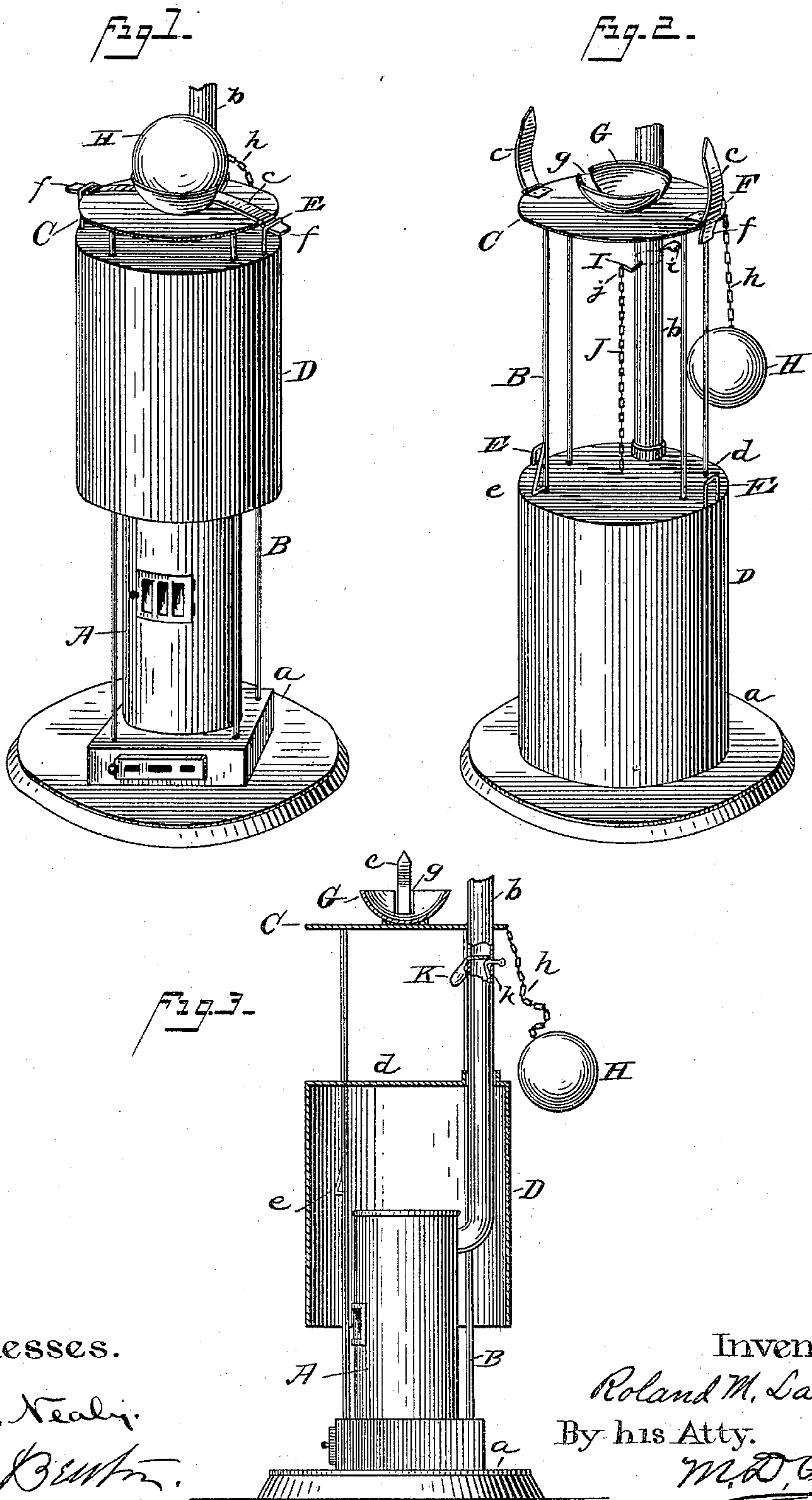


(No Model.)

