting said reservoir with the interior of the stove, means for normally closing said tubes, levers pivoted in said tubes for opening communication between the reservoir and interior of the stove, upwardly-extending rods pivoted at their lower ends to the levers and adapted to operate the same, and a weight detachably suspended above the upper ends of said rods and adapted to fall upon the same and open communication between the reservoir and stove, substantially as described.

8. The combination, in a car-heater, with a stove provided with a smoke-flue, a reservoir in communication with the stove, means for normally closing communication between the stove and reservoir, and rods and levers to open communication into the stove, of a weight suspended above the ends of said rods and provided with a central aperture, through which the smoke-flue passes, and a rod adapted to hold said weight detachably suspended, whereby when the rod is operated the weight is dropped upon the ends of said rods, thereby operating the levers and opening communication between the stove and reservoir, substantially as described.

9. The combination, with a stove and a smoke-flue for the same, of a reservoir pro-

vided with a central tube having a closed bottom and communicating with the interior of the reservoir at its upper end, the smoke-flue passing through said tube and provided with openings near the bottom of the tube, and hinged doors or covers to normally close said openings, substantially as described.

10. In a car-heater, the combination, with a stove, a reservoir in communication with the same, means for normally closing communication between the stove and reservoir, levers for opening communication between the stove and reservoir, and rods connected with said levers and adapted to operate the same, of a flat weight detachably suspended above the ends of said rods, and a rod beneath the car connected with said flat weight, whereby when the rod is operated the weight is dropped upon the upper ends of said rods and the levers open communication between the stoves and reservoir, substantially as described.

11. In a car-heater, the combination, with a stove, a reservoir in communication with the same, means for normally closing communication between the stove and reservoir, levers for opening communication between the stove and reservoir, and upwardly-extending rods connected to said levers and adapted to operate the same, of the smoke-flue provided with ears, a weight suspended above the upper ends of said rods and provided with ears and with an aperture, through which passes the smoke-flue, a forked rod passing through said ears and detachably holding said weight suspended upon the smoke-flue, and a lever and rod for operating said forked rod, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHRISTIAN W. WIECKING, JR.

Witnesses:

CHARLES M. WERLÉ,
HUBERT E. PECK.