R. M. LA RUE.
RAILWAY CAR HEATER.

No. 401,749.

Patented Apr. 23, 1889.



UNITED STATES PATENT OFFICE.

ROLAND M. LA RUE, OF CONNERSVILLE, INDIANA, ASSIGNOR OF ONE-HALF
TO WILLIAM NEWKIRK, OF SAME PLACE.

RAILWAY-CAR HEATER.

SPECIFICATION forming part of Letters Patent No. 401,749, dated April 23, 1889.

Application filed March 31, 1888. Serial No. 269,079. (No model.)

To all whom it may concern:

Be it known that I, ROLAND M. LA RUE, a citizen of the United States, residing at Connorsville, in the county of Fayette and State of Indiana, have invented certain new and useful Improvements in Railway-Car Heaters; and I do hereby 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, which form part of this specification.

My invention relates to that class of devices used for railway-car heaters, and has for its object to provide an improved automatic operating jacket or casing for enveloping the stove or heater and closing the opening of the pipe leading therefrom in case of an accident to the train, overturning or wrecking the cars, which will effectually prevent the escape of the fire from the heater, usually resulting in the burning of the car.

Referring to the drawings, Figure 1 represents a perspective view of my improved heater with the hood or jacket raised and set in position as in ordinary traveling. Fig. 2 is a like view of the hood or jacket after it has been released and dropped down over the stove. Fig. 3 is a vertical sectional view of the hood in the act of dropping down over the stove.

Like letters of reference refer to corresponding parts in each figure of the drawings. A represents any ordinary cylindrical car-heating stove, which may be of cast metal or of sheet-iron lined with bricks. Through the base *a* the stove is securely fastened to the car-floor by means of vertical rods or bolts B, which extend to some distance above the stove proper and have secured at their top ends a heavy iron cap or disk, C, through the back portion of which passes the stove-pipe *b*, which is also of heavy iron, and is fastened to the stove-cap.

A hood or cover, D, of heavy sheet or boiler iron, somewhat larger in diameter than the stove, provided with a head, *d*, in its upper end, is placed over and entirely envelops the stove when dropped down over it. The head

d of the hood is perforated to admit the vertical rods B and the stove-pipe *b* from the rear of the stove. These rods serve as guides to the hood when it is moved or slid up toward the cap C above the stove and when it is dropped down to envelop the stove. On two or more sides of the upper end of the cylinder of the hood D there are vertical loops E, which extend upward above the top of the hood and serve as attachments for holding the hood in an elevated position.

The cap or disk C on top of the vertical rods B is provided with spring-arms F, which are hinged opposite to each other at the edge of the cap. The outer ends, *f*, of these arms are made shorter than the inner ends and project beyond the hinge and outer edge of the cap, and are in position to register with the vertical loops E on the sides of the cylinder. The inner portion, *c*, of the arms F are curved or bowed upward and extend inward to near the center of the cap or disk C, and when pressed down upon said disk their inner ends, which are made to conform to the inner contour of a cup, rest in slots *g* of a cup, G, secured in the center of the upper side of the cap.

When the hood or cover D is raised, the arms being in a vertical position, as shown in Fig. 2, with their short ends *f* slightly inclining inward, the arms are turned down upon the disk or cap, thus bringing their short ends into and through the loops E, suspending the hood upon them, while their inner ends rest in the cup, the arms thus serving as levers to hold up the hood. Their inner ends are held down in the cup by means of a spherical weight or ball, H, of metal, which is sufficiently embedded within the walls of the cup to prevent its being rocked or thrown out by any ordinary tilting or rocking of the car when going around short curves in rapid motion, or by sudden jerking of the train in starting or in coupling the cars together. This spherical weight is provided with a perforated lug at one side and is securely fastened to the cap or disk C by means of a chain, *h*.

Upon the side of one of the vertical rods B, slightly above the plane of the top of the stove

A, there is a spring detent or catch, *e*, which recedes into the rod and passes through the opening for the rods in the head *d* as the hood falls over the stove, and then springs out, holding the hood down in position and preventing the escape of fire from the stove or the hot stove from coming in contact with any woody material which it would ignite.

To prevent any escape of fire from the heavy iron pipe *b*, which is bolted to the stove and cap-piece above, a crank-damper, *I*, is inserted in the pipe underneath the cap *C*. This damper is provided with a crank at each of its projecting ends from the pipe, one of which is weighted at *i* for the purpose of keeping the damper turned and the pipe opened when the pipe is in a vertical position and no strain is upon the other end or crank, while the other crank has one end of a chain, *J*, attached to its arm *j* and the other end to the head *d* of the hood, so that when the hood drops down the chain becomes taut, closing the damper and shutting off draft or means of escape of coals of fire through the pipe.

I may make the damper of a different construction, so that it will operate automatically when the hood drops over the stove, as shown in Fig. 3. In this form of damper the end projecting from the pipe is weighted at *K*, so that when the hood is raised the weight is carried up and the valve inside the pipe is thrown down, and the damper while in this position is held by the top of the hood. When the hood drops, the weighted end of the damper falls down, carrying the edge of the valve within the pipe up past a detent or spring, *k*, which holds it in position until it is desired to open it, when the detent is withdrawn and the hood is raised, carrying the weight upward and opening the valve.

In operation the hood is raised upon the guide-rods until its head raises the crank end of the damper in the pipe under the cap, when the hinged lever-arms, registering with the loops on the hood, are turned down into the slots of the cup and the weighted ball placed therein. The flanges of the cup are of sufficient height to retain the ball upon the ends of the levers, thereby holding the hood suspended as against any ordinary jostling or jerking motion of the car. When a great shock to the car is produced by the sudden stopping of the train, as in a collision, or the car is turned over, the weighted ball is thrown from the cup, releasing the lever-arms, when the hood or cover is dropped down over the stove and securely held by the detent, while the damper is automatically closed, preventing draft and contact of the hot stove with the surrounding wood-work.

I am aware that stove-hoods have been used heretofore for this purpose; but the devices have been found objectionable and defective, for, owing to their construction of levers and catches operated by the movement of a weighted pendulum, their action is so sensitive that the jostling or rocking of a train upon a rough road or one having short curves, or in the jerking motion produced by the starting or stopping of the train, the pendulum weight is often slightly moved, releasing the hood, which falls over the heater when it is not desired. I do not therefore claim, broadly, a hood for this purpose; but

What I do claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, with a car-heater having a movable hood with holds on its sides and perforations in its head for guide-rods, of a cap on top of the rods above the elevated hood having a slotted cup thereon, and hinged lever-arms at its edges registering with the holds on the hood and with the slots in the cup, and a weight within the cup holding the ends of the arms, as set forth.

2. The combination, with a movable hood with holds on its sides and perforations in its head for a stove-pipe and guide-rods, of detents on the guide-rods passing through the perforations of the head, and a cap on top of the rods having hinged lever-arms at its edges and a cup in its center having slots in its sides, the outer ends of the arms taking into the holds on the hood and the inner ends resting in the slots of the cup, and a weight on the arms in the cup, as set forth.

3. The combination, with a car-heater having a drop-hood and stationary guide-rods securing the heater to the floor, a stove-pipe and said rods extending up through the head of the cover above the elevated hood, of a cap on top of the rods with curved hinged lever-arms on its sides, a cup in the center of the cap having slots in its upper side, holds on the sides of the upper end of the hood, and a damper in said pipe automatically opened and closed by the movement of the hood, said lever-arms registering with the holds on the hood and slots in the cup and their ends held in the cup by a weighted ball, as set forth.

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

ROLAND M. LA RUE.

Witnesses:

JAMES M. McINTOSH,
CHARLES ROEHL